

A & B LEADS

Designation of leads derived from the midpoints of the two pairs comprising a 4-wire circuit.

ABBREVIATED DIALING

Preprogramming of a caller's phone system or long distance company's switch to recognize a 2- to 4-digit number as an abbreviation for a frequently dialed phone number, and automatically dial the whole number.

Synonym: Speed Dialing.

ACCESS CHARGE

Monies collected by local phone companies for use of their circuits to originate and terminate long distance calls. Can be per minute fees levied on long distance companies, Subscriber Line Charges (SLCs) levied directly on regular local lines, fixed monthly fees for special telco circuits (ie. WAL, DAL,T-1), or Special Access Surcharge (SAS) on special access circuits.

ACCESS LINE

A telephone circuit which connects a customer location to a network switching center.

AIRLINE MILEAGE

Calculated point-to-point mileage between terminal facilities.

ALL TRUNKS BUSY (ATB) A single tone interrupted at a 120 ipm (impulses per minute) rate to indicate all lines or trunks in a routing group are busy.

ALTERNATE ROUTE

A secondary communications path used to reach a destination if the primary path is unavailable.

ALTERNATE USE

The ability to switch communications facilities from one type to another, i.e., voice to data, etc.

ALTERNATE VOICE DATA (AVD)

A single transmission facility which can be used for either voice or data.

ANALOG SIGNAL

A signal in the form of a continuous varying physical quantity, e.g., voltage which reflects variations in some quantity, e.g., loudness in the human voice.

ANNUNCIATOR

An audible intercept device that states the condition or restrictions associated with circuits or procedures.

ANSWER BACK

An electrical and/or visual indication to the calling or sending end that the called or received station is on the line.

ANSWER SUPERVISION

An electrical signal fed back up the line by the local telephone company at the distant end of a long distance call to indicate positively the call has been answered by the called party. Tells billing equipment to start timing the call.

AREA CODE

A three digit number identifying more than 150 geographic areas of the United States and Canada which permits direct distance dialing on the telephone system. A similar global numbering plan has been established for international subscriber dialing.

Synonym: Numbering Plan Area (NPA).

ATTENDANT POSITION

A telephone switchboard operator's position. It provides either automatic (cordless) or manual (plug and jack) operator controls for incoming and/or outgoing telephone calls.

ATTENUATION

A general term used to denote the decrease in power between that transmitted and that received due to loss through equipment, lines, or other transmission devices. It is usually expressed as a ratio in dB (decibel).

AUDIBLE RINGING TONE

An audible signal heard by the calling party during the ringing-interval.

AUTHORIZATION CODE

A 5- to 14-digit number entered using a touch-tone phone to identify the caller as a customer of the long distance service. Used primarily before Equal Access as a way to verify the caller as a customer and bill calls.

AUTO ANSWER

A machine feature that allows a transmission control unit or station to automatically respond to a call that it receives.

AUTOMATIC CALL DISTRIBUTOR (ACD)

A switching system designed to queue and/or distribute a large volume of incoming calls to a group of attendants to the next available "answering" position.

AUTOMATIC DIALING UNIT

A device which is programmed with frequently called numbers. The caller presses one to three digits and the preprogrammed number is automatically dialed into the phone circuit.

AUTOMATIC IDENTIFICATION OF OUTWARD DIALING (AIOD)

The ability of some centrex units to provide an itemized breakdown of charges (including individual charges for toll calls) for calls made by each telephone extension.

AUTOMATIC NUMBER IDENTIFICATION (ANI)

On long distance calls, the process by which the local phone

company passes a caller's local billing phone number to his/her long distance company when a "1+" or "10-XXX" call is made. With ANI a caller's long distance carrier knows who (what phone number) to bill without requiring the caller to enter any extra digits to be identified.

AUTOMATIC ROUTE SELECTION (ARS)

Synonym: Least Cost Routing

BAND

- (1) The range of frequencies between two defined limits.
- (2) In reference to WATS, one of the five specific geographic areas as defined by the carrier.

Synonym: Bandwidth.

BANDWIDTH

see BAND.

BASEBAND The total frequency band occupied by the aggregate of all the voice and data signals used to modulate a radio carrier.

BAUD

A unit of signaling speed. The speed in Baud is the number of discrete conditions or signal elements per second. If each signal event represents only one bit condition, then Baud is the same as bits per second. Baud does not equal bits per second.

BLOCKED CALLS

Attempted calls that are not connected because (1) all lines to the central offices are in use; or (2) all connecting paths through the PBX/switch are in use.

BREAK

A means of interrupting transmission, a momentary interruption of a circuit.

BREAKEVEN POINT

Level of usage at which the total cost of a service with a high fixed up-front monthly fee but low minute costs becomes equal to the total cost of another service with low (or zero) monthly fee but relatively high per minute cost. At usage levels higher than breakeven, the service with the high monthly fee is cheaper.

BROADBAND

A transmission facility having a bandwidth of greater than 20 kHz.

BUS

A heavy conductor, or group of conductors, to which several units of the same type of equipment may be connected.

BUSY

The condition in which facilities over which a call is to be transmitted are already in use.

BUSY HOUR

The time of day when phone lines are most in demand.

BUSY TONE

A single tone that is interrupted at 60 ipm (impulses per minute) to indicate that the terminal point of a call is already in use.

BYPASS

The direct connection to customer-premises equipment by an IC. This occurs when an IC connects its own facilities (or facilities leased from a non-BOC entity) directly to an end user's premises, circumventing the use of the BOC network..

CARRIER

A long distance company which uses primarily its own transmission facilities, as opposed to resellers which lease or buy most or all transmission facilities from carriers. Many people refer to any type of long distance company, whether it has its own network or not, as a carrier, so the term is not as restrictive as it used to be.

CARRIER ACCESS CODE (CAC)

The sequence an end user dials to obtain access to the switched services of a carrier. Carrier Access Codes for Feature Group D are composed of five digits, in the form 10XXX, where XXX is the Carrier Identification Code.

CARRIER COMMON LINE CHARGE (CCLC)

A per minute charge paid by long distance companies to local phone companies for the use of local public switched networks at either or both ends of a long distance call. This charge goes to pay part of the cost of telephone poles, wires, etc.

CARRIER IDENTIFICATION CODE (CIC)

The three-digit number that uniquely identifies a carrier. The Carrier Identification Code is indicated by XXX in the Carrier Access Code. The same code applies to an individual carrier throughout the area served by the North American Numbering Plan.

CARRIER SYSTEM

A system for providing several communications channels over a single path.

CELLULAR MOBILE RADIO

A high capacity land mobile radio system in which an assigned frequency spectrum is divided into discrete channels that are assigned to a cellular geographic serving area.

CENTRAL OFFICE (CO)

With local telephone companies, the nearby building containing the local telco switch which provides local telephone service. Also the physical point where calls enter the long distance network. Sometimes referred to as

Class 5 office, end office, or Local Dial Office.

CENTREX, CO

PBX Service provided by a switch located at the telephone company central office.

CENTREX, CU

A variation on Centrex CO provided by a telephone company maintained "Central Office" type switch located at the customer's premises.

CHANNEL

A communications path via a carrier or microwave radio.

CIRCUIT A path for the transmission of electromagnetic signals to include all conditioning and signaling equipment.
Synonym: Facility.

CIRCUIT SWITCHING

A switching system that completes a dedicated transmission path from sender to receiver at the time of transmission.

CLASS OF SERVICE/CLASS MARK (COS)

A subgrouping of telephone customers or users for the sake of rate distinction or limitation of service.

COAXIAL CABLE

A cable with a solid outer shield, a space and then a solid inner conductor. The electromagnetic wave travels between the outer shield and the conductor. It can carry a much higher band width than a wire pair.

CODEC

Coder-Decoder. Used to convert analog signals to digital form for transmission over a digital median and back again to the original analog form.

COMMON CARRIER

A government regulated private company that provides the general public with telecommunications services and facilities.

COMMON CHANNEL INTEROFFICE SIGNALING (CCIS)

A digital technology used by AT&T to enhance their Integrated Services Digital Network. It uses a separate data line to route interoffice signals to provide faster call set-up and more efficient use of trunks.

COMMON CONTROL SWITCHING ARRANGEMENT (CCSA)

The use of carrier switches under a carrier's control as part of a customer's private network. The carrier's software controls and switches the customer's calls over private lines the customer has rented. Control of the switch and switching functions is done in common for all users using the software and switching system.

CONDITIONING EQUIPMENT

Equipment modifications or adjustments necessary to match

transmission levels and impedances and which equalize transmission and delay to bring circuit losses, levels, and distortion within established standards.

CONFIGURATION

The combination of long-distance services and/or equipment that make up a communications system.

CONTROL UNIT (CU)

The central processor of a telephone switching device.

COST COMPONENT

The price of each type of long distance service and/or equipment that constitutes a configuration.

CROSS CONNECTION

The wire connections running between terminals on the two sides of a distribution frame, or between binding posts in a terminal.

CROSS TALK

The unwanted energy (speech or tone) transferred from one circuit to another circuit.

CUSTOMER ACCESS LINE CHARGE (CALC)

The FCC-imposed monthly surcharge added to all local lines to recover a portion of the cost of telephone poles, wires, etc., from end users. Before deregulation, a large part of these costs were financed by long distance users in the form of higher charges.

CUSTOMER OWNED AND MAINTAINED (COAM)

Customer provided communications apparatus and associated wiring.

CUSTOMER PREMISE EQUIPMENT (CPE)

Telephone equipment, usually including wiring located within the customer's part of a building.

CUT

To transfer a service from one facility to another.

CUT THROUGH

The establishment of a complete path for signaling and/or audio communications.

DATA SET

A device which converts data into signals suitable for transmission over communications lines.

DATA TERMINAL

A station in a system capable of sending and/or receiving data signals.

DECIBEL (dB)

A unit measurement represented as a ratio of two voltages, currents or powers and is used to measure transmission loss or gain.

DEDICATED ACCESS LINE (DAL)

An analog special access line going from a caller's own equipment directly to a long distance company's switch or POP. Usually provided by a local telephone company. The line may go through the local telco Central Office, but the local telco does not switch calls on this line.

DELAY DIAL

A dialing configuration whereby local dial equipment will wait until it receives the entire telephone number before seizing a circuit to transmit the call.

DELTA MODULATION (DM)

A variant of pulse code modulation whereby a code representing the difference between the amplitude of a sample and the amplitude of the previous one is sent. Operates well in the presence of noise, but requires a wide frequency band.

DEMODULATION

The process of retrieving data from a modulated signal.

DIAL LEVEL

The selection of stations or services associated with a PBX using a one to four digit code (e.g., dialing 9 for access to outside dial tone).

DIAL PULSING

The transmitting of telephone address signals by momentarily opening a DC circuit a number of times corresponding to the decimal digit which is dialed.

DIAL REPEATING TIE LINE/DIAL REPEATING TIE TRUNK

A tie line arrangement which permits direct trunk to trunk connections without use of the attendant.

DIAL SELECTIVE SIGNALING

A multipoint network in which the called party is selected by a prearranged dialing code.

DIAL TONE

A tone indicating that automatic switching equipment is ready to receive dial signals.

DIALING PLAN

A description of the dialing arrangements for customer use on a network.

DIRECT DISTANCE DIALING (DDD)

A basic toll service that permits customers to dial their own long distance call without the aid of an operator.

DIRECT INWARD DIALING (DID)

A PBX or CENTREX feature that allows a customer outside the system to directly dial a station within the system.

DIRECT OUTWARD DIALING

A PBX or CENTREX feature that allows a station user to gain

direct access to an exchange network.

DROP

The portion of outside telephone plant which extends from the telephone distribution cable to the subscriber's premises.

DRY CIRCUIT

A circuit which transmits voice signals and carries no direct current.

DUAL TONE MULTI-FREQUENCY (DTMF)

Also known as Touch-Tone. A type of signaling which emits two distinct frequencies for each indicated digit.

DUPLEX

Simultaneous two-way independent transmission.

DUPLEX SIGNALING

A long-range bidirectional signaling method using paths derived from transmission cable pairs. It is based on a balanced and symmetrical circuit that is identical at both ends. This circuit presents an E&M lead interface to connecting circuits.

ECHO

A signal that has been reflected or otherwise returned with sufficient magnitude and delay to be perceived by the speaker.

ECHO RETURN LOSS (ERL)

The loss which must be in the echo path to reduce echo to a tolerable amount.

ECHO SUPPRESSOR

A device which detects speech signals transmitted in either direction on a four-wire circuit, and introduces loss in the direction of transmission.

EITHER END HOP OFF (EEHO)

In private networks, a switch program that allows a call destined for an off-net location to be placed into the public network at either the closest switch to the origination or to the destination. The choice is usually by time of day. Uses either Head End Hop Off or Tail End Hop Off.

ELECTRONIC KEY TELEPHONE SETS (EKTS)

A generic term indicating key telephones with built-in microprocessors which allow access to PBX-like features as well as access to multiple CO lines, using 2 to 4 pair wiring.

ELECTRONIC SWITCH

Modern programmable switch (often denoted ESS, for Electronic Switching System) used in most BOC telephone companies, many independent telephone companies, and by virtually all new long distance companies. Completely solid

state electronics, as opposed to older electro-mechanical switches.

ELECTRONIC SWITCHING SYSTEM (ESS)

Used as a station instrument on a PBX. Also a Bell System term for electronic exchange switching equipment.

ELECTRONIC TANDEM NETWORK (ETN)

(1) A private network automatically and electronically connecting the calling office to the called office through Tandem-Tie Trunks. The network switches also function as PBXs. (2) An AT&T product name. (3) Used as a generic term for a PBX base network.

ENHANCED PRIVATE SWITCHED COMMUNICATIONS SERVICE (EPSCS)

A private network utilizing Bell provided equipment located in the central office and dedicated to a specific customer.

E&M LEADS

A pair of leads which carry signals between trunk equipment and separate signaling equipment unit. The M lead transmits battery or ground signals to the signaling equipment, and the E lead receives open or ground signals from the signaling equipment.

E&M SIGNALING

An arrangement whereby signaling between a trunk circuit and an associated signaling unit is effected over two leads providing full-time, 2-way, 2-level supervision.

ENTERPRISE NUMBER

A unique telephone exchange number that permits the called party to be automatically billed for incoming calls.

EQUAL ACCESS

Reprogramming of Local Exchange Company (LEC) switches to allow other long distance companies besides AT&T to be the "1+" primary long distance company for users of long distance (by creating a new type of Feature Group access circuit, FGD). Also provides "10-XXX" dialing for secondary and casual calling, generates true hardware Answer Supervision when calls are terminated over FGD circuits, and provides ANI (Automatic Number Identification) on originating calls.

EQUALIZATION

The procedure of compensating for fluctuation in circuit amplitude, delay, or distortion.

ERLANG

A unit of traffic intensity. One Erlang is the intensity at which one traffic path would be continuously occupied, e.g. one call per hour.

ERLANG B TABLE

A widely used table derived from a mathematical formula which allows the determination of the traffic capacity of a given group of circuits.

EXCHANGE

A telephone switching center.

EXCHANGE NETWORK FACILITIES FOR INTERSTATE ACCESS (ENFIA)

AT&T's pricing arrangement for local loops offered to OCCs for connecting the OCC's network to the local telephone company's central office.

EXTENDED AREA SERVICE (EAS)

Adding expanded local calling areas to a caller's basic local calling area for a (generally) small additional monthly fee. The EAS local calls can be either free (after a small additional monthly fee is paid) or at a cost of reduced per call charges.

FACILITIES

Typically refers to transmission lines or circuits, or long distance services. A caller's facilities are the circuits available to make calls.

FACSIMILE

The transmission of pictures, maps or other documents via communications circuits using a device which scans the original document, transforms the image into coded signals and reproduces the original document at a distant point.

FEATURE GROUP A

Line-side originating and terminating LATA access for which an originating subscriber dials an assigned telephone number that connects to a specific IC. The IC returns a tone to signal the caller to input additional tone-generated digits of the called number.

FEATURE GROUP B

Trunk-side originating and terminating LATA access for which an originating subscriber dials a 950-WXXX number (where W=0,1 and XXX is the Carrier Access Code), which is translated to a specified XXX carrier trunk group. Optional rotary dial service and ANI may be available.

FEATURE GROUP C

Trunk-side LATA access for AT&T, generally, on a direct basis between each EO and an AT&T switching system.

FEATURE GROUP D

Also referred to as "Equal Access," Feature Group D is trunk-side LATA access affording call supervision to an IC, a uniform access code (10XXX), optional calling-party identification, recording of access-charge billing details, and presubscription to a customer-specified IC.

FEDERAL COMMUNICATIONS COMMISSION (FCC)

The government agency established by the Communications Act of 1934 which regulates the interstate communications industry.

FIBER OPTICS

High speed transmission using light to send images (in telecommunications: voice or data) through a flexible bundle of glass fibers.

FOUR WIRE CIRCUITS

Circuits which use two separate one-way transmission paths of two wires each, as opposed to regular local lines which usually only have two wires to carry conversations in both directions. One set of wires carries conversation in one direction, the other in the opposite direction.

FREQUENCY

The number of complete cycles per unit of time.

FREQUENCY DIVISION MULTIPLEXING (FDM) The division of an available frequency range (bandwidth) into various subdivisions, each having enough bandwidth to carry one voice or data channel.

FREQUENCY RESPONSE

The reaction of frequencies to the circuit components.

FULL DUPLEX

A circuit which allows transmission of a message in both directions at the same time.
Synonym: 4-wire.

FULL PERIOD

Relates to private line service, which is rented for the exclusive use of a single customer for an entire month.

FX (FOREIGN EXCHANGE) SERVICE

A service which allows a customer to appear to have a local presence in a distant part of town or, a different town altogether, by connecting his/her phone directly to a local business line in a part of town with a different exchange than his/her local calling area over a leased private line, or to a local telco in a distant town through long haul private lines purchased from a long distance carrier.

GRADE OF SERVICE

The probability of a call being blocked by busy trunks, expressed as a decimal fraction, and usually meaning the busy-hour probability.

GROUP

12 circuits processed as a unit in a carrier system.

HALF DUPLEX

A circuit for transmitting or receiving signals in one direction at a time.

HARDWARE

To wire or cable directly between units of equipment.

HARMONIC

The full multiple of a base frequency.

HARMONIC DISTORTION

The ratio, expressed in decibels, of the power at the fundamental frequency, to the power of a harmonic of that fundamental.

HEAD END HOP OFF (HEHO)

A method of traffic engineering whereby calls are completed by using long distance facilities directly off the switch that serves that location.

HERTZ (Hz)

International standard unit of frequency. Replaces, and is identical to, the order unit "Cycles-per-second."

HOMING

Returning to the starting position, as in a rotary stepping switch.

HOOKSWITCH

The device on which the telephone receiver hangs or on which a telephone handset hangs or rests when not in use. The weight of the receiver or handset operates a switch which opens the telephone circuit, leaving only the bell connected to the line.

HOT-CUT

Virtually instantaneous replacement of one line with another.

HYBRID

An electronic circuit which performs the wire conversions necessary for the connection of a local loop with a long-haul facility.

INTERCEPT

To stop a telephone call directed to an improper telephone number, and redirect that call to an operator or a recording.

INTERCONNECT

(1) The arrangement that permits the connection of customer's telecommunications equipment to a communications common carrier network. (2) The industry name for manufacturers, excluding the Bell system, which provide telephone equipment for the customer premises.

INTER-EXCHANGE MILEAGE (IXC)

The airline mileage between two cities.
Synonym: Long Haul Mileage.

INTEREXCHANGE PLANT

The facilities between the subscriber switching center and another switching center.

INTERFACE

The junction or point of interconnection between two systems or equipment having different characteristics.

INTERFERENCE

Any unwanted noise or crosstalk on a communications circuit which acts to reduce the intelligibility of the desired signal or speech.

INTER-MACHINE TRUNK (IMT)

A circuit which connects two automatic switching centers.

INTER-OFFICE TRUNK (IOT)

A direct trunk between local exchange offices.

INTERNATIONAL RECORD CARRIER (IRC)

Carriers providing international telecommunications services, including voice, telex, and data communications.

INTERSTATE

Any connection made between two states.

INTRASTATE

Any connection made that remains within the boundaries of a single state.

JITTER

Short term instability of the amplitude and/or phase of a signal. Commonly called PHASE JITTER.

KEYSET

A telephone instrument having an appearance of two or more telephone lines which can be accessed by depressing a button (key) on the face of the set.

KEY SYSTEM

The equipment utilized to provide the features associated with key sets, including keysets, multipair cable, key service unit, distribution frames.

LEASED LINES

Any circuit or combination of circuits designated to be at the exclusive disposal of a given subscriber.
Synonym: Private line; Full Period Line.

LEAST COST ROUTING (LCR)

A method of automatically selecting the least costly facility for transmission of a call.
Synonym: Most Economical Route Selection (MERS); Automatic Route Selection; Flexible Route Selection.

LEVEL

An expression of the relative signal strength at a point in a communications circuit compared to a standard.

LOADING

A system for adding regularly spaced inductance units to a circuit to improve its transmission characteristics.

LOCAL ACCESS AND TRANSPORT AREA (LATA)

A geographic area (called "exchange" or "exchange area" in the MFJ) within each BOC's franchised area that has been established by a BOC in accordance with the provisions of

the MFJ for the purpose of defining the territory within which a BOC may offer its telecommunications services.

LOCAL AREA NETWORK (LAN)

Intraoffice communication system usually used to provide data transmission in addition to voice transmission.

LOCAL EXCHANGE CARRIER (LEC)

A local telephone company, either one of the Bell Operating Companies or one of the 1400+ independent local telephone companies.

LOCAL LOOP

The local connection between the end user and the Class 5 central office.

LONG HAUL

Circuits spanning considerable distances.

LOOP BACK

A method of performing transmission tests on a circuit not requiring the assistance of personnel at the distant end.

LOOP SIGNALING

Any of the three signaling methods which use the metallic loop formed by the trunk conductors and the terminating equipment bridges.

MAIN DISTRIBUTION FRAME (MDF)

The point where outside plant cables terminate and from which they cross connect to terminal or central office line equipment.

MAIN PBX

A PBX directly connected to a tandem switch via an access trunk group.

MANUAL TIE LINE

A tie line which requires the assistance of an attendant at both ends of the circuit in order to complete a call.

MASTER GROUP (MG)

240 circuits processed as a unit in a carrier system.

MESSAGE TELEPHONE SERVICE (MTS)

AT&T's tariffed pricing name for long distance telephone calls.

MESSAGE UNIT (MU)

A local toll rate calling plan which is time and distance sensitive.

MICROWAVE (M/W)

Radio transmission using very short lengths, corresponding to a frequency of 1,000 megahertz or greater.
Synonym: Microwave Radio.

MICROWAVE RADIO

Synonym: Microwave.

MODEM

A device which modulates and demodulates signals on a carrier frequency and allows the interface of digital terminals with analog carrier systems.

MODIFIED FINAL JUDGEMENT (MFJ)

The agreement between the U.S. Department of Justice and AT&T governing the breakup of the pre-Divestiture Bell System into AT&T and 22 Bell Operating Companies and other entities. On August 26, 1982, U.S. District Court Judge Harold Greene accepted, with modifications, an AT&T/Justice Department settlement terminating the government's 1974 antitrust suit against AT&T. Judge Greene's decree did away with the provisions of the 1956 consent decree that had kept AT&T out of competitive, unregulated ventures.

MODULATION

Alterations in the characteristics of carrier waves. Usually impressed on the amplitude and/or the frequency.

MONITORING DEVICE

Records data on calls placed through a company's telephone system: number called, length of calls, calling location.

MOST ECONOMICAL ROUTE SELECTION (MERS)

Synonym: Least Cost Routing.

MULTIPLEXING

The act of combining a number of individual message circuits for transmission over a common path. Two methods are used: (1) frequency division, and (2) time division.

NETWORK

A collection of switches connected to one another by transmission facilities.

NETWORK NUMBERING EXCHANGE (NXX)

The three digit location code representing the central office. "N" may be any number between "2" and "9" and "X" may be any number.

NETWORK TRUNKS

Circuits connecting switching centers.

NNX CODES

The 3-digit code used historically for local Exchange Codes. "N" can be any number from 0 to 2, "X" can be any digit. The current numbering plan allows for more variation in assigning Exchange Codes, and under it Exchange Codes are commonly referred to as "NXXs."

NODE

A major switching center of a network.

NON-BLOCKING

A switching network having a sufficient number of paths such that a subscriber originating a call can always reach any other idle subscriber without encountering a busy.

NUMBERING PLAN AREA (NPA)

A geographical division within which no two telephones will have the same 7 digit number. "N" is any number between "2" and "9"; "P" is always "1" or "0"; and "A" is any number excluding "0". Commonly referred to as "area code."

NXX CODES

The current general configuration for Exchange Codes within each Area Code. See also: "NNX Codes"

OFFERED TRAFFIC

The number of call attempts in any specified period of time.

OFF HOOK

The condition which results when a telephone is lifted from its mounting, allowing the hookswitch to operate.

OFF-NETWORK ACCESS LINE (ONAL)

A local exchange (Feature Group access), Foreign Exchange, or WATS line connecting both incoming and outgoing traffic from a long distance company's network to the public switched network. Generally a circuit leased by a long distance carrier to be used by many customers not hooked directly into the long distance carrier's network.

OFF NETWORK CALLING

Telephone calls through a private switching system and transmission network which extend to the public telephone system.

OFF PREMISES EXTENSION (OPX)

An extension telephone or keyset that is geographically separated from its associated PBX.

ON HOOK

The condition which results when a telephone handset is placed on its mounting, which causes the hook-switch to open its contacts.

ON NETWORK CALLING

A term used to describe a call that originates and terminates on a private network.

OPERATOR ASSISTED CALLS

Non-DDD calls requiring manual intervention.

ORIGINATING OFFICE

The central office that serves the calling party.

OTHER COMMON CARRIER (OCC)

A long distance company other than AT&T having many of its own long distance circuits, either owned or leased. Some people use OCC to refer to all AT&T long distance

competitors, including resellers, but this is not technically correct.

OUT-OF-BAND

Any frequency outside the band used for voice frequencies.

OUT-OF-BAND SIGNALING

Use of narrow band filters to place the voice signal on a carrier channel below 3,400 CPS, reserving the 3,400 - 3,700 CPS band for supervisory signals.

OVERBUILD

Adding radio capacity to a telecommunications network.

OVERFLOW

Switching equipment which operates when the traffic load exceeds the capacity of the regular equipment.

PAD

A non-adjustable resistance network used to insert transmission loss into a circuit.

PHASE JITTER

SEE Jitter

POINT OF PRESENCE (POP)

A physical location within a LATA at which an IC establishes itself for the purpose of obtaining LATA access and to which the BOC provides access services.

POINT-TO-POINT

A communications circuit between two terminations which does not connect with a public telephone system.

PORT

Entrance or access point to a computer, multiplexor device or network where signals may be supplied, extracted or observed.

POSTAL TELEPHONE AND TELEGRAPH (PTT)

Foreign government agencies responsible for regulating communications.

PRIMARY AREA

A customer's local telephone calling area.

PRIMARY INTEREXCHANGE CARRIER (PIC)

The IC designated by a customer to provide inter-LATA service automatically without requiring the customer to dial an access code for that carrier.

PRIMARY ROUTING POINT

The switch designated as the control point for a longhaul telephone call.

PRIVATE BRANCH EXCHANGE (PBX)

A private phone system (switch) used by medium and large companies which is connected to the public telephone network

(local telco) and performs a variety of in-house routing and switching. User usually dial "9" to get outside system to the local lines.

PRIVATE LINE (PL)

A full-time leased line directly connecting two points, used solely by purchaser. The most common form is a tie line connecting two pieces of a user's own phone equipment - flat rate billing, not usage sensitive.

PRIVATE USE NETWORK

Two or more private line channels contracted for by a customer and restricted for use by that customer only.

PUBLIC SWITCHED NETWORK (PSN)

The pre-Divestiture nationwide network maintained by AT&T and the independent telephone companies which provides nationwide, unrestricted telephone service.

PUBLIC UTILITY COMMISSION (PUC)/PUBLIC SERVICE COMMISSION

(PSC)

The state commissions regulating intrastate communications.

PULSE CODE MODULATION (PCM)

The form of modulation in which the information signals are sampled at regular intervals and a series of pulses in coded form are transmitted representing the amplitude of the information signal at that time.

PULSE-LINK REPEATER

Connects one E&M signaling circuit directly to another.

PULSE MODULATION The modulation of a series of pulses which represents information-bearing signals. Typical methods involve modifying the amplitude (PAM), width or duration (PWM) or position (PPM). Pulse Code Modulation (PCM) is the most common modulation technique involved in telephone work.

PUSH BUTTON DIALING

Synonym: Dual Tone Multi-Frequency.

QUEUE

A temporary delay in providing service caused by the inability of the system provided to handle the number of messages or calls attempted.

RADIO COMMON CARRIER (RCC)

A communications common carrier that provides radio paging and mobile telephone services to the public.

RATE CENTER

A specified geographic location used by the telephone company to determine interchange mileage for rate determination purposes.

REDUNDANCY

Duplicate equipment that is provided to minimize the effect

of failures or equipment breakdowns.

REGENERATION

The process of receiving distorted signal pulses and from them recreating new pulses at the correct repetition rate, pulse amplitude, and pulse width.

RE-HOMING

A major network change which involves moving customer services from one switching center to another and establishing the necessary trunking facilities to do so.

REMOTE ACCESS

The ability of transmission points to gain access to a computer which is at a different location.

REPEATER

An electronic device used to amplify signals which have become too weak.

REPEATING COIL

The telephone industry's term for a voice-frequency transformer.

RESELLER

A long distance company that purchases large amounts of transmission capacity or calls from other carriers and resells it to smaller users.

RESTORATION

The re-establishment of service by rerouting, substitution of component parts, or as otherwise determined.

RETARD COIL

A coil having a large inductance which retards sudden changes of the current flowing through its winding.

RINGBACK TONE

Synonym: Audible Ringing Tone.

RINGDOWN

A circuit or method of signaling where the incoming signal is actuated by alternating current over the circuit.

ROUTE DIVERSITY

Two (or more) private line channels (circuits) furnished partially or entirely over two physically separate routes. Serves to prevent total loss of service if one cable gets cut or goes out.

ROUTE OPTIMIZATION

Synonym: Least Cost Routing.

ROTARY HUNT

An arrangement which allows calls placed to seek out an idle circuit in a prearranged multi-circuit group and find the

next open line to establish a through circuit.

SATELLITE RELAY

An active or passive repeater in geosynchronous orbit around the Earth which amplifies the signal it receives before transmitting it back to earth.

SELECTIVE CALLING

The ability of a transmitting station to specify by the use of assigned codes which of several stations is to receive a message.

SERVICE AND EQUIPMENT RECORD

A list of equipment billed to customer by type, quantity, monthly charge, location and billing dates.

SF SIGNALING (SINGLE-FREQUENCY)

A signaling system which uses a 2,600 Hz in-band signal on the voice path. The tone is on in the idle condition, pulsed for dialing, and off when the circuit is in use.

SHORT HAUL

Circuits designed for use over distances of 10-200 miles.

SIGNALING

The process of transferring information between two parts of a telephone network to control the establishment of communications between long distance carrier terminal points, and customer equipment required for voice grade dedicated circuits.

SIGNALING CONVERTER

A device with input and output signals that contain the same information but employ different electrical systems for transmitting that information. Used at the terminal of a trunk to convert the equipment signals to the system used on the trunk. Examples are: (1) ring down to SF, (2) E&M to SF.

SIGNALING, IN-BAND

A type of signaling using an AC signal (usually 2,600 Hz) within the normal voice band. This signal can be transmitted from end to end of a long voice circuit without an intermediate signaling equipment. Since the signaling is audible, the signaling equipment must be arranged for "tone on when idle" operation.

SIGNAL TO NOISE RATIO

Ratio of the signal power to the noise power in a specified bandwidth, usually expressed in db.

SIMPLEX (SX) SIGNALING A signaling path over a dry talking circuit which uses the two sides of the circuit in parallel, derived by connecting the midpoints of repeating coils or retardation coils which are across the circuit.

SINGLE SIDEBAND RADIO (SSB)

A form of amplitude modulation of a radio signal in which

only one of the two sidebands is transmitted. Either of the two sidebands may be transmitted, and the carrier may be transmitted, reduced or suppressed.

SINGING

A continued whistle or howl in an amplified telephone circuit. It occurs when the sum of the repeater gains exceeds the sum of the circuit losses.

SOFTWARE DEFINED NETWORK (SDN)

A switched long distance service for very large users with multiple locations. Instead of putting together their own network, large users can get special usage rates for calls made on regular long distance company switched long distance services.

Synonym: Virtual Private Network.

SPECIAL GRADE NETWORK TRUNK

A trunk specially conditioned by providing amplitude and delay equilization for the purpose of handling special services such as medium-speed data (600 to 2400 BPS).

SPECIALIZED COMMON CARRIER (SCC)

Synonym: Other Common Carrier.

SPEED NUMBER

A one, three, or four digit number that replaces a seven or ten digit telephone number. These numbers are programmed into the switch in the carrier's office or in a PBX.

STATION

Any customer location on a network capable of sending or receiving messages or calls.

STATION MESSAGE DETAIL RECORDING (SMDR)

A computer generated report showing internal usage on a telephone system. Usually including extension number, trunk number used, phone number dialed, time of call, duration and operator involvement.

STORE-AND-FORWARD

A technique in which a message is received from the originator and held in storage until a circuit to the addressee becomes available.

STORED PROGRAM CONTROL (SPC)

A system whereby the instructions are placed in the memory of a commoncontrolled switching unit and to which it refers while processing a call for instructions regarding class marks, code conversions, routing, as well as for trouble analysis.

SUPERGROUP (SG)

60 circuits processed as a unit in a carrier system.

SUPERMASTERGROUP (SMG)

600 circuits processed as a unit in a carrier system.

SUPERVISION

Synonym: Answer Supervision.

SUPERVISORY SIGNALS

A signal, such as "on-hook" or "off-hook," which indicates whether a circuit or line is in use.

SWITCH

Equipment used to interconnect lines and trunks.

SWITCHED ACCESS

Connection between caller's phone system and switch of chosen long distance carrier when a regular long distance call using regular local lines is made. Also the connection between the switch of caller's long distance carrier in the distant city and the phone being called.

SWITCH HOOK

Synonym: Hookswitch.

SWITCHING

The operations involved in interconnecting circuits in order to establish communications.

SWITCHING CENTER

A location at which telephone traffic, either local or toll, is switched or connected from one circuit or line to another.

SWITCHING OFFICE

A telephone company office which contains a switch.

T-1

24 voice channels digitized at 64,000 bps, combined into a single 1.544 Mbps digital stream (8,000 bps signaling), and carried over two pairs of regular copper telephone wires. Used primarily by telephone companies until 1983. Now used for dedicated local access to long distance facilities, long-haul private lines, and for regular local service. Today, most any 1.544 Mbps digital stream is called T-1, regardless of its makeup or what the transmission medium is.

T-CARRIER

A time-division, pulse-code modulation, voice carrier used on exchange cable to provide short-haul trunks.

TAIL END HOP OFF (TEHO)

In a private network, a call which is carried over flat rate facilities (Intermachine Trunks or IMT) to the closest switch node to the destination of the call, and then connected into the public network as a local call.

TANDEM

A switching arrangement in which the trunk from the calling office is connected to a trunk to the called office through

an intermediate point.

TANDEM SWITCHING SYSTEM

Synonym: Tandem Tie Trunk Network.

TANDEM TIE TRUNK NETWORK (TTTN)

A serving arrangement which permits sequential connection of tie trunks between PBX/CENTREX locations by utilizing tandem operation.

TANDEM TRUNKING

Trunks which connect two or more switches together.

TARIFF

The published rates, regulations, and descriptions governing the provisions of communications service.

TELCO

Local telephone company.

TELECOMMUNICATIONS

The transmission of voice and/or data through a medium by means of electrical impulses and includes all aspects of transmitting information.

TELEGRAPH

A system employing the interruption of, or change in, the polarity of DC current signaling to convey coded information.

TELEPHONE

A device which converts acoustical (sound) energy into electrical energy for transmission to a distant point.

TELETYPEWRITER

A machine used to transmit and/or receive communications on printed page and/or tape.

TERMINAL

A point at which information can enter or leave a communications network.

TERMINAL EQUIPMENT

Devices, apparatus and their associated interfaces used to forward information to a local customer or distant terminal.

TERMINATION

(1) An item that is connected to the terminal of a circuit or equipment. (2) An impedance connected to the end of a circuit being tested. (3) The points on a switching network to which a trunk or line may be attached.

TIE-LINE

A private leased line linking two phones or phone systems directly. Can ring distant phone automatically when telephone is lifted from its mounting, or when a short code is dialed.

TIME DIVISION MULTIPLEXING (TDM)

Equipment which enables the transmitting of a number of signals over a single common path by transmitting them sequentially at different instants of time.

TOLL CALL

Any call to a point outside the local service area.

TOLL CENTER

A central office where operators (human or mechanical) are present to assist in completing incoming toll calls.

TOLL OFFICE

A center for the switching of toll calls.

TOLL PLANT

The facilities that connect toll offices throughout the country.

TOLL RESTRICTION

A restriction in outgoing trunks which counts the first three digits dialed and diverts calls to forbidden codes either to a busy tone, to the operator, or to a recorded announcement.

TOUCH-TONE ADAPTOR

A device that can be connected to a rotary dial telephone to allow for DTMF signaling.

TRAFFIC

Calls being sent and received over a communications network.

TRAFFIC MEASUREMENT AND RECORDING SYSTEMS (TMRS)

A computer generated report showing usage information of telephone systems. Usually this includes trunk utilization, outages, queueing time, and the need for additional common equipment.

TRAFFIC SERVICE POSITION SYSTEM (TSPS)

A toll switchboard position configured as a push button console.

TRANSMISSION

The electrical transfer of a signal, message or other form of data from one location to another without unacceptable loss of information content due to attenuation, distortion, or noise.

TRANSMISSION LEVEL

The level of power of a signal, normally 1,000 Hz, which should be measured at a particular reference point.

TRANSMISSION SPEED

Number of pulses or bits transmitted in a given period of time, usually expressed as Bits Per Second (BPS) or Words Per Minute (WPM).

TRUNK

A telephone circuit or path between two switches, at least one of which is usually a telephone company Central Office or switching center. Regular local CO circuits are called PBX trunks, because there is a switch at both ends of the circuit.

TRUNK GROUP

An arrangement of communications channels into an identical group.

TRUNK TYPE (TT)

Trunks that use the same type of equipment going to the same terminating location.

TRUNK UTILIZATION REPORT (TUR)

A computer printout detailing the traffic use of a trunk.

TWO-WIRE CIRCUIT

(1) A channel for transmitting data in one direction at a time. (2) A short distance channel using a single send/receive pathway, usually 2 copper wires, connecting a telephone to a switch.

TELETYPEWRITER EXCHANGE SERVICE (TWX)

A service whereby a customer's leased teletypewriter is connected to a "TWX" switchboard and from there connected over regular toll circuits to a teletypewriter of any U.S. customer who subscribes to a similar service.

UNIFORM CALL DISTRIBUTOR (UCD)

A device located at the telephone office or in a PABX which distributes incoming calls evenly among individuals.

UNIFORM SERVICE ORDER CODE (USOC)

The information in coded form for billing purposes by the local telephone company pertaining to information on service orders and service equipment records.

VALUE-ADDED NETWORK SERVICE (VANS)

A data transmission network which routes messages according to available paths, assures that the message will be received as it was sent, provides for user security, high speed transmission and conferencing among terminals.

VIA NET LOSS (VNL)

The lowest loss in dB at which a trunk facility can be operated considering limitations of echo, crosstalk, noise and singing.

VOICE CONNECTING ARRANGEMENT

An interface arrangement provided by the telephone company to accommodate the connections of non-carrier provided voice terminal equipment to the public switched telephone network.

VOICE FREQUENCY (VF)

Any of the frequencies in the band 300-3,400 Hz which must be transmitted to reproduce the voice with reasonable

fidelity.

VOICE GRADE

An access line suitable for voice, low-speed data, facsimile, or telegraph service. Generally, it has a frequency range of about 300-3000 Hz.

VOICE GRADE FACILITY (VGF)

A circuit designed to DDD network standards which is suitable for voice, low-speed data, facsimile, or telegraph service.

WIDE AREA TELECOMMUNICATIONS SERVICE (WATS)

(INWATS) WATS permits customers to make (OUTWATS) or receive long-distance calls and to have them billed on a bulk rather than individual call basis. The service is provided within selected service areas, or bands, by means of special private access lines connected to the public telephone network via WATS-equipped central offices. A single access line permits inward or outward service, but not both.

WIDEBAND

A term applied to facilities or circuits where bandwidths are greater than that required for one voice channel.

WIRE CENTER

The physical structure that houses one or more central office switching systems.

"0" or "0-"

Zero minus dialing. Allows a caller to dial zero and nothing else to get the Operator.

"0+"

Zero plus dialing. An operator assisted long distance call which is charged to the calling party.

"00+" or "00-"

Double zero dialing. Allows a caller to get an AT&T Operator in areas in which dialing only one zero would connect the caller with the local Operator because AT&T has given Operators back to the local telephone company.

"1+" DIALING

The capability to dial "1" plus the long distance number for calls within the North American Numbering Plan area. Intra-LATA calls are carried by the local telephone company. Inter-LATA calls are carried by the caller's primary carrier, or by AT&T if equal access has not come to the caller's area yet.

"10-XXX" DIALING

The ability to send calls over a carrier other than a caller's primary carrier by dialing "10-XXX" then "1+" the long distance number, where "XXX" is the 3-digit Carrier Code of the alternative long distance company (also called a secondary carrier). Available only to Equal Access

customers.

800 SERVICE

The ability of a caller to dial a long distance telephone number without incurring a charge for the call, which is paid for by the party offering the 800 number.
Synonym: Inward WATS service.

900 SERVICE

Allows callers to receive information from the service provider via a recorded audio message, which can range from 60 seconds to a continuous live hookup, by calling a 900 number. This service can also be used to enable callers to vote or "make a choice" by dialing one of two 900 numbers. 900 calls are typically billed to the caller at \$.50 for the first minute of any call and \$.35 for each additional minute.

976 NUMBERS

Service which allows callers to listen to recorded messages such as horoscopes, 'adult' dialogue, stock market or sports reports by calling 976-xxxx. The local telephone company charges callers a fee which is split between the local telephone company and the service provider.

