

# NEWTON'S TELECOM DICTIONARY

**11<sup>th</sup> Edition**

**The Official Dictionary of Telecommunications  
Computer Telephony, Data Communications  
Internet Telephony, Voice Processing  
Windows 95 & NT Communications  
LAN, WAN and Wireless Networking**

**by Harry Newton**





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Voice Processing, Windows 95 & NT Communications  
LAN, WAN and Wireless Networking

## ELEVENTH UPDATED AND EXPANDED EDITION

I wrote this book for all of us who are trying to keep up.

This is not a technical book. I explain technical concepts in non-technical terms. I figure anyone ought to be able to understand my definitions.

Some of my definitions are several pages long. They're mini-essays. They explain the term, its benefits and occasionally a checklist on buying and using the item. Sometimes I include warnings. I want my dictionary to make you informed, buyer or seller.

### HARRY NEWTON

Harry Newton has 27 years in telecommunications. He is the telecom industry's most prolific writer. He is publisher of four monthly magazines — Computer Telephony, Teleconnect, Call Center and Imaging. He also founded LAN Magazine and Telecom Gear. He is promoter of the annual trade show, Computer Telephony Conference and Exposition. He holds an MBA from the Harvard Business School and an Economics undergraduate degree from the University of Sydney, Australia. He is not an engineer, but wishes he were. He is the telecom industry's most popular speaker. He has spoken before every telecommunications convention and trade show.



Real person is older,  
has much less hair and  
is uglier, too.



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12 West 21 Street  
New York, NY 10010  
212-691-8215 Fax 212-691-1191  
1-800-999-0345  
1-800-LIBRARY  
Email [harrynewton@mcimail.com](mailto:harrynewton@mcimail.com)

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**Copland** Apple's code name for a flashy new operating system — the one designed to make people forget about Windows 95. I found mention of Copland about two weeks before Windows 95 was due to be released by Microsoft, August 24, 1995.

**Copolymer** Compound resulting from the polymerization of two different monomers.

**Coprocessor** An additional processor which takes care of specific tasks, the objective being to reduce the load on the main CPU. Many IBM PCs and IBM clones have the capacity to install a coprocessor chip which does only arithmetic functions. This significantly speeds up your computer if you do a lot of calculations. See MATH COPROCESSOR.

**COPW** Customer Owned Premises Wire. You own the telephone wiring in your office.

**Copy** A nice new telephone system programming feature. We found it on Northern Telecom's Norstar phone. With this button, certain programmed settings can be copied from one line to another, or from one telephone to another. Line programmable settings that can be copied on the Norstar are Line Data, Restrictions, Overrides, and Night Service. Telephone settings that can be copied are Line Access, Restrictions, Overrides, and Permissions.

**Copyright** A copyright protects the original author of a story, software program, song movie, piece of sculpture, or other original work from direct copying. Copying may be inferred where alleged copyist had access to the copyrighted work. The copyright notice (the © symbol, or the word "Copyright", the year of creation, and the name of the copyright owner) should be provided on each copy of the work. Copyrights may also be registered with the Library of Congress, but this is not necessary in all cases. Copyright protects the expression of an idea, not the idea itself. (In appropriate cases, patents can be used to protect the idea.) Where the idea is so simple that there is only one way to express it, the idea and its expression may merge, preventing copyrightability. This logic was used successfully in defense of several suits involving "clean room" reverse engineering of microcode: A first group hacked out the code, and prepared a complete functional specification defining the function of each instruction. A second group then wrote new code implementing these functions. Since there had been no copying, there could be no copyright infringement; the fact that both versions of the code for some instructions were identical merely showed that the idea and expression had merged. There are only so many ways to code an ADD instruction, after all. See INTELLECTUAL PROPERTY, PATENT and TRADE SECRET.

**Cord** A small, flexible insulated wire.

**Cord Board** The earliest manual PBX. Usually an elegant wooden device consisting of lots of cords with plugs on them. These cords sat horizontally sticking up, like missiles in a silo. Each cord corresponded to an extension. Whenever the phone rang, the cord board attendant would answer it. Each incoming line was a vertical hole. When the operator had figured for whom the call was, he/she would simply plug the cord corresponding to the desired extension into the hole corresponding to the incoming trunk. The operator would reverse the process if the internal user wanted to make an external call. Either the operator would dial the call first, or simply plug in the user's extension and thus allow the user to dial the call directly. The tip of the plug and the circular ring of the plug gave the term "tip and ring" to telephony. In electronics, it's known as positive and negative. See CORD CIRCUIT.

**Cord Circuit** A switchboard circuit, terminated in two plug-ended cords, used to establish connections manually between user lines or between trunks and user lines. A number of cord circuits are furnished as part of the manual switchboard position equipment. The cords may be referred to as front cord and rear cord or trunk cord and station cord. In modern cordless switchboards, the cord circuit is switch operated. See CORD BOARD.

**Cord Lamp** The lamp associated with a cord circuit that indicates supervisory conditions for the respective part of the connection. See CORD BOARD.

**Cordboard** See CORD BOARD.

**Cordless Telephone** A telephone with no cord between handset and base. Each piece contains a radio transmitter, receiver, and antenna. The handset contains a rechargeable battery; the base must be plugged into an AC outlet. Depending on product design, radio frequency, environmental conditions, and national law, range between handset and base can be 10 feet to several miles. Cordless phones were once all analog. Now a breed of digital ones is out. They work much better in electrically noisy environments — like the typical office.

**Cordless Switchboard** A telephone switchboard in which manually operated keys are used to make connections. See CORD BOARD.

**Core** The central glass element of a fiber optic cable through which the light is transmitted (typically 8-12 microns in diameter for single mode fiber and 50-100 microns in diameter for multimode fiber). This light conducting portion of the fiber is defined by the high refraction index region. The core is normally in the center of the fiber, bounded by the cladding material.

**Core Gateway** The primary routers in the Internet. Historically, one of a set of gateways (routers) operated by the Internet Network Operations Center at BBN. The core gateway system formed a central part of Internet routing in that all groups would advertise paths to their networks from a core gateway, using the Exterior Gateway Protocol (EGP).

**Core Non-Circularity** The percent that the shape of the core's cross section deviates from a circle. Sometimes referred to as core ovality.

**Core Size** Primary description of a fiber. Stated in microns. Does not include cladding. Determines end surface area which accepts and transmits light.

**Corner Reflector** 1. A device, normally consisting of three metallic surfaces or screens perpendicular to one another, designed to act as a radar target or marker.

2. In radar interpretation, an object that, by means of multiple reflections from smooth surfaces, produces a radar return of greater magnitude than might be expected from the physical size of the object.

3. A reflected electromagnetic wave to its point of origin. Such reflectors are often used as radar targets.

4. Passive optical mirror, that consists of three mutually perpendicular flat, intersecting reflecting surfaces, which returns an incident light beam in the opposite direction. 5. A reflector consisting of two mutually intersecting conducting flat surfaces.

**Corporate Account Service** An MCI specific service involving a single, unified reporting system for multiple business that the customer owns, franchises, manages, or directs.



of an open trouble report. Definition from Bellcore in reference to its concept of the Advanced Intelligent Network.

**Repartee** Active Voice's voice processing system that combines automated attendant, voice mail, audiotext and facsimile features. Active Voice is in Seattle, WA.

**Repeat** The act of a station receiving a code-bit stream (frame or token) from an upstream station and placing it onto the ring to its downstream neighbor. The repeating station may examine, copy to a buffer, or modify control bits in the code-bit stream as appropriate.

**Repeat Call** The name of a Bell Atlantic service. Dialing a busy number over and over is as time-consuming as it is frustrating. With Repeat Call, your phone will continuously monitor a busy number every 45 seconds for up to 30 minutes, without interrupting your incoming or outgoing calls. So you and your employees can do other things until your phone alerts you with a special ring when the call got through.

**Repeat Dialing** A name for a Pacific Bell (and possibly other local telephone companies') service which automatically checks a busy number and when the line is free, it rings you back and completes the call.

**Repeater** 1. An opto-electronic device inserted at intervals along a circuit to boost, and amplify an analog signal being transmitted. A repeater is needed because the quality and strength of a signal decays over distance. You will find repeaters in cables and in microwave systems. Repeaters may also regenerate a digital signal — "squaring it" and "cleaning" it up — but not changing it. Regenerating the signal removes noise and thus reduces the likelihood of errors. You can only regenerate digital signals. You cannot regenerate analog signals. You can regenerate digital signals because a machine can tell what's a signal and what's noise in a digital signal. But no machine exists to do that with an analog signal.

2. The simplest type of LAN interconnection device. A repeater moves all received packets or frames between LAN segments. The primary function of a repeater is to extend the length of the network media, i.e. the cable.

**Repeating Coil** A transformer which connects one telephone circuit with another without any DC connection between the circuits. Here's a more technical explanation: A voice-frequency transformer characterized by a closed core, a pair of identical balanced primary (line) windings, a pair of identical but not necessarily balanced secondary (drop) windings, and a low transmission loss at voice frequencies. It permits transfer of voice currents from one winding to another by magnetic induction, matches line and drop impedances, and prevents direct conduction between the line and the drop.

**Reperforator** In teletypewriter systems, a device used to punch a tape in accordance with arriving signals, permitting reproduction of the signals for retransmission. See also CHAD.

**Reperforator/Transmitter** RT. A teletypewriter unit consisting of a reperforator and a tape transmitter, each independent of the other.

**Repertory Dialing** Sometimes known as "memory dialing" or "speed-calling." A feature that allows you to recall from nine to 99 (or more) phone numbers from a phone's memory with the touch of just one, two or three buttons.

**Replication** Also known as data replication. It refers to the process of duplicating and updating data in multiple computers on a network, some of which are permanently connected to the networks. Others, such as laptops, may only be connected at intermittent times. The idea is twofold: Everyone should have access to the same information in the database/s. Second, many people can make changes to the same record and somehow, all those changes will meld themselves into the database/s. In the old days (i.e. pre-Lotus Notes), networked databases were stored in one place, e.g. an airline database of reservations. Everyone who wanted to access information in the database needed to be physically connected to the network through some form of phone line. That's still the case in most databases. Along came Lotus Notes whose major claim was everyone could create their own database/s and carry it with them on their laptops and everyone could put their own information in and Lotus Notes would update the central database and update everyone's database every time they logged into the network. If Lotus is confused, it sends messages out asking for clarification as to what the right database entry was. In short, replication is a far more complex process than what the traditional English language definition of replication is, namely making copies of itself. In data replication, it's the coordination, updating and reconciling of constantly-being-changed databases. That's the hard part. As I wrote this, Lotus Notes had big lead in this process of database replication. But others, like Oracle and Microsoft, were trying to catch up. The easiest replication strategy is one-way transfer. A simple case of one-way data replication is a mobile user who needs to update the information on his laptop, but not to update any information at the corporate site. See also SYNCHRONIZATION.

**Reply** 1. A transmitted message which serves as a response to an original message. (What else?)

2. An SCSA definition. An event which is a service provider's response to a synchronous or asynchronous request.

**Report Mining** Coined by Gartner Group, Inc. for migrating legacy report data to a server so it can be accessed by desktop query tools and regenerated into a new report.

**Report Program Generator** A computer language for processing large data files.

**Report-Only Event** An event that the ASC (AIN Switch Capabilities) reports to a SLEE (Service Logic Execution Environment) but the ASC does not suspend processing events for the connection segment. Definition from Bellcore in reference to its concept of the Advanced Intelligent Network.

**Request For Comments** A standard or a standard-defining document for the Internet. Individual RFCs define specific aspects of Internet operation. See RFC.

**Request To Send** RTS. One of the control signals on a standard RS-232-C connector. It places the modem in the originate mode so it can begin to send.

**Rerouting** A short-term change in the routing of telephone traffic. Rerouting may be planned and recurring or a reaction to a nonrecurring situation.

**RES** Residential Enhanced Service.

**Resale** Buying local and/or long distance phone lines in quantity at wholesale rates and then selling them to someone else, hopefully at a profit.

**Resale Carrier** A long distance company that does not own its own transmission lines. It buys lines from other carriers