

**MODERN  
DICTIONARY  
of  
ELECTRONICS**

SEVENTH EDITION  
REVISED AND UPDATED

**Rudolf F. Graf**



Boston Oxford Auckland Johannesburg Melbourne New Delhi  
EX1047 - Page i

Geotab Exhibit 1047  
Geotab v. Fractus

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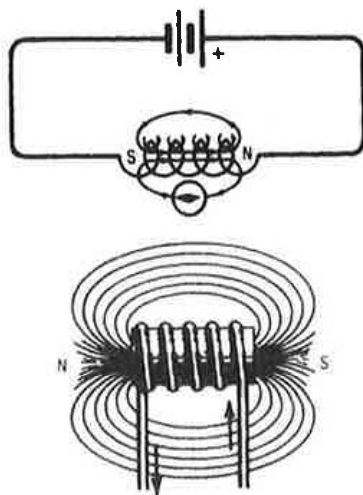
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**electrolytic switch**—A switch having two electrodes projecting into a chamber containing a precisely measured quantity of a conductive electrolyte, leaving an air bubble of predetermined width. When the switch is tilted from true horizontal, the bubble shifts position and changes the amount of electrolyte in contact with the electrodes, thereby changing the amount of current passed by the switch. Used as a leveling switch in gyro systems.

**electrolyzer**—An electrolytic cell that produces alkalis, metals, chlorine, or other allied products.

**electromagnet**—1. A temporary magnet consisting of a solenoid with an iron core. A magnetic field exists only while current flows through the solenoid. 2. A magnet, consisting of a solenoid with an iron core, that has a magnetic field existing only during the time of current flow through the coil. 3. A coil of wire, usually wound on an iron core, that produces a strong magnetic field when current is sent through the coil. 4. A magnet created by inserting a suitable metal core within or near a magnetizing field that is usually formed by passing electric current through a coil of insulated wire. 5. A soft iron core that becomes a magnet temporarily when current flows through a coil of wire that surrounds it.



*Electromagnet.*

**electromagnetic**—1. Having both magnetic and electric properties. 2. Pertaining to the mutually perpendicular electric and magnetic fields associated with the movement of electrons through conductors, as in an electromagnet. 3. Pertaining to the combined electric and magnetic fields associated with radiation or with movements of charged particles. 4. Pertaining to or caused by the combined electric and magnetic fields that are always associated with an electric current. 5. Pertaining to the relationship between currents and magnetic fields.

**electromagnetic amplifying lens**—A system made up of a large number of waveguides symmetrically arranged with respect to an excitation medium so that they are excited with equal amplitude and phase in order to provide an effective gain in energy.

**electromagnetic bonding**—Method for joining thermoplastics in which a metallic preform is placed in the joint area to convert electromagnetic energy into heat for fusion bonding.

**electromagnetic cathode-ray tube**—A cathode-ray tube that uses electromagnetic deflection to deflect the electron beam.

**electromagnetic communications**—The electromagnetic wave conductor is space itself. The

electromagnetic frequencies available today for communications fall into two categories: frequencies that form "wireless" communications (such as visual light of fairly high frequency), and frequencies that humans use for wireless communications (such as radio, shortwave, and microwave transmitting, of relatively lower frequencies). In communicating by radio, shortwave, and microwave frequencies, translators similar in principle to those used in electrical communications are needed, although the equipment requirement increases.

**electromagnetic compatibility**—Abbreviated EMC. 1. The ability of electronic devices and communications equipment, subsystems, and systems to operate in their intended environments without suffering or causing unacceptable degradation of performance as a result of unintentional electromagnetic radiation or response. 2. A directive that specifies the acceptable limits for electromagnetic emissions from an electronic device, and how much electromagnetic interference the device should tolerate. 3. Abbreviation for electronic message center (Ford Motor). Digital dashboard electronics displaying digital readouts of speed, miles, fuel, clock, etc.

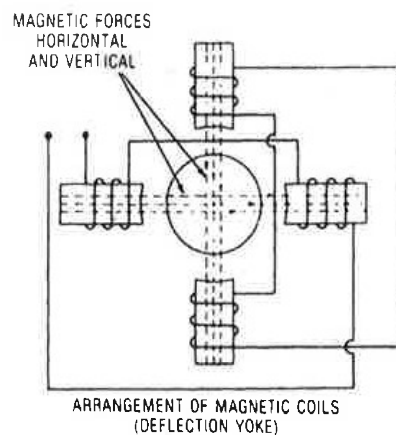
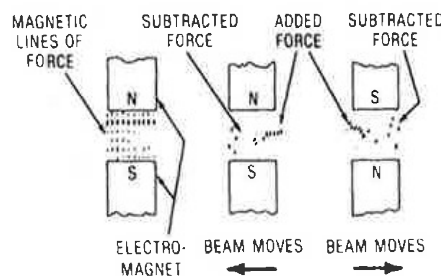
**electromagnetic complex**—The electromagnetic configuration of an installation, including all radiators of significant amounts of energy.

**electromagnetic coupling**—The mutual relationship between two separate but adjacent wires when the magnetic field of one induces a voltage in the other.

**electromagnetic crack detector**—An instrument for detecting hidden cracks in iron or steel objects by magnetic means.

**electromagnetic deflection**—The deflection of an electron stream by means of a magnetic field. In a television receiver, the magnetic field for deflecting the electron beam horizontally and vertically is produced by two pairs of coils, called the deflection yoke, around the neck of the picture tube.

**electromagnetic deflection coil**—A coil around the neck of a CRT, for deflecting the electron beam.



*Electromagnetic deflection coil.*