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of  
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Electronics  
Terms**

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Editor in Chief**

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croammeter, or a kiloammeter. *See also:* instrument. 328

(2) (circuits and systems). An instrument for measuring electric current in amperes. 67

**amortisseur.** A permanently short-circuited winding consisting of conductors embedded in the pole shoes of a synchronous machine and connected together at the ends of the poles, but not necessarily connected between poles. *Note:* This winding when used in salient-pole machines sometimes includes bars that do not pass through the pole shoes, but are supported in the interpolar spaces between the pole tips. 3

**amortisseur bar (damper bar) (rotating machinery).** A single conductor that is a part of an amortisseur winding or starting winding. *See also:* rotor (rotating machinery); stator. 63

**amortisseur winding.** *See:* damper winding; damping winding.

**ampacity.** Current-carrying capacity, expressed in amperes, of a wire or cable under stated thermal conditions. 256, 57, 53, 124

**ampere (1) (general).** That constant current that, if maintained in two straight parallel conductors of infinite length, of negligible circular cross section, and placed 1 meter apart in vacuum, would produce between these conductors a force equal to  $2 \times 10^{-7}$  newton per meter of length. *See also:* abampere. 233

(2) (circuits and systems). A unit of electric current flow equivalent to the motion of 1 coulomb of charge or  $6.24 \times 10^{18}$  electrons past any cross section in 1 second. 67

**ampere-conductors (distributed winding) (rotating machinery).** The product of the number of effective conductors round the periphery of the winding and the current (in amperes, root-mean-square for alternating-current and average for direct-current) circulating in these conductors. *See:* ampere-turns. 63

**ampere-hour capacity (storage battery).** The number of ampere-hours that can be delivered under specified conditions as to temperature, rate of discharge, and final voltage. *See also:* battery (primary or secondary). 328

**ampere-hour efficiency (storage cell) (storage battery).** The electrochemical efficiency expressed as the ratio of the ampere-hours output to the ampere-hours input required for the recharge. *See also:* charge. 328

**ampere-hour meter.** An electricity meter that measures and registers the integral, with respect to time, of the current of the circuit in which it is connected. *Note:* The unit in which this integral is measured is usually the ampere-hour. *See also:* electricity meter (meter). 328

**Ampere's law.** *See:* magnetic field strength produced by an electric current.

**ampere-turn per meter.** The unit of magnetic field strength in SI units (International System of Units). The ampere-turn per meter is the magnetic field strength in the interior of an elongated uniformly wound solenoid that is excited with a linear current density in its winding of one ampere per meter of axial distance. 210

**ampere-turns (rotating machinery).** The product of the number of turns of a coil or a winding (distributed or concentrated) and the net current in amperes per turn. *See also:* ampere-conductors; asynchronous machine; direct-

current commutating machine. 63

**amplification (1) (signal-transmission system).** (A) The ratio of output magnitude to input magnitude in a device which is intended to produce an output that is an enlarged reproduction of its input. *Note:* It may be expressed as a ratio or, by extension of the term, in decibels. (B) The process causing this increase. *See also:* signal. 239, 59, 188

(2) (automatic control). The ratio of output to input, in a device intended to increase this ratio. *Note:* ASA C85 prefers sensitivity for devices intended to indicate or record a variable; gain for sinusoidal signals. 56

**amplification, current.** *See:* current amplification.

**amplification factor.** The  $\mu$  factor for a specified electrode and the control grid of an electron tube under the condition that the anode current is held constant. *Notes:* (1) In a triode this becomes the  $\mu$  factor for the anode and control-grid electrodes. (2) In multielectrode tubes connected as triodes the term anode applies to the combination of electrodes used as the anode. (3) The voltage gain of an amplifier with the output unloaded. *See also:* electron-tube admittances. 190, 67, 125

**amplification factor, gas (gas phototube).** *See:* gas amplification factor (gas phototube).

**amplification, voltage.** *See:* voltage amplification.

**amplified spontaneous emission (laser-maser).** The radiation resulting from amplification of spontaneous emission. 363

**amplifier (1) (general).** A device that enables an input signal to control power from a source independent of the signal and thus be capable of delivering an output that bears some relationship to, and is generally greater than, the input signal. 111, 239, 9, 77

(2) (photomultipliers for scintillation counting). A device whose output is an enlarged reproduction of the essential features of an input signal and which draws power from a source other than the input signal. 117

(3) (analog computer). A device that enables an input signal to control a source of power and thus is capable of delivering at its output a reproduction or analytic modification of the essential characteristics of the signal. 9

**amplifier, balanced (push-pull amplifier).** An amplifier in which there are two identical signal branches connected so as to operate in phase opposition and with input and output connections each balanced to ground. 111, 239, 240, 59

**amplifier, bridging.** An amplifier with an input impedance sufficiently high so that its input may be bridged across a circuit without substantially affecting the signal level of the circuit across which it is bridged. *See also:* amplifier. 239

**amplifier, buffer (signal-transmission system).** *See:* amplifier, isolating.

**amplifier, carrier (signal-transmission system).** An alternating-current amplifier capable of amplifying a prescribed carrier frequency and information side-bands relatively close to the carrier frequency. *See also:* signal. 188

**amplifier, chopper (signal-transmission system).** A modulated amplifier in which the modulation is achieved by an electronic or electromechanical chopper, the resultant wave being substantially square. *See also:* signal. 188