

*Modern  
Dictionary  
of Electronics*

**SIXTH EDITION**

**REVISED  
and UPDATED**

*Rudolf F. Graf*

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of  
**ELECTRONICS**

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after the beam has moved on is due to phosphorescence. The time of persistence varies with the type of tube employed and the coating of the screen.

**long-play record** — Abbreviated lp record. Also called a microgroove record. A 10- or 12-inch (25.4- or 30.5-cm) record or transcription with finely cut grooves which give it a long playing time.

**long-pull magnet**—An electromagnet designed to exert a practically uniform pull, for an extended range of armature movement. It consists of a conical plunger moving up and down inside a hollow core.

**long-range navigation**—A long-range electronic navigation system which uses the time divergence of pulse-type transmission from two or more fixed stations.

**long-range radar** — A radar installation capable of detecting targets 200 or more miles (320 km) away.

**long-reach mike**—*See* Shotgun.

**long shunt** — A shunt field connected across the series field and the armature, instead of directly across the armature alone, of a motor or generator.

**long-tailed pair** — A two-tube circuit in which decreased plate current through one tube results in increased plate current through the other tube, and vice versa.

**long-term stability (or long-term instability)**—The slow changes in average frequency arising from changes in an oscillator. Statements of long-term stability for quartz oscillators often term this characteristic "aging rate" and specify it as "parts per day" (fractional frequency change over 24 hours). For cesium standards, this term commonly refers to the total fractional frequency drift for the life of the cesium beam tube.

**long throw**—A method of speaker design in which the woofer moves freely through long excursions, providing excellent low-frequency response with low distortion.

**long wave** — Wavelengths longer than about 1000 meters. They correspond to frequencies above 300 kHz.

**long-wire antenna** — 1. An antenna that has a length greater than one-half wavelength at the operating frequency. 2. A directional antenna consisting of a single straight wire whose length is several times greater than its operating wavelength.

**look ahead**—1. A feature of the CPU of a computer which allows the machine to mask an interrupt request until the following instruction has been completed. 2. A feature of adder circuits and alu's which allows these devices to look ahead to see that all carries generated are available for addition.

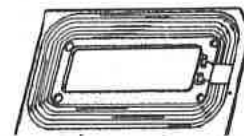
**lookthrough** — 1. In jamming, sporadic interruption of the emission for extremely short periods in order to monitor the victim signal. 2. When a set is being jammed,

the monitoring of the desired signal during lulls in the jamming signals.

**loom** — A flexible nonmetallic tubing placed around insulated wire for protection.

**loop**—1. A complete electrical circuit. 2. In a computer, a series of instructions being carried out repeatedly until a terminal condition prevails. 3. In automatic control, the path followed by command signals, which direct the actions to be performed, and feedback signals, which are returned to the command point to indicate what is actually happening. *See also* Closed Loop, 1. 4. *See* Mesh and Antinodes. 5. A length of tape having its ends spliced together to form an endless loop. Frequently used by film and radio/tv sound departments for prolonged backgrounds of continual or repetitive sound effects. The loop is now the basis of the 8-track cartridge format. 6. A combination of one or more interconnected instruments arranged to measure or control a process variable, or both. 7. The two-wire circuit formed by a customer's telephone set, cable pair, and other conductors that connect it to the central office equipment. 8. An electric circuit consisting of several elements, usually switches, connected in series. 9. A sequence of computer instructions that repeats itself until a predetermined count or other test is satisfied, or until the process is interrupted by operator intervention. 10. The curve or arc made by the wire between the attachment points at each end of a wire bond. 11. A sequence of computer instructions which may be obeyed repetitively, each repetition being called a cycle. Cycling is interrupted when a specific criterion has been satisfied, e.g., when a counter has returned to zero or when an iterative process has converged.

**loop actuating signal** — The signal derived from mixing the loop-input and loop-feedback signals.



*Loop antenna.*

**loop antenna** — 1. An antenna used in radio direction-finding apparatus and in some radio receivers. It consists of one or more loops of wire. 2. An antenna consisting of several turns of wire in the same plane so arranged that it encloses an area in the electromagnetic field.

**loopback** — Directing signals back toward