

IEEE 100
The Authoritative Dictionary of
IEEE Standards Terms

Seventh Edition



Published by
Standards Information Network
IEEE Press

Trademarks and disclaimers

IEEE believes the information in this publication is accurate as of its publication date; such information is subject to change without notice. IEEE is not responsible for any inadvertent errors.

Other tradenames and trademarks in this document are those of their respective owners.

*The Institute of Electrical and Electronics Engineering, Inc.
3 Park Avenue, New York, NY, 10016-5997, USA*

Copyright © 2000 by the Institute of Electrical and Electronics Engineers, Inc. All rights reserved. Published December 2000. Printed in the United States of America.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without the prior written permission of the publisher.

To order IEEE Press publications, call 1-800-678-IEEE.

Print: ISBN 0-7381-2601-2

SP1122

See other standards and standards-related product listings at: <http://standards.ieee.org/>

The publisher believes that the information and guidance given in this work serve as an enhancement to users, all parties must rely upon their own skill and judgement when making use of it. The publisher does not assume any liability to anyone for any loss or damage caused by any error or omission in the work, whether such error or omission is the result of negligence or any other cause. Any and all such liability is disclaimed.

This work is published with the understanding that the IEEE is supplying information through this publication, not attempting to render engineering or other professional services. If such services are required, the assistance of an appropriate professional should be sought. The IEEE is not responsible for the statements and opinions advanced in this publication.

Library of Congress Cataloging-in-Publication Data

IEEE 100 : the authoritative dictionary of IEEE standards terms.—7th ed.

p. cm.

ISBN 0-7381-2601-2 (paperback : alk. paper)

1. Electric engineering—Dictionaries. 2. Electronics—Dictionaries. 3. Computer engineering—Dictionaries. 4. Electric engineering—Acronyms. 5. Electronics—Acronyms. 6. Computer engineering—Acronyms. I. Institute of Electrical and Electronics Engineers.

TK9 .I28 2000
621.3'03—dc21

00-050601

standard tuning frequency

be 60% of the maximum rated deviation at 1 kHz.

(EMC) 377-1980r

standard tuning frequency (standard musical pitch) The frequency for the note A4, namely, 440 Hz. (SP) [32]

standard voltages (electric installations on shipboard) The following voltages are recognized as standard:

	Alternating Current (volts)	Direct Current (volts)
Lighting	115	115
Power	115-200-220-440	115 and 230
Generators	120-208-230-450	120 and 240

Note: Satisfactory to use 120 V lamps

standard volume indicator (volume measurements of electrical speech and program waves) A device for the indication of volume, and having the characteristic described in IEEE Std 152-1953w. Note: A standard volume indicator consists of at least two parts: 1) A meter; and 2) an attenuator (adjustable loss) or pad (fixed loss).

standard watt-hour meter See: portable standard watt-hour meter; reference standard watt-hour meter.

standard-wave error (navigation aids) (direction finder measurements) The bearing error produced by a wave whose vertically and horizontally polarized electric fields are equal and phased so as to give maximum error in the DF, and whose incidence direction is arranged to be 45°.

(AES/GCS) 172-1983w

standard working axis (of a semiconductor x-ray energy spectrometer) A straight line drawn between the center of the entrance window on the detector and the specified location of the source of x rays. (NPS/NID) 759-1984r

standBy A lower-power operating mode of RamLink slaves, in which a change in the flag line is sufficient to quickly reactivate attached chips. (C/MM) 1596.4-1996

standby See: reserve; alternative.

standby current The current flowing in any specific conductor (including a conductive case) when the device is connected as intended to the energized power system at rated voltage with no connected load. (SPD/PE) C62.62-2000

standby current, dc See: direct-current standby current.

standby equipment Equipment not normally in operation that is available on demand to perform a specific function. (PE/NP) 933-1999

standby failure rate (reliability data for pumps and drivers, valve actuators, and valves) The probability (per hour) of failure for those components which are normally dormant or in a standby state until tested or required to operate to perform their function. (PE/NP) 500-1984w

standby losses The losses produced with the HVDC converter station energized, but with the valves blocked.

(SUB/PE) 1158-1991r

standby monitor A station on the ring that is not in active monitor mode. The function of the standby monitor in normal ring operation is to assure that an active monitor is operating. (C/LM) 8802-5-1998

standBy packet An event packet that initiates the transition into the standBy state. (C/MM) 1596.4-1996

standby power The power consumption while the chip is not performing any read or write operation. (ED) 641-1987w

standby power, ac See: alternating-current standby power.

standby power supply (nuclear power generating station) (diesel-generator unit) The power supply that is selected to furnish electric energy when the preferred power supply is not available. (PE/NP) 387-1995, 308-1991

standby power system (emergency and standby power) An independent reserve source of electric energy that, upon failure or outage of the normal source, provides electric power of acceptable quality so that the user's facilities may continue in satisfactory operation. (IA/PSE) 446-1995

1099

standing-wave-ratio indicator

standby redundancy (I) (software) In fault tolerance, the use of redundant elements that are left inoperative until a failure occurs in a primary element. Contrast: active redundancy. (C) 610.12-1990

(2) That redundancy wherein the alternative means for performing a given function are inoperative until needed.

(R) [29]

standby service (electric power utilization) Service through a permanent connection not normally used but available in lieu of, or as a supplement to, the usual source of supply. (PE/PSE) 346-1973w, 858-1993w

standby time See: idle time.

ST and CBT See: sharing transformer and current balancing transformer.

standing-on-nines carry (mathematics of computing) A carry process in which a carry digit transferred to a given digit place is further transferred to the next higher digit place if the current sum in the given digit place is nine. See also: carry.

(C) [20], 1084-1986w, [85]

standing wave (I) (overhead power-line corona and radio noise) A wave in which, for any component of the field, the ratio of its instantaneous value at one point to that at any other point does not vary with time. Notes: 1. A standing wave is most frequently produced by reflection. The sum of the incident and reflected waves, if they are periodic, will produce a standing wave. 2. Commonly, a standing wave is a periodic wave in which the amplitude of the displacement in the medium is a periodic function of the distance in the direction of any line of propagation of the waves. (T&D/PE) 539-1990 (2) A wave formed by the interference of two oppositely traveling plane waves having the same frequency and polarization. (AP/PROP) 211-1997

standing-wave antenna An antenna whose excitation is essentially equiphase, as the result of two feeding waves that traverse its length from opposite directions, their combined effect being that of a standing wave. (AP/ANT) 145-1993

standing-wave detector See: standing-wave meter.

standing wave dissipation factor (waveguide) The ratio of the transmission loss in an unmatched waveguide to that in the same waveguide when matched. (MTT) 146-1980w

standing-wave indicator See: standing-wave meter.

standing-wave loss factor The ratio of the transmission loss in an unmatched waveguide to that in the same waveguide when matched. See also: waveguide. (MTT) 146-1980w

standing-wave machine See: standing-wave meter.

standing-wave meter (standing-wave indicator) (standing-wave machine) (standing-wave detector) An instrument for measuring the standing-wave ratio in a transmission line. In addition, a standing-wave meter may include means for finding the location of maximum and minimum amplitudes. See table on previous page. See also: instrument. (PE/EEC) [119]

standing wave ratio (I) (data transmission) The ratio of the amplitude of a standing wave at an antinode to the amplitude of a node. Note: The standing wave ratio in a uniform transmission line is

$$\frac{1+p}{1-p}$$

where p = the reflection coefficient.

(T&D/PE) 539-1990, 599-1985w

(2) (waveguide) At a given frequency in a uniform transmission line or waveguide, the ratio of the maximum to the minimum amplitudes of corresponding components of the field (or the voltage or current) along the waveguide in the direction of propagation. Note: The standing wave ratio is occasionally expressed as the reciprocal of the ratio defined above. (MTT) 148-1959w, 146-1980w

standing-wave-ratio indicator (standing-wave-ratio meter) A device or part thereof used to indicate the standing-wave ratio. Note: In common terminology, it is the combination of