

\$45.00

The Illustrated Dictionary of Electronics

Eighth Edition

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Property of
DeVry University Library
2300 Southwest 145th Ave
Miramar, FL 33027

McGraw-Hill

New York Chicago San Francisco Lisbon London Madrid
Mexico City Milan New Delhi San Juan Seoul
Singapore Sydney Toronto

Cataloging-in-Publication Data is on file with the Library of Congress

McGraw-Hill

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1 2 3 4 5 6 7 8 9 0 AGM/AGM 0 9 8 7 6 5 4 3 2 1

P/N 0-07-137237-7

ISBN 0-07-137236-9

The sponsoring editor for this book was Scott Grillo, and the production supervisor was Pamela Polton. It was set in Bookman by Techbooks.

Printed and bound by Quebecor/Martinsburg.

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aneous charge and the instantaneous value of an alternating voltage.

alternating current Abbreviation, ac. A current that periodically reverses its direction of flow. In one cycle, an alternation starts at zero, rises to a maximum positive level, returns to zero, rises to a maximum negative level, and again returns to zero. The number of such cycles completed per second is termed the *ac frequency*. Also see **CURRENT**.

alternating-current continuous wave An amplitude-modulated signal resulting from the operation of an oscillator or RF amplifier with raw ac voltage.

alternating current/direct current See AC/DC.

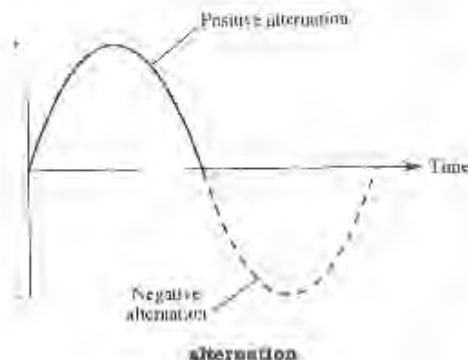
alternating-current erasing head See AC ERASING HEAD.

alternating-current pulse A short-duration ac wave.

alternating-current transmission 1. The propagation of alternating currents along a length of conductor—especially for power-transfer purposes. 2. A means of picture transmission in which a given signal strength produces a constant value of brightness for a very short time.

alternating voltage Also called *alternating-current voltage*. See AC VOLTAGE.

alternation In ac practice, a half cycle. In a complete cycle, there are two alternations, one in the positive direction and one in the negative direction.



alternative denial A NOT-AND operation.

alternator Any mechanically driven machine for generating ac power. Sometimes specifically one having a permanent-magnet rotor, such as a *magneto*.

altimeter station An airborne transmitter whose signals are used to determine the altitude of aircraft.

altitude 1. The vertical distance of an object above sea level. 2. The vertical distance of an object

above the earth's surface. 3. The angle, measured in degrees, with respect to the horizon, at which a highly directional antenna is pointed.

altitude delay In a plan-position-indicator (type of radar), the sync delay introduced between transmission of the pulse and start of the trace on the indicator screen to eliminate the altitude circle in the display.

ALU Abbreviation of ARITHMETIC AND LOGIC UNIT.

alumel An alloy used in the construction of one type of THERMOCOUPLE. It is composed of nickel (three parts) and aluminum (one part).

aluminum An aluminum-oxide ceramic used in electron tube insulators and as a substrate in the fabrication of thin-film circuits.

aluminum Symbol, Al. An elemental metal. Atomic number, 13. Atomic weight, 26.98. Aluminum is widely used in electronics, familiar instances being chassis, wire, shields, semiconductor doping, and electrolytic-capacitor plates.

aluminum antimonide Formula, AlSb. A crystalline compound useful as a semiconductor dopant.

aluminized screen A television picture-tube screen with a thin layer of aluminum deposited on its back to brighten the image and reduce ion-spot formation.

Am Symbol for AMERICIUM.

A/m Abbreviation of *amperes per meter*; the SI unit of magnetic field strength.

AM 1. Abbreviation of *amplitude modulator*. 2. Also abbreviation of AMPLITUDE MODULATION.

amalgam An alloy of a metal and mercury. Loosely, any combination of metals.

amateur 1. A nonprofessional, usually noncommercial devotee of any technology (i.e., a hobbyist). 2. A licensed radio operator legally authorized to operate a station in the AMATEUR SERVICE.

amateur band Any band of radio frequencies assigned for noncommercial use by licensed radio amateurs (see AMATEUR, 2). In the United States, numerous such bands are above 1.8 MHz (160 meters). Also see AMATEUR SERVICE and AMATEUR STATION.

amateur call letters Call letters assigned by a government licensing authority—especially to amateur stations. Call letter combinations consist of a letter prefix denoting the country in which the station is situated, plus a number designating the location within the country, and two or more letters identifying the particular station. For example: WGAD C; W (or K) = United States, G = California, and ABC = identification of individual licensee (issued alphabetically, except under special circumstances).

amateur callsign See AMATEUR CALL LETTERS.

amateur extra-class license The highest class of amateur-radio operator license in the United States. It conveys all operating privileges.