

IEEE Std 100-1992

The New IEEE Standard Dictionary of Electrical and Electronics Terms

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**The New IEEE Standard Dictionary
of Electrical and Electronics Terms**
[Including Abstracts of All Current IEEE Standards]

Fifth Edition

Gediminas P. Kurpis, Chair

Christopher J. Booth, Editor



THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.
345 EAST 47TH STREET, NEW YORK, NY 10017-2394, USA

The Institute of Electrical and Electronics Engineers, Inc.
345 East 47th Street, New York, NY 10017-2394, USA

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Foreword

From their earliest years, both the American Institute of Electrical Engineering (AIEE) (1884) and the Institute of Radio Engineers (IRE) (1912) published standards defining technical terms. They have maintained this practice since they were combined in 1963 to become the IEEE (Institute of Electrical and Electronics Engineers).

In 1928, the AIEE organized Sectional Committee C42 on Definitions of Electrical Terms under the procedures of the American Standards Association, now the American National Standards Institute. In 1941, AIEE published its first edition of American Standard Definitions of Electrical Terms in a single volume. However, by the time a second edition was ready, the highly accelerated development of new terms made it impracticable to publish in a single volume, and 17 separate documents, each limited to a specific field, were published from 1956 to 1959.

Over the years, IRE published a large number of standards that either included definitions or were devoted entirely to definitions. In 1961, it published all of its then-approved definitions in an alphabetically arranged single volume.

The 1972, 1977, 1984, and 1988 editions of the *IEEE Standard Dictionary of Electrical and Electronics Terms* included all terms and definitions that had been standardized previously by IEEE, as well as many from American National Standards and the International Electrotechnical Vocabulary. This edition adds definitions from IEEE standards published since the 1988 edition, up to those approved in December of 1991.

This edition of IEEE Std 100-1992, *The New IEEE Standard Dictionary of Electrical and Electronics Terms*, represents an evolution in our conception of the Dictionary and its place in our time and in relation to the directions that electro-technology is heading. This is the first edition of the dictionary to be produced using desk-top publishing technology and in-house. For the first time, this invaluable compendium is in a single electronic database, and we are planning new products that will take advantage of the possibilities that this allows. The inclusion of abstracts of all current IEEE standards enhances the usefulness of the Dictionary to the standards-writing community and to industry as a whole. We have taken the first step toward eliminating the need for the Sources section at the back of the Dictionary: only those definitions from sources other than IEEE standards are listed; the number of the originating IEEE standard is given at the end of the definition. The Acronyms and Abbreviations section is much reduced in size from that of the previous edition, and represents a rethinking of the entire section. Obsolete and irrelevant terms have been eliminated.

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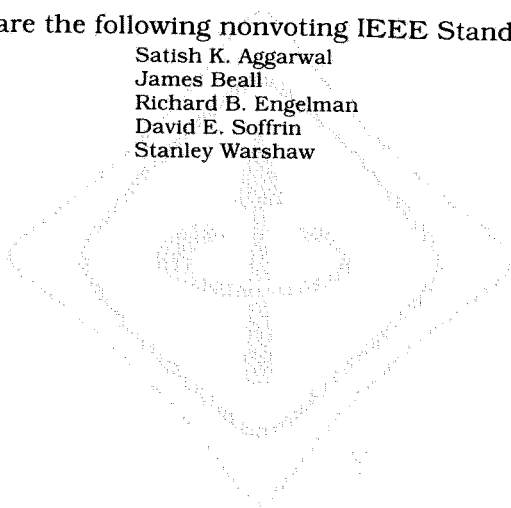
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How to Use This Dictionary

The terms defined in this dictionary are listed in alphabetical order. Following each definition are numbers giving the source from which the definition was derived. If the number is unbracketed, it is the number designation of the IEEE standard from which the definition originated; if the number is bracketed, it refers to the sources given in the Sources section at the back of the book. For further information on IEEE standards, the Abstracts section provides the abstracts for IEEE standards available at this document's press-time. The very last section of the *New IEEE Standard Dictionary of Electrical and Electronics Terms* provides a list, in alphanumeric order, of acronyms and abbreviations in use in the fields of electrical and electronics engineering.



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- composite data element.** *Syn:* **aggregate; group item.** 610.5-1990
- data attribute.** A characteristic of a unit of data. 610.5-1990
- data bank.** (A) A collection of data libraries. *Note:* A record contains one or more items, a file contains one or more records, a library contains one or more files, and a data bank contains one or more libraries. (B) A collection of data relating to a particular subject area. *Note:* The data may or may not be machine-readable. 610.5-1990
- database (data management) (software).** (A) A collection of logically related data stored together in one or more computerized files. *Note:* Each data item is identified by one or more keys. *See also:* **database management system.** 610.5-1990, 610.12-1990
(B) In CODASYL, the collection of all the record occurrences, set occurrences, and areas controlled by a specific schema. 610.5-1990
- database access method.** A technique for organizing and storing a physical database in computer storage. 610.5-1990
- database administration (DBA).** The responsibility for the definition, operation, protection, performance, and recovery of a database. 610.5-1990
- database administrator (DBA).** An individual who is responsible for the definition, operation, protection, performance, and recovery of a database. *See also:* **data administrator.** 610.5-1990
- database command language (DBCL).** A procedural data manipulation language used to access a database through a database management system. 610.5-1990
- database creation.** The process of naming, allocating space, formatting, and defining a database. *See also:* **database definition; database design.** 610.5-1990
- database definition.** (A) The process of translating a conceptual schema for a database into a data storage schema. *See also:* **database creation; database design; redefinition.** (B) The result of such a translation. 610.5-1990
- database description language (DBDL).** *See:* **data definition language.** 610.5-1990
- database design.** (A) The process of developing a conceptual schema for a database that will meet a user's requirements. *See also:* **database creation; database definition.** *Syn:* **implementation design.** (B) The result of the process in (A). 610.5-1990
- database extract.** A file, each record of which contains data items selected from a database based on a particular criterion. 610.5-1990
- database integrity.** The degree to which the data in a database are current, consistent and accurate. *See also:* **data integrity; database security; integrity.** 610.5-1990
- database key.** A field in a database that identifies a record in that database. 610.5-1990
- database management system (DBMS).** A computer system involving hardware, software, or both that provides a systematic approach to creating, storing, retrieving and processing information stored in a database. A DBMS acts as an interface between computers' programs and data files as well as between users and the database. It may include backup/recovery, checkpoint processing, and ad-hoc query capability. 610.5-1990
- database manipulation language (DBML).** *See:* **data manipulation language.** 610.5-1990
- database organization.** The manner in which a database is structured; for example, a hierarchical organization, a relational organization. *See also:* **reorganization.** 610.5-1990
- database record.** (A) A collection of data elements that are stored in a database. (B) A collection of hierarchically dependent segments (one root and all its descendants) within a hierarchical database. *See also:* **record.** 610.5-1990
- database reorganization.** *See:* **reorganization.** 610.5-1990
- database security.** The degree to which a database is protected from exposure to accidental or malicious alteration or destruction. *See also:* **data security; database integrity.** 610.5-1990
- database segment.** *See:* **segment.** 610.5-1990
- database sublanguage.** *See:* **data sublanguage.** 610.5-1990
- database system.** A software system that supports multiple applications using a common database. 610.5-1990
- Database Task Group (DBTG).** A task group of the CODASYL Programming Language Committee that established a set of standards for specification and design of network database structures. *See also:* **CODASYL database.** 610.5-1990
- data block.** *See:* **block.** 610.5-1990
- data-break.** *See:* **direct memory access.** 610.5-1990
- data breakpoint.** A breakpoint that is initiated when a specified data item is accessed. *Syn:* **storage breakpoint.** *Contrast with:* **code breakpoint.** *See also:* **dynamic breakpoint; epillog breakpoint; programmable breakpoint; prolog breakpoint; static breakpoint.** 610.12-1990
- data broadcast.** An operation wherein participating slaves capture the data that are placed on