

Glossary

Telecommunications Terminology

■ A

AAR • Automatic Alternate Routing.

Abandoned Call • call in which the caller cancels the call after a connection has been made, but before conversation takes place.

Abbreviated and Delayed Ringing • allows ringing associated with a call on a station line to be transferred to another station which has an appearance of that line.

Abbreviated Dialing • enables a caller to dial a 2- or 3-digit code instead of the entire 7- or 10-digit telephone number.

AC-DC Ringing • telephone ringing which makes use of both ac and dc components—alternating current to operate a ringer and direct current to aid the relay action which stops the ringing when the called telephone is answered.

ACA • Automatic Circuit Assurance.

ACC • Automatic Callback Calling.

Acceptance Test • operating and testing of a new communications system to ensure that system is operating satisfactorily before being accepted.

Access Charge • cost assessed to communications users for access to interexchange, interstate message toll telephone network to originate and receive interstate toll calls, as well as access to customer's Local Access and Transport Area (LATA).

Access Code • digit(s) that a user must dial to be connected to an outgoing trunk facility.

Access Line • connection to customer's local telephone company for origination of local and long-distance calls; also connection between serving toll center and serving office of interexchange carrier used for access to public switched network services.

Accounting Codes (Voluntary or Forced) • voluntary accounting codes entered by a caller by dialing appropriate digits for the call being placed followed by the digits composing the accounting codes; with forced accounting codes, if caller fails to dial a valid accounting code within a specific timeframe, an intercept tone (or as a customer option, a recorded message) can be played to the caller and the call will be terminated.

ACD • Automatic Call Distributor.

ACK/NAK/END • Acknowledged/Not Acknowledge/Inquiry.

Acoustic Coupler • terminal equipment device used to link data terminals and radio sets with telephone network.

ACTGA • Attendant Control of Trunk Group Access.

ACU • Automatic Calling Unit.

Adaptive Equalization • equalization which is adjusted while signals are being transmitted in order to adapt to changing line characteristics.

Adaptive Routing • routing which automatically adjusts to network changes, such as changes of traffic pattern or failures.

Add-On Conference • station conference facility allowing station user to selectively (by dialing) add another internal party to existing conversation.

Add-On Data Modules • plug-in circuit boards that allow a PBX to receive and transmit both digital and analog signals.

Address • 1) a coded representation of the destination of data or of their originating terminal; 2) group of digits which makes up a telephone number.

Address, International Telephone • a code of 12 digits or less

that specifies a unique address for any telephone in the world.

Advanced Private Line Termination (APLT) • provides the PBX user access to all services of an associated Enhanced Private Switched Communications Services (EPSCS) network; also functions when associated with a Common Control Switching Arrangement (CCSA) network.

Agent Sign-On/Sign-Off • enables any ACD Agent to take ACD calls from any ACD-assigned set.

AIOD • Automatic Identified Outward Dialing.

Alarm Display • attendant console indicators show status of the system; 2 alarms included: minor alarm and major alarm.

ALIT • Automatic Line Insulation Testing.

All Trunks Busy (ATB) • a condition when all trunks in a particular group are in use.

Alphanumeric Display for Attendant Console • visual readout of the source of incoming calls; allows attendant to handle calls for several listed number groups.

Alternate Routing • gives the switching system responsibility for selecting the most economical circuit on outgoing calls.

Alternating Routing • an alternative communications path used if normal one is not available.

ALU • Arithmetic and Logic Unit (computers).

AM • Amplitude Modulation.

AMA • Automatic Message Accounting (CDR, SMDR).

Amplitude • the maximum departure of the value of a wave or alternating current from its average value.

Amplitude Modulation • sine wave, or carrier, has its amplitude modified in accordance with information to be transmitted.

Analog Signal • signal in the form of a continuously varying physical quantity such as voltage, which reflects variations in some quantity.

Analog Transmission • transmission of a continuously variable signal as opposed to a discretely variable signal.

ANC • All Number Calling.

Ancillary Equipment • terminal or communications devices which are not required for the provision of basic business or residential telephone service.

ANI • Automatic Number Identification.

Announcement, Recorded • prerecorded oral message played for incoming calls.

ANS • Answer.

Answer Signal • supervisory signal from the called telephone to the central office, and back to the calling telephone when the called number answers.

Application Program • working programs in a system are usually known as applications programs; contain no input-output coding and are usually unique to one type of application.

Area Code • a 3-digit code designating a "toll" center not in the numbering plan area of the calling party.

Area Code Restriction • allows or denies passage of long-distance calls to specific area codes.

Area, Numbering Plan (NPA) • a geographic subdivision of the territory covered by a national or integrated numbering plan.

ARL • Attendant Release Loop.

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ARO • After Receipt of Order.

ARPA • Advanced Research Projects Agency of the U.S. Department of Defense, which supports the ARPANET resource-sharing computer network, the world's first packet-switched facility.

ARQ • automatic request for repetition.

ARS • Automatic Route Selection.

ARU • Audio Response Unit.

ASCII • American Standard Code for Information Interchange.

ASR • Automatic Send/Receive (Telex, TWX).

Asynchronous Transmission • transmission in which each information character is individually synchronized, usually by the use of start and stop elements.

ATB • All Trunks Busy.

ATND • Attendant.

Attendant • telephone operator; a local switchboard operator.

Attendant Busy Lamp Field • lamps that indicate busy status of a station.

Attendant Camp-On • if call attempts to be completed to a busy station line within system, it is automatically placed in "waiting" mode until desired station becomes idle; called station is automatically rung and connected to the incoming call upon answer.

Attendant Conference • attendant can establish a conference connection between central office trunks and internal stations.

Attendant Console • operator position desktop mounted, which utilizes pushbutton keys for all control and call connecting functions.

Attendant Control of Trunk Group Access • attendant can control and restrict access various trunk groups.

Attendant Direct Station Selection • provides attendant with pushbutton for each internal station; attendant completes calls by depressing pushbutton associated with the desired station.

Attendant Forced Release • automatically "disconnects" all parties on a given circuit when that circuit is entered by the attendant.

Attendant Incoming Call Control • diverts incoming trunk calls automatically to a predetermined station after a predesignated period of time.

Attendant Locked Loop Operation • allows attendant to retain supervision or recall capability of any call which was processed at console.

Attendant Lockout • denies attendant the ability to reenter an established trunk/station connection.

Attendant Loop Transfer • attendant can transfer a call to another attendant for processing.

Attendant Monitor • circuit which allows listening in on all circuits with console handset/headset transmitter deactivated.

Attendant Override • attendant can enter a busy trunk connection.

Attendant Paging • access provided on console for voice paging.

Attendant Recall • calls held, camped-on, or completed by attendant are returned to the console if unanswered within preset period.

Attendant Release Loop • trunk and station calls connected by attendant to idle stations can be released from console switched loop, when the attendant presses release key.

Attendant Restriction • attendant denied the ability to gain access to a trunk in order to originate a call.

Attendant Speed Dialing • pushbutton selection of preprogrammed numbers for outgoing calls made by attendant.

Attendant Station Number Display • unit on console that displays the calling station number.

Attendant Supervisory Console • special console used by chief operator which provides monitoring and control functions over other consoles.

Attendant Transfer of Incoming Call • attendant can transfer calls to other stations.

Attendant Transfer—Outgoing • attendant can transfer outgoing central office calls.

Attendant Trunk Busy Lamp Field • lamps provided on a special panel to indicate busy condition of each circuit.

Attendant Trunk Group Busy Lamps • visual display when all trunks in a trunk group are busy.

Attended Operation • situation where individuals are required at both data stations to establish the connection and transfer the data sets from talk (voice) mode to data mode.

Attenuation • decrease in magnitude of current, voltage, or power of a signal in transmission between points.

Audible Ringing Tone • tone received by the calling telephone indicating that the called telephone is being rung.

Audio Frequencies • frequencies that can be heard by the human ear (usually 30 to 20,000 Hz).

Authorization Code • allows station user to dial a code which overrides restriction level associated with the station.

AUTODIN • Automatic Digital Network.

Automatic Alternate Routing • automatic switching of a call to other routes when first-choice routes are unavailable.

Automatic Call Distributor • specialized system that handles large volumes of incoming calls to a group of attendants.

Automatic Callback—Calling • user calling a busy station can have system complete the call when called line is idle.

Automatic Calling Unit (ACU) • a device which permits a business machine to dial calls automatically.

Automatic Circuit Assurance (ACA) • assists customer in identifying possible trunk malfunctions.

Automatic Dialer, or Autodialer • device which allows the user to dial preprogrammed numbers simply by pushing a single button.

Automatic Dialing • specialized sets have feature button that can dial a user-set telephone number.

Automatic Dialing Unit (ADU) • a device capable of automatically generating dialing digits.

Automatic Exclusion • first station which accesses a line prevents any other station from gaining access to that line.

Automatic Hands-Free Talkback • on stations which have built-in speakers, this facility allows direct access to a given station via intercom when that station is busy on an outside call.

Automatic Hold • allows attendant to go from one trunk call to another on console without using hold button.

Automatic Identified Outward Dialing (AIOD) • automatically identifies which station placed each long-distance call and reports the call detail monthly by extension.

Automatic Interflow (ACD) • incoming ACD call reroutes from primary gate to a PBX hunt group or an alternative ACD system.

Automatic Intraflow (ACD) • automatically reroutes incoming ACD call from primary gate to an alternative split within same ACD.

Automatic Message Accounting • an automatic recording system which documents all the necessary billing data of subscriber-dialed long-distance calls.

Automatic Number Identification (ANI) • equipment at a local central office which automatically identifies the originating station of a toll call.

Automatic Overflow to DDD • toll calls completed over DDD lines if all WATS, OCC lines busy.

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Automatic Recall • alerts attendant, after prescribed period of time, to provide a status report on a camped-on call.

Automatic Route Selection • provides automatic routing of outgoing calls over alternative customer facilities based on the DDD number dialed and the facilities available.

Automatic Station Restriction • prevents unauthorized phone calls from vacant hotel/motel guest rooms.

Automatic Time-Out on Uncompleted Call • if station stays off-hook without dialing for a predetermined time interval, switching equipment will automatically connect station to intercept position.

Automatic Wakeup • enables attendant to enter guest room number and wake-up time on the PBX keyboard, causing the PBX to ring guest phone automatically at a prearranged time.

AUTOVON • Automatic Voice Network.

Autovon Access • capability of the switching system to meet interface criteria of the Department of Defense Autovon Network.

AVD Circuits • Alternate Voice/Data circuits; conditioned to handle both voice and data traffic.

AWG • American Wire Gauge.

■ B

Background Music • optional facility provided through switching equipment and associated with paging speakers.

Band • 1) range of frequencies between 2 defined limits. 2) in WATS service, the specific geographical area which the customer is entitled to call.

Bandpass Filter • circuit designed to allow a single band of frequencies to pass, neither of the cut-off frequencies being zero or infinite.

Bandwidth • difference in cycles per second, or hertz, between the high and low frequencies of a band.

Baseband or Basic Signal • original signal from which a transmission waveform can be produced by modulation.

Baseband Signaling • transmission of a digital or analog signal at its original frequencies, i.e., a signal in its original form, not changed by modulation.

BASIC • Beginners All-Purpose Symbolic Instruction Code.

Battery Reserve Power • alternate, independent source of power to maintain PBX service during a power failure or brownout at customer location.

Baud • unit of signaling speed.

Baudot Code • 5-bit, 32-character code used in Telex.

BCD • Binary Coded Decimal.

BCD • binary coded decimal—6-bit alphanumeric code.

Bell Operating Company (BOC) • any of the newly divested operating telephone companies, such as Bell of Pennsylvania, New Jersey Bell, and Southern Bell; does not include Southern New England Telephone or Cincinnati Bell.

Binary Code • an electrical representation of quantities expressed in the base 2 number system.

Bit • the smallest unit of information in a binary system.

Bit • binary digit.

Bit Rate • speed at which bits are transmitted, usually expressed in bits per second.

BLDU • Busy Lamp Display Unit.

BLF • Busy Lamp Field.

Blocking • inability to interconnect 2 idle lines in a network because all possible paths between them are already in use.

BOC • Bell Operating Company.

bps • bits per second.

Bridge • to connect a load across a circuit.

Bridge Lifter • device which removes, either electrically or physically, bridged telephone pairs.

Bridged Ringing • system where ringers on a line are connected across that line.

Broadband • communication channel having a bandwidth greater than a voice-grade channel, and therefore capable of higher-speed data transmission.

Broadband Exchange (BEX) • public switched communication system of Western Union, featuring various bandwidth FDX connections.

Broadcasting Service • a radio communication service of transmission to be received directly by the general public.

BSP • Bell System Practice.

BT • Busy Tone.

Buffer • a storage device used to compensate for a difference in rate of data flow, or time of occurrence of events, when transmitting data from one device to another.

Busy Hour • continuous 1-hour period which has the maximum average traffic intensity.

Busy Lamp • a visual indicator on a piece of telephone equipment which indicates that the associated line is in use.

Busy Lamp Field • provides attendant console with visual indication of either busy or idle conditions for a particular group of station lines.

Busy Signal • 1) audible and/or flashing signal, often 60 impulses per minute (IPM), which indicates that the called number is unavailable, 2) a signal transmitted at 120 IPM, which indicates that all voice paths are temporarily unavailable.

Busy Verification of Station Lines • attendant can confirm that a line is actually in use by establishing connection to an apparently busy line.

Butn • Button.

BY • Busy, the line is busy.

Byte • a small group of data bits data that is handled as a unit.

■ C

C Conditioning • a type of line conditioning which controls attenuation, distortion, and delay distortion so that they lie within specified limits.

Cable • assembly of one or more conductors within a protective sheath, so constructed as to permit the use of conductors separately or in groups.

Cache Memory • high-speed memory which duplicates a portion of the main memory and stores frequently used instructions, such as program loops; substantially improves the throughput of a processor.

CACS • Customer Administration Center System.

Call • any demand to set up a connection.

Call Accounting System • a device that tracks outgoing calls and records data for reporting.

Call Director • multiple button telephone set, usually with from 6 to 30 buttons.

Call Duration • the interval of time between the moment when the connection is established between the calling and called stations and the moment when the calling station terminates the call.

Call Forwarding • allows a station user to program a phone to ring at an alternate location.

Call Forwarding—All Calls • calls immediately forwarded to alternate station.

Call Forwarding—Busy Line • routes incoming calls directly to attendant or programmed station when called station is busy.

Call Forwarding—Don't Answer • routes calls to a secondary station or attendant when dialed station does not answer within

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prescribed time interval.

Call Hold • allows station user to put a call on hold.

Call Park • a call can be transferred to a busy extension and camped-on or parked; extension can then connect to the call when it is free.

Call Pickup • a station user can answer any call directed to another station line within pickup group by dialing a pickup code from either an idle or a busy state.

Call Processing • the sequence of operations performed by a switching system from the acceptance of an incoming call through the final disposition of a call.

Call Progress Tones • audible signals returned to the station user by the switching equipment to indicate the status of a call; dial tones and busy signals are common examples.

Call Record • all recorded data pertaining to a single call; often a PBX feature.

Call Transfer • a feature that allows the calling or called customer to instruct the switching equipment or operator to transfer calling or calls to another station.

Call Waiting (ACD) • provided by a lamp on the Agent position which advises the Agent incoming calls are in queue.

Call Waiting Service • a call directed to a busy station line is "held" while a special tone is directed to the busy station user; station user can answer this waiting call by hanging up and then being signalled by the waiting call.

Called Subscriber (or Called Party) • the subscriber required by the calling subscriber.

Calling Number Display • indicates that adjunct display unit identifies, via station number, an internal calling party only.

Calling Number Display to Station • provides a called station with a display of the number of the calling station within the PBX.

Calling Number Display to Attendant • provides the attendant with the number of the inside station that has been connected either by dialing "0" or through interception.

Calling Relay • a relay which is controlled over a subscriber's line or trunk line.

Calling Subscriber (or Calling Party) • the subscriber who originates a call.

CAMA • Centralized Automatic Message Accounting (records of long-distance calls).

Camp-On • systems which provides this facility permit the caller to a busy station to dial a special code upon encountering the busy signal and, while remaining off-hook, wait until the called station becomes free.

Camp-On • a subscriber calling a busy number is placed in a waiting condition; both phones ring automatically when the called party hangs up.

Camp-On Indication • low-volume warning tone on existing busy connection to indicate to the parties that another call is waiting.

CAP • Customer Administration Panel.

Carrier • a continuous frequency capable of being modulated, or impressed, with a second (information carrying) signal.

Carrier Frequency • the frequency of the wave (carrier) which is modulated to transmit signals.

Carrier Signaling • any of the signaling techniques used in multichannel carrier transmission.

Carrier System • a means of obtaining a number of channels over a single path by modulating each channel on a different carrier frequency and demodulating at the receiving point to restore the signals to their original form.

Carterfone Decision • 1968 FCC decision which first permitted electrical connection of customer-owned terminal equipment to the telephone network.

CAS • Centralized Attendant Service.

Categories of Service • the FCC has defined 2 categories of communications service: Basic and Enhanced. Basic Service refers to transmission capacity for the movement of information; e.g., residential telephone service. Enhanced service combines basic service with computer processing; e.g., Electronic Yellow Pages.

CATV • Community Antenna System.

CBX • Computer Branch Exchange.

CCD • Charge Coupled Device (computers).

CCIS • Common Channel Interoffice Signaling.

CCITT • Comité Consultatif International pour Telegraphique et Telephonie. An advisory committee to the International Telecommunications Union (ITU) of the United Nations, whose recommendations have international influence among telecommunications engineers, manufacturers, and administrators.

CCITT • Comité Consultatif International des Telephonique et Telegraphique.

CCS • Hundred Call Seconds (traffic engineering).

CCS (Hundred Call Seconds) • a dimensionless unit of telephone traffic load calculated by multiplying the number of calls per hour by the average call duration in seconds and dividing the result by 100 (e.g., 10 CCS = 1000 seconds).

CCSA • Common Control Switching Arrangement.

CCSA Access • provides inward and outward service between the PBX and the CCSA (Common Control Switching Arrangement) network, a company's network of private lines configured with switching arrangements to allow more flexible service.

CCTV • Closed-Circuit Television.

CDAC • Customer Data Acquisition Control.

CDO • Community Dial Office.

CDR • Call Detail Recording (AMA, SMDR).

Central Office • the place where communications common carriers terminate customer lines and locate the switching equipment which interconnects those lines. Also referred to as an exchange, end office, and local central office.

Centralized Attendant Service (CAS) • PBX feature that allows one attendant to answer and control calls for an entire system.

Centralized Attendant Service (CAS) • permits a group of attendants at one location to answer and service calls for all the stores' telephone systems.

Centralized Automatic Message Accounting (CAMA) • an automatic message accounting system located at a central office, but which serves various adjacent central offices.

Centrex • service which allows every subscriber to be directly dialed from the outside; switching equipment usually located in the telephone company central office.

Centrex • type of central office-based PBX service where the incoming calls are dialed directly to the extensions without operator assistance.

CF • Call Forward.

CFAC • Call Forward All Calls.

Chad • the material removed when forming a hole or notch in a storage medium such as punched tape or punched cards.

Chadless Tape • perforated tape with the chad partially attached like a hinged flap to facilitate interpretive printing on the tape.

Channel • a path for electrical transmission between 2 or more points.

Channel Group • assembly of 12 telephone channels, in a carrier system, occupying adjacent bands in the spectrum, frequency-division multiplexed together

Channel, Voice-Grade • a channel suitable for transmission of speech, digital or analog data, or facsimile, generally with a frequency range of about 300 to 3000 Hz.

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Character • letter, figure, number, punctuation, or other sign contained in a message.

Check-In/Check-Out • allows the hotel/motel console operator to activate or deactivate all hotel service related to the guest room.

Chip • the substrate upon which LSI circuits are fabricated; sometimes used to refer to the circuits on the chip themselves.

CIPMS • Communications Interface for Property Management System.

Circuit • 1) a means of 2-way communication between 2 or more points; 2) a group of components connected together to form a specific function.

Circuit Switching • the temporary direct electrical connection of 2 or more channels between 2 or more points in order to provide the user with exclusive use of an open channel with which to exchange information.

Circuit, 2-Wire • a circuit formed by 2 conductors insulated from each other that can be used as either a 1-way transmission path, a half-duplex path, or a duplex path.

Circuit, 4-Wire • a communication path in which 4 wires (2 for each direction of transmission) are connected to station equipment.

Ckt • Circuit.

Class of Office • a ranking assigned to switching points in the telephone network determined by its switching functions, interrelationships with other offices, and transmission requirements.

Class of Service • capability of assigning to each station a variety of allowed or denied types of calls, on an incoming as well as outgoing basis.

Class of Service • categorization of telephone subscribers according to specific type of telephone usage.

Class of Service Display to Attendant • the attendant's position shows the class of service for Dial "0" calls from inside extensions.

Class of Service Intercept • if station attempts to place a call which is not authorized by the station's class of service, the station will be automatically routed to the attendant.

Clipping • loss of initial or final parts of words or syllables due to operation of voice-actuated devices.

Clock • a repetitive precisely timed signal used to control a synchronous process such as logic or transmission.

CMOS • Complementary Metal-Oxide Semiconductor (logic circuit).

CO • Central Office.

Coaxial Cable • cable consisting of an outer conductor surrounding an inner conductor, separated from each other by insulating material, that can carry a much higher bandwidth than a wire pair.

COBOL • Common Business Oriented Language.

Code Call Access • allows attendants and station users to dial an access code and a 2- or 3-digit called party code to activate signaling devices throughout a customer's premises with a coded signal corresponding.

Code Restriction • denies completion of outgoing exchange network calls to selected exchange and area codes.

Code Ringing • the alerting of telephone subscribers on multiparty lines by combinations of short and long rings which are different for each subscriber.

Codec • coder-decoder used to convert analog signals such as speech, music, or television, to digital form for transmission over a digital medium, and back again to the original analog form.

Combination Trunk • trunk circuit available as either an incoming or outgoing circuit to the attendant and also available through dial code access for outgoing calls.

Common Battery • a dc power source in the central office that

supplies power to all subscriber stations and central office switching equipment.

Common Bell • individual station ringer responds to all incoming calls on all lines terminated on that instrument.

Common Carrier • organization that provides regulated telephone, telegraph, telex, and data communications services.

Common Carrier Bureau • division within the FCC responsible for regulating common carrier activities.

Common Control • automatic switching arrangement in which the control equipment necessary for the establishment of connections is shared, being associated with a given call only during the period required to accomplish the control function.

Common Control Switching Arrangement (CCSA) • switching facilities connected by the telephone company to corporate tie-line networks.

Common-Battery Signaling • method by which supervisory and telephone address information is sent to a central office by depressing and releasing the switch on the cradle of the handset.

Common-Channel Interoffice Signaling (CCIS) • a technique by which signaling information for a group of trunks is transmitted between switching offices over a separate channel using time-division methods.

Communications Interface for Property Management System • provides an interface circuit that allows the PBX to function with a customer-owned hotel/motel property management system (PMS).

Communications Satellite • earth satellite designed to act as a telecommunications radio relay.

Compandor • combination of a compressor at one point in a communication path for reducing the volume range of signals, followed by an expander at another point for restoring the original volume range.

Compressor • electronic device which compresses the volume range of a signal.

Comsat • Communications Satellite Corporation, a private U.S. company established by statute as the exclusive international satellite carrier and representing the U.S. in Intelsat.

Concentrator • device which connects a number of circuits which are not all used at once to a smaller group of circuits for economical transmission.

Conditioning • procedure to make transmission impairments of a circuit lie within certain limits which are specified in a tariff; typically used on telephone lines leased for data transmission.

Conduit • pipe or tubing through which telephone cables are passed.

Conf • Conference.

Conference Call • a call established among 3 or more stations.

Conference Calling • user dials up 2 or more persons to establish a conference.

Cons • Consultation.

Console-Less Operation • internal stations answer all incoming calls and connect them to the proper stations.

Consultation Hold • incoming call placed on hold; station user establishes connection with another station; then returns to the incoming call.

Contention • a method of line control in which the terminals request to transmit.

Contl • Control.

Control Character • a character which initiates, modifies, or stops a control operation.

Control Signals • signals which pass between one part of communication system and another to control the system.

Control, Stored-Program • a means of system control using stored logic (software).

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Control, Wired-Program • a means of system control using wired logic (hardware).

Controlled Station to Station Restriction • allows attendant to inhibit station-to-station calling.

COS • Class of Service.

CPE • Customer-Provided Equipment or Customer Premises Equipment.

CPU • Central Processing Unit.

Cross-Modulation • interference caused by 2 or more carriers in a transmission system interacting through nonlinearities in the system.

Cross-Section • signal transmission capacity of a transmission system, usually measured in terms of the number of 2-way voice channels.

Cross-Subsidization • the financial support of one service by revenues from another.

Crossbar Switch • a switch having multiple vertical and horizontal paths, and an electromagnetically operated mechanical means for interconnecting any one of the vertical paths with any of the horizontal paths.

Crosspoint • 2-state semiconductor switching device.

Crosstalk • transfer of energy from one circuit to another circuit.

Crosstalk Attenuation • extent to which a communications system resists crosstalk.

CRT • Cathode Ray Tube.

CSMDR • Centralized Station Message Detail Recording.

Custom Key Set • multibutton telephones designed expressly for a particular PBX; buttons designated to activate system features.

Customer Administration Center System (CACS) • permits customer to administer station and electronic tandem switching features as well as obtain traffic measurements and recent circuit assurance data from one or more PBX switching locations.

Customer Administration Panel • simplified alternative to Customer Administration Center System; administration of station features and/or electronic tandem switching capabilities.

Customer Premises Equipment (CPE) • terminal equipment which is connected to the telephone network.

Cutover • the physical changing of lines from one system to another, usually at the time of a new system installation.

CW • Calls Waiting.

CXR • Carrier.

■ D

D Conditioning • a type of conditioning which controls harmonic distortion and signal-to-noise ratio so that they lie within specified limits.

DA • Don't Answer.

DAMA • Demand Assignment Multiple Access (satellite system).

Data Access Arrangement (DAA) • device to connect machines not designed, owned, or authorized by the telephone company to the telephone network.

Data Circuit • a communications facility that allows transmission of information in digital form.

Data Communications Equipment (DCE) • equipment that performs the functions required to connect data terminal equipment (DTE) to the data circuit.

Data Line Interface (DLI) • the point where a data line is connected to a telephone system.

Data Line Privacy • prohibits activities which insert tones on the data station line while it is in use.

Data Port • point of access to a computer that uses trunks or lines for transmitting or receiving data.

Data Service Unit (DSU) • device designed specifically to transmit digital data on transmission facilities.

Data Terminal Equipment (DTE) • equipment which is attached to a network to send or receive data, or both.

Data Terminal Equipment (DTE) • data communications end-point device that provides EIA RS-232C interface.

Data Transmission • PBX systems accept data streams as well as voice signals for switching and transmission.

Dataphone • transmission of data over the telephone network; communications equipment furnished by AT&T for data communications services.

Datel • data transmission services offered by European PTTs, using switched public telephone networks.

dB • Decibel.

DCTS • Dimension Custom Telephone Service.

DDC • Direct Department Calling.

DDD • Direct Distance Dialing.

DDS • Dataphone Digital Service; AT&T network and tariff giving digital communication circuits.

DDS • Dataphone Digital Service.

Decibel (db) • unit for measuring relative strength of a signal parameter such as power, voltage, etc.

Dedicated • used exclusively for a single purpose or by a single subscriber.

Dedicated Attendant Link • assures availability of intercom link for attendant announcing incoming calls.

Dedicated Circuit • line used exclusively by one person at each end for communications.

Delay Announcements (ACD) • provides recorded announcement to incoming calls that are delayed and placed in ACD queue.

Delta Modulation • method of representing a speech waveform (or other analog signal) in which successive bits represent increments of the waveform.

Deluxe Queuing • permits station users, tie trunks, and attendants or attendant-assisted calls to be placed in a queue whenever all routes for completing a particular call are busy.

Demodulation • the process of retrieving data from a modulated carrier wave; the reverse of modulation.

Demultiplexer • device or circuit used to separate 2 or more signals that were previously combined by a compatible multiplexer and transmitted over a single channel.

Derivation Equipment • equipment used to produce narrow band facilities from a wider band facility; commonly used on AVD circuits to derive telegraph grade lines from unused portions of a voice circuit.

Diagnostic Programs • routines used to check equipment malfunctions and to pinpoint faulty components.

Dial • device that transmits a coded signal to actuate central office switching equipment according to the digit dialed.

Dial "0" Trunks to Attendant • single-digit dialing service to the attendant console.

Dial Call Pickup • station user can dial special code and answer any incoming calls ringing on other station within predefined pickup group.

Dial Pulse • a current interruption in the DC loop of a calling telephone.

Dial Speed • number of pulses that a rotary dial can transfer in a given amount of time, typically 10 pulses per second.

Dial Tone • a 90-Hz signal (the difference between 350 Hz and 440 Hz) sent to an operator or subscriber indicating that the receiving end is ready to receive dial pulses.

Dictation Access and Control • station users have dial access to centralized dictation equipment.

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DID • Direct Inward Dialing (bypass PBX attendant).

Digital Service-1 (DS-1) • format for multiplexing 24 64K-bps digital channels onto a 1.544-MHz T1 carrier.

Digital Signal • a discrete or discontinuous signal; one whose various states are discrete intervals apart.

Digital Speech Interpolation (DSI) • when speech is digitized, it can be cut into slices such that no bits are transmitted when a person is silent; as soon as speech begins, bits flow again.

Digital Trunk • circuit in a telecommunications channel designed to handle digital data.

Digitized Voice • analog voice signals represented in digital form.

DIP • Dual In-Line Package.

Direct Call Pickup • station user can answer calls ringing on any other station within PBX system by dialing answer code of station to be answered.

Direct Department Calling (DDC) • incoming calls on a specific trunk or group of trunks are routed to specific stations or groups of stations.

Direct Distance Dialing (DDD) • service which enables telephone user to call other subscribers outside the local area without operator assistance.

Direct Inward Dialing • service feature that allows an incoming call from the exchange network to reach a PBX/Centrex station without attendant assistance.

Direct Inward Dialing (DID) • incoming exchange network calls completed to specific station lines without attendant assistance.

Direct Inward System Access • allows outside caller the ability to dial directly into a PBX system, without attendant intervention, and gain complete access to PBX system facilities and outgoing trunk circuits.

Direct Outward Dialing • dial access to the exchange network without the assistance of the attendant.

Direct Outward Dialing • allows station user to access telephone network without using the attendant by dialing access code.

Direct Trunk Group Selection • permits attendant to access an outgoing trunk from a particular group by pushing a single button associated with the group rather than dialing an access code.

Direct-In Lines • direct termination of separate central office lines to station instruments, bypassing attendant console.

Directory Number • the full complement of digits associated with the name of a subscriber in the directory.

DISA • Direct Inward System Access.

Disconnect Signal • a signal transmitted from one end of a subscriber line or trunk to indicate at the other end that the established connection should be disconnected.

Discriminating Ringing • variable station ringing cycles give audible indication of internal or external incoming calls, and other special calls.

Disk Drive • a mechanism to store data on and retrieve data from one or more magnetic platters (disks).

Distinctive Dial Tones • internal calls, external calls, and internal calls originated with a caller on hold are provided with different dial tones.

Distortion • change in waveform that occurs between points in a transmission system.

Distributed Control • architecture of the system is arranged in such a fashion that multiple microprocessors are employed to handle a limited number of ports, station lines, trunk circuits, and other control functions; no central processing unit is utilized.

Distribution Frame • a structure for terminating permanent wires of telephone central office, private branch exchanges, or private exchanges.

Do Not Disturb • user can instruct system to cancel all ringing at the station.

DOD • Direct Outward Dialing.

Don't Answer Recall • station user who has don't answer condition at called station can have call automatically retried at a later time by dialing a special digit code.

Double Camp-On Indication • station attempting to camp-on to another station which is already being camped-on will receive distinctive audible signal.

Downtime • total time a system is out of service due to equipment failure.

DP • Dial Pulsing (signaling).

Drop • a connection made available for a terminal unit on a transmission line.

Drop, Subscriber's • the line from a telephone cable to a subscriber's building.

DSS • Direct Station Selection.

DT • Dial Tone.

DTE • Digital Termination Equipment.

DTF • Dial Tone First.

DTMF • Dual Tone Multi-Frequency (Touch-Tone).

DTMF • dual tone multifrequency signaling; also touch-tone.

Duplex Circuit • a circuit used for transmission in both directions at the same time.

Duplex Signaling (DX) • a signaling system which occupies the same cable pair as the voice path.

Duplex Transmission • simultaneous 2-way independent transmission in both directions.

DX • Duplex (signaling); used with tie trunks and other circuits.

Dynamic Memory • semiconductor memory in which the presence or absence of an electrical charge represents the 2 states of a storage element.

■ E

E & M Signaling • signaling arrangement that uses separate paths for signaling and voice signals.

E&M • trunk signaling (can be used 2-way); typically used with tie trunks.

EAROM • Electrically Alterable Read Only Memory.

Earth Station • ground-based equipment used to communicate with satellites.

EAS • Extended (flat rate) Area Service.

EAX • Electronic Automatic Exchange.

EBCDIC • extended binary coded decimal interchange code: an 8-bit alphanumeric code.

Echo • a wave which has been reflected or otherwise returned with sufficient magnitude and delay for it to be perceived as a wave distinct from that directly transmitted.

Echo Check • a method of checking data transmission accuracy whereby the received data are returned to the sending end for comparison with the original data.

Echo Return Loss (ERL) • the attenuation of echo currents in one direction caused by telephone circuits in the other direction.

Echo Suppressor • used to attenuate echos on long telephone connections. The unit, inserted at 4-wire points, is voice actuated, and function by increasing loss into the transmission path opposite in direction to the one being used.

ECL • Emitter-Coupled Logic.

ECS • Energy Communications Services.

EIA • Electronic Industries Association.

EIA Interface • a standardized set of signal characteristics (time duration, voltage, and current) specified by the Electronic Industries Association.

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EKTS • Electronic Key Telephone System.

Electromechanical Ringing • bell or buzzer provided in station to give audible incoming call indication.

Electronic Message Registration • system provided with detection capability to cumulatively add each completed call made by the station user in the local calling area; small console usually provided which allows a central location to "query" the station line equipment or central memory and receive a visual digital display of the message units used.

Electronic Switching System (ESS) • computer-based system to switch telephone calls.

Electronic Tandem Network (ETN) • private telecommunications network in which calls are automatically switched over specific tie trunks.

Electronic Tandem Networking • the operation of 2 or more switching systems in parallel.

Emergency Access • emergency alarm system integrated into the PBX rings all station instruments to indicate an emergency condition.

Emergency Dialing • variation of speed calling to call numbers for local police, local fire, ambulance service, etc.

Emulation • technique using software or programming in which one computer is made to behave exactly like another computer.

End Office • local central office at which subscriber lines and trunks are interconnected.

Energy Communications (EC) • provides ability for PBX to communicate with energy-consuming devices throughout a hotel/motel or business complex.

EOM • End-of Message (indicator).

EOT • End of Transmission, End of Tape.

EPABX • Electronic Private Automatic Branch Exchange.

EPROM • Erasable and Programmable Read-Only Memory.

EPSCS • Enhanced Private Switched Communication Service.

Equalization • compensation for the attenuation (signal loss) variation with frequency (attenuation equalization) and propagation time variations with frequency (delay equalization).

Erlang • a unit of traffic intensity.

Erlang B • traffic engineering formula used when traffic is random and there is no queuing.

Erlang C • traffic engineering formula used when traffic is random and queuing is provided.

Error Control • an arrangement that will detect the presence of errors.

Error Rate • the ratio of the number of bits, elements, characters, or blocks incorrectly received to the total number of bits, elements, characters, or blocks transmitted.

Error-Correcting Code • a code incorporating sufficient additional signaling elements to enable the nature of some or all of the errors to be indicated and corrected entirely at the receiving end.

Error-Detecting Code • a code in which each telegraph or data signal conforms to specific rules of construction so that departures from this construction in the received signals can be automatically detected.

ESS • electronic switching system; a computerized telephone exchange.

ESSEX • ESS Experimental Exchange.

ESSX • Centrex variation.

ETN • Electronic Tandem Network.

ETX • End of Text (of message).

Even Parity Check (Odd Parity Check) • tests whether the number of digits in a group of binary digits is even (even parity check) or odd (odd parity check).

Exchange • 1) a telephone switching center; 2) a defined area, served by a communications common carrier, within which the carrier furnishes service.

Exchange, Private Automatic Branch (PABX) • a private automatic telephone exchange that provides for the transmission of calls internally and to and from the public telephone network.

Exclusive Hold • station which has placed a call on hold is only one capable of breaking the hold condition.

Executive Busy Override • allows preselected stations to dial single digit and gain access to conversation taking place upon encountering a busy signal.

Expander • a transducer which for a given amplitude range or input voltages produces a larger range of output voltages.

Extended Area Service • an option whereby telephone subscriber can pay a higher flat rate in order to obtain wider geographical coverage without additional per-call charges.

Extension Telephone • additional telephone set on the same line but at a different location than the main.

Extn • extension.

■ F

Facilities Administration and Control • customer can administer the assignment of parameters which determine user calling privileges, such as restriction levels and authorization codes.

Facilities Assurance Reports • customer can obtain an audit trail of data generated by automatic circuit assurance feature.

Facilities Restriction Level • determines both the types of calls and types of facilities within the privileges of the associated user.

Facsimile • a system for the transmission of images; the image scanned at the transmitter, reconstructed at receiving station, and duplicated on some form of paper.

FADS • Force Administration Data System (for ACD, switchboard personnel).

Fail Softly • when a piece of equipment fails, the programs let the system fall back to a degraded mode of operation rather than let it fail completely and give no response to its users.

Fax • facsimile.

FBD • Full Business Day (form of WATS line).

FCC • Federal Communications Commission.

FDM • Frequency Division Multiplex.

FDX • full-duplex.

Federal Communications Commission (FCC) • regulatory agency established by the Communications Act of 1934, charged with regulating all electrical and radio communications.

Feedback • a method of signal regeneration involving a coupling from a high-level point in an amplifier to a lower-level point in the same or a previous stage in such a manner as either to increase or decrease apparent gain of the amplifier.

FET • Field Effect Transistor.

Fiber Optic Waveguides • thin filaments of glass or other transparent materials through which a light beam can be transmitted for long distances by means of multiple internal reflections.

Figures Shift • a physical shift in a teletypewriter (specifically Telex) which enables the printing of numbers, symbols, uppercase characters, etc.

Filter • circuit designed to transmit signals of frequencies within one or more frequency bands and to attenuate signals of other frequencies.

Fixed Night Service • routes incoming central office calls to preselected stations within PBX system when attendant is not on duty.

Flat Rate • a fixed payment for service, independent of use, within

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a defined area, with an additional charge for each call outside the area.

Flexible Exchange Access (FX) • foreign exchange lines terminated in the same way as trunk lines.

Flexible Numbering of Stations • station numbers are assigned to lines at installation based on customer specifications and can be easily changed thereafter.

FM • Frequency Modulation.

Foreign Exchange (FX) • connects a customer's location to a remote exchange.

FORTTRAN • FORmula TRANslation.

FOTS • Fiber Optics Transmission Systems.

Four-Wire Circuit • a circuit using 2 pairs of conductors, 1 pair for the outbound channel and the other pair for the return channel.

Four-Wire Switching • transmission done with 4 wires; 1 pair dedicated to each direction; provides higher quality connections.

FP • Feature Package (AT&T Dimension PBX).

Frame • 1) 1 complete cycle of events in time-division multiplexing; 2) metal racks into which telephone equipment is installed.

Frame-Grabber • a device that can seize and record a single frame of video information out of a sequence of many frames.

Framing • synchronizing of equipment at receiving end of a TDM channel so that it correctly recognizes the frame.

Frequency • the rate at which a current alternates, measured in Hertz, kiloHertz, megaHertz, etc.

Frequency Modulation (FM) • sine wave or "carrier" has its frequency modified in accordance with the information to be transmitted; frequency function of the modulated wave may be continuous or discontinuous.

Frequency-Division Multiple Access (FDMA) • communicating devices at different locations share a multipoint or broadcast channel by means of a technique which allocates different frequencies to different users.

Frequency-Division Multiplex (FDM) • a multiplex system in which the available transmission frequency range is divided into narrower bands, each used for a separate channel.

Frequency-Shift, Frequency-Shift Keying (FSK) • frequency modulation method in which the frequency is made to vary at significant instants.

FRL • Facility Restriction Level (AT&T PBXs with FP 8).

FSK • Frequency Shift Keying.

FTS • Federal Telecommunications System; a leased telephone network shared by U.S. Federal Government agencies.

Full-Duplex (FDX) • refers to a communications system or equipment capable of transmission simultaneously in 2 directions.

Fully Restricted Stations • denies selected station lines ability to place or receive anything but station-to-station calls.

Functional Split • a division within an automatic call distributor (ACD) that allows incoming calls to be directed from a specific group of trunks to a specific group of agents.

Functional Test • test carried out under normal working conditions to verify that a circuit or a particular part of the equipment functions correctly.

FX • Foreign Exchange (type of CO trunk).

■ G

Gain • denotes an increase in signal power in transmission from one point to another; usually expressed in dB.

Gate • basic logic circuit.

Gate Assignments (ACD) • gates in an ACD made up of trunks which require similar agent processing; also called **splits**.

Gateway City • a city through which international calls must

be routed; New York, Washington, DC, Miami, New Orleans, and San Francisco.

GHz • gigahertz (1 billion cycles per second).

Grade of Service • the quality of telephone service provided by a system described in terms of the probability that a call will encounter a busy signal during the the busiest hour of the day.

Grandfathered Equipment • nonregistered telephone equipment that was directly connected to the telecommunications network without a telephone company-provided protective connecting arrangement (PCA) prior to the FCC registration program.

Grd • ground.

Ground Circuit • 1) a circuit in which energy is carried 1 way over a metallic path and returned through the earth; 2) a circuit connected to earth at 1 or more points.

Group Call • special type of station hunting requires special access number that will ring first available number in defined group.

Grps • groups.

■ H

Half-Duplex (HD or HDX) Circuit • a circuit designed for transmission in either direction but not both directions simultaneously.

Hamming Code • a code using redundant bits to detect errors in data (transmission errors).

Hands-Free Operation • speakerphone operation on all calls.

Handset • that portion of the telephone containing the transmitter and receiver, which is handled when the telephone is used.

Handshaking • exchange of predetermined signals for control when a connection is established between 2 modems or other devices.

Hard Copy • a permanent, tangible record such as information printed on paper or recorded on film.

Harmonic Distortion • the presence of harmonic frequencies in a received signal due to nonlinear characteristics of a transmission line.

HDX • half-duplex.

Headset • telephone set which consists of a telephone transmitter, a receiver, and cord and plug, designed for hands-free operation.

Headset/Recorder Jack • allows a headset or input from a recorder to be connected to talk circuit on a station instrument.

HEHO • Head End Hop-Off (traffic engineering).

Hertz (Hz) • a unit of frequency equal to 1 cycle per second.

High-Usage Trunk • direct trunks provided, where traffic volume warrants, to bypass a part of the DDD switching network.

HOBIC • Hotel Billing Information Center/Hospital Billing Information Center.

Holding Time • the length of time a communication channel is in use for each transmission.

Hookswitch (or Switchhook) • a switch that is located within the supporting structure on which a telephone handset rests when it is not in use.

Hot Line • a line serving 2 telephone sets exclusively, on which one set will ring immediately when the receiver of the other set is lifted.

Hot Standby • alternate equipment ready to take over an operation quickly if the equipment on which it is being performed fails.

Hot-Line Service • stations can automatically place a call to a preassigned number when station goes off-hook.

Hotel Billing Information Center (HOBIC) • AT&T's standard format for long-distance billing information for hotel/motel users.

Hotel/Motel Console • provides room status information as well

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as outgoing call records for guest stations.

House Phone • certain stations reach attendant or another station by merely going off-hook.

Howler Signal • if a station is off-hook for an excessive period of time, system injects howler tone back to station.

Howler Tone • tone which is used to alert a subscriber when handset is off-hook.

HU • High Usage (direct trunk group), also Hang Up.

Hunting • call movement through a group of lines.

Hybrid Circuit • a circuit having 4 sets of terminals arranged in 2 pairs designed so that there is high loss between the 2 sets of terminals of a pair when the terminals of the other pair are suitably terminated; commonly used to couple 4-wire circuits to 2-wire circuits.

Hz • Hertz (frequency or cycles per second).

■ I

I-Hold Indication • systems which use electronic multibutton instruments, a unique visual indication is associated with line pickup button on the station which initiated a hold condition on that line.

I-Use Indication • systems which use electronic multibutton instruments, a special lamp is provided next to each line pickup pushbutton which provides a steady visual indication of which line the station user is using.

I/O • Input/Output.

I/O Channel • equipment forming part of the input/output system of a computer.

ICL • Incoming Call Identification.

ICPT • Intercept Tone.

IDDD • International Direct Distance Dialing.

IDF • Intermediate Distributing Frame.

IEEE • Institute of Electrical and Electronics Engineers.

Inc • incoming.

Incoming Call Identification • allows attendant to visually identify the type of service or trunk circuit or trunk group associated with a call.

Incoming Call Indicator • a lamp panel and associated audible tone provides an alert signal for incoming calls; used with console-less systems.

Indication of Camp-On to Station • short bursts of tone periodically transmitted to busy station indicating that another call is waiting.

Individual Transfer—All Calls • provides capability of transferring incoming or outgoing calls to another internal station.

Induction Coil • an apparatus for obtaining intermittent high voltage consisting of a primary coil through which the direct current flows, an interrupter, and a secondary coil of a larger number of turns in which the high voltage is induced.

Insertion Loss • the difference in the amount of power received before and after a device is inserted or a call is connected.

Intelligent Terminal • a terminal that is programmable and can process its messages, typically comprised of a CRT, keyboard, microprocessor, and local storage.

Intelligent Terminal • data terminal containing a microprocessor to reduce the data transmitted and to expand the data received.

Intelsat • the International Telecommunications Satellite Consortium, formed in 1964 with the purpose of creating a worldwide communications satellite system.

Inter-PBX Call Transfer • incoming central office (CO) call to a main PBX or a satellite PBX can be put in a 3-way conference mode; incoming CO call to a main PBX can be transferred over a tie trunk to a satellite PBX station, and an incoming CO call

to a satellite PBX can be transferred over a tie trunk to a main PBX station.

Inter-PBX Coordinated Station Numbering • stations at main and satellite can dial each other without intervening dial tone.

Intercom • system which permits calling generally within the same building, but not outside the system.

Intercom Line • dedicated circuits that allow quick communication between stations.

Interconnect Company • an organization which supplies telephone equipment, by sale, rental, or leasing, other than the serving telephone company.

Interface • a boundary between 2 pieces of equipment across which all the signals which pass are defined.

Interface for Long-Distance Billing • allows long-distance billing information transmitted to a hotel via the telephone company Auto-Quote data channel to be stored in PBX memory and subsequently displayed on console/terminal or printed on demand at checkout giving up-to-the-minute billing on calls placed by guests.

International Telecommunication Union (ITU) • telecommunications agency of the United Nations, established to provide standardized communications procedures and practices including frequency allocation and radio regulations on a worldwide basis.

Interoffice Trunk • a direct trunk between local central offices (Class 5 offices), or between Class 2, 3, or 4 offices; also called intertoll trunk.

Interposition Calling • attendant in a multiposition system can call an attendant at another position for consultation.

Interposition Transfer • operator at one console can transfer a call to an operator at another position.

Interrupt • a jump out of one program into another due to an external event.

Interstate • between different states; over a state line.

Intraoffice Trunk • trunk connection within the same central office.

Intrastate • within a single state's boundaries.

Inward Restriction • blocks selected extension lines from receiving incoming exchange network calls.

Inward Wide-Area Telephone Service (INWATS) • a service that allows subscribers to receive toll calls from within specified rate areas without a charge to the calling party; now called 800 Service.

IOD • Identified Outward Dialing (may use operator).

IPM • impulses per minute (interruption rate for call progress tones).

ISDN • Integrated Services Digital Network.

ISO • International Standards Organization.

ITI • Idle Trunk Indicator.

ITU • International Telecommunications Union.

IXC • Inter Exchange Channel.

■ J

Jack • device for terminating the permanent wiring of a circuit, access to which is obtained by the insertion of a plug.

Journal Printers • provides hard-copy output for audit trail and demand printing functions associated with hotel/motel management features.

■ K

Key Pulsing • a manual method of sending numerical and other signals by the operation of nonlocking pushkeys; also called key sending.

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Key Service Unit (KSU) • the main operating unit of a key telephone system.

Key Telephone • telephone that can pick up more than 1 line.

Keyboard Send/Receive (KSR) • a combination teletypewriter transmitter and receiver with transmission capability from the keyboard only.

KHz • kilohertz, kilocycles per second.

KP • Key Pulse (signaling unlocking signal).

KSR • keyboard send-receive.

KSU • Key Service Unit.

KTU • Key Telephone Unit.

KW • Kilowatt.

KWH • Kilowatt Hour.

■ L

Label • a set of symbols used to identify or describe an item, record, message, or file; occasionally, it can be the same as the address in storage.

LAMA • Local Automatic Message Accounting.

Last Extension Called • PBX records last extension number called by a user and will redial it when signaled with a special code or button.

LATA • Local Access and Transport Area.

LCD • Liquid Crystal Display.

LCR • Least Cost Routing.

LD • Long Distance.

LDN • Listed Directory Number.

Leased Circuit • circuit leased by a user or group of users for exclusive use between certain locations.

Least Cost Routing • see Automatic Route Selection.

LED • Light Emitting Diode.

Letters Shift • a physical shift in a teletypewriter, specifically Telex, which enables the printing of alphabetic characters.

LHT • Long Hold Time.

Line • the transmission path from a nonswitching subscriber terminal to a switching system.

Line Hit • electrical interference causing the introduction of undesirable signals on a circuit.

Line Lockout With Warning • provides 10 seconds of intercept tone and then holds line out of service when a station line remains off-hook for longer than a predetermined time.

Line Preference • user selects the line to be used by simply pressing the button associated with that line.

Line Speed • maximum data rate that can be reliably transmitted over a line.

Line Switching • switching in which a discrete circuit path is set up between the incoming and outgoing lines.

Link • 1) a physical circuit between 2 points. 2) a conceptual (or logical) circuit between 2 users of a packet switched (or other) network permitting them to communicate (although different physical paths may be used).

Listed Directory Number (LDN) • incoming exchange network calls to the PBX via assigned listed local telephone directory number are directed to the attendant.

LLF • Line Link Frame (crossbar switching).

Load Balancing for Station/Trunk Lines • provides the capability, during installation or on an in-service system, to change specific station and trunk terminations on PBX system switching network with minimum installer effort and without requiring number changes for the purpose of balancing traffic load on the switch network.

Load Sharing • in processor-controlled switching systems, 2 processors used in the common control, each handling approximately 50 percent of the switching system traffic and control functions.

Loading • adding inductance (load coils) to a transmission line to minimize amplitude distortion.

Local Access and Transport Area (LATA) • geographic regions within the U.S. that define areas within which the Bell Operating Companies (BOCs) can offer exchange and exchange access services (local calling, private lines, etc).

Local Area Network (LAN) • one of several types of geographically limited communications networks intended primarily for such high-speed data transmission applications as data transfer, text, facsimile, and video.

Local Automatic Message Accounting (LAMA) • a combination of automatic message accounting equipment and automatic number identification equipment in the same office.

Local Call • any call for a destination within the local service area of the calling station.

Local Call Billing • computes dollar amount for local calls placed by guests based on total message units.

Local Central Office • switching office in which subscriber's lines terminate.

Local Loop • communication circuit connecting the subscriber's equipment and the equipment in the local central office.

Local Service Area • the area within which 2 local subscribers can be connected.

Local Trunk • trunks between Class 5 offices (local central offices).

Lockout • denies attendant the ability to reenter an incoming central office connection.

Long Distance • telephone call outside the local service area of the calling station.

Longitudinal Balance • a measure of the electrical balance between the 2 conductors (tip and ring) of a telephone circuit; specifically, the difference between the tip-to-ground and ring-to-ground AC signal voltages, expressed in decibels.

Longitudinal Redundancy Check (LRC) • a system of error control based on the formation of a block check following preset rules.

Loop • a local circuit between a central office and a subscriber telephone station.

Loop Checking, Message Feedback, Information Feedback • a method of checking the accuracy of transmission of data in which the received data are returned to the sending end for comparison with the original data, which are stored there for this purpose.

Loop Circuit • generally refers to the circuit connecting the subscriber's set with the local switching equipment.

Loop Signaling Systems • any of 3 types of signaling which transmit signaling information over the metallic loop formed by the trunk conductors and the terminating equipment bridges.

Loss (Transmission) • the decrease in energy of signal power in transmission along a circuit due to the resistance or impedance of the circuit or equipment.

Loudspeaker Paging Access • interface to customer-provided paging equipment.

LSI • Large-Scale Integration.

LTB • Last Trunk Busy.

■ M

Mailgram • a hard-copy message communications service jointly provided by Western Union and the U.S. Postal Service.

Main Distribution Frame (MDF) • a distribution frame to which connects outside lines on one side and internal lines on the other.

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Main Station • a subscriber's instrument (e.g., telephone set or terminal) connected to a local loop, which is used for originating calls and on which incoming calls from the exchange are answered.

Main/Satellite Service • allows multilocation PBX customers to concentrate attendant positions at one location referred to as Main; other unattended locations, equipped with dial switching equipment, referred to as Satellites.

Manual Exclusion • station user, by entering a special code, can block all other stations on that line from entering call, assuring privacy.

Manual Originating Line Service • station lines that require attendant to complete all outgoing calls.

Manual PBXs • systems which are not automatic and require all calls to be connected through attendant position.

Manual Signaling • depressing a specific button on a telephone sends an audible signal to a predetermined station.

Manual Terminating Line Service • extension lines that require all terminating calls to be completed by the attendant.

MAP, MAAP • Maintenance and Administrative Panel (AT&T Dimension PBX).

Master Number Hunting • special number assigned as first number in hunt group, rather than the number of the first station within the group.

Master Station • a unit having control of all other terminals on a multipoint circuit for purposes of polling and/or selection.

Mbps • Megabits per second.

MDF • Main Distributing Frame.

Mean Time Between Failure (MTBF) • the average length of time for which the system, or component of the system, works without fault.

Mean Time to Repair (MTTR) • when the system, or a component of the system, develops a fault, this is the average time taken to correct the fault.

Measured Rate • a message rate structure in which the rental includes payment for a specified number of calls within a defined area, plus a charge for additional calls.

Meet-Me Conference • conference circuit with a special access code, such that any stations dialing code at a predetermined time are connected in conference.

Message • a sequence of characters used to convey information or data.

Message Format • rules for the placement of such portions of a message as message heading, address, text, end-of-message indication, and error-detecting bits.

Message Numbering • the identification of each message within a communication system by the assignment of a sequential number.

Message Registration • provides electronic or mechanical read-out of outgoing local and toll calls from each guest station.

Message Switching • the technique of receiving a message, storing it until the proper outgoing line is available, and then retransmitting.

Message Unit • a unit of measure for charging local calls that detail the length of call, distance called, and time of day.

Message Waiting • allows attendant to light a lamp on an individual guest room telephone set to indicate that a message is waiting.

MET • Multibutton Electronic Telephone (AT&T Horizon).

MF • Multi-Frequency (signaling).

MHz • Megahertz (megacycles per second).

Microwave (Wavelength) • electromagnetic waves in the radio frequency spectrum above 890 MHz (the frequencies between 1 GHz and 30 GHz).

Min • minimum.

Mixed Station Dialing • system accommodates both rotary dial and tone dial stations.

Modem • device which modulates and demodulates signals transmitted over communication facilities.

Modular • made up of replaceable "units" which can be added together to make the system larger, or modify its capabilities.

Modulation • the process of varying some characteristics of the carrier wave in accordance with the instantaneous value or samples of the intelligence to be transmitted.

Modulation, Amplitude (AM) • form of modulation in which the amplitude of the carrier is varied in accordance with the instantaneous value of the modulating signal.

Modulation, Frequency (FM) • a form of modulation in which the instantaneous frequency of a sine wave carrier is caused to depart from the carrier frequency by an amount proportional to the instantaneous value of the modulating signal.

Modulation, Pulse Amplitude (PAM) • the form of modulation in which the amplitude of the pulse carrier is varied in accordance with successive samples of the modulating signal.

Modulation, Pulse Code (PCM) • the form of modulation in which the modulating signal is sampled and the sample quantized and coded so that each element of the information consists of one or more binary bits.

Modulator • a device which converts a signal (voice or other) into a form that can be transmitted.

Monitoring (ACD) • listening in on established conversations for training and assistance.

Monitoring Key • a key permitting an operator to monitor or to listen on a circuit without sensibly affecting the transmission quality of that circuit.

Morse Code • a 2-condition telegraph code in which characters are represented by groups of dots and dashes.

MOS • Metal Oxide Semiconductor.

msec • millisecond.

MSG • Message.

MTBF • Mean Time Between Failures.

MTS • Message Telecommunications Service.

MTTR • Mean Time To Repair.

MU • Message Unit.

Multiple • a system of wiring so arranged that a circuit, a line, or a group of lines are accessible at a number of points.

Multiple Console Operation • PBX will support more than one attendant's position; traffic distributed evenly among consoles.

Multiple Customer Group Operation • PBX shared by several different companies, each having separate consoles and trunks; also known as Tenant Service.

Multiple Listed Directory Number Service • permits more than one listed directory number to be associated with a single PBX installation.

Multiple Trunk Groups • switching system capable of being equipped for more than one group of trunk circuits.

Multiplex Hierarchy • 12 channels = 1 group; 5 groups (60 channels) = 1 supergroup; 10 supergroups (600 channels) = 1 mastergroup (U.S. standard); 5 supergroups (300 channels) = 1 mastergroup (CCITT standard); 6 U.S. mastergroups = 1 jumbo group.

Multiplexer • a device which enables more than one signal to be sent simultaneously over one physical circuit.

Multiplexing • the division of a transmission facility into 2 or more channels either by splitting the frequency band transmitted by the channel into narrower bands, each of which is used to constitute a distinct channel (frequency-division multiplex), or by

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allocating this common channel to several different information channels, one at a time (time-division multiplexing).

Multipoint Circuit • a circuit connecting 3 or more locations.

Multiprocessing • simultaneous application of more than 1 processor in a multi-CPU computer system to the execution of a single-user job.

Multiprogramming • computer system operation whereby a number of independent jobs are processed together.

Multithreading • concurrent processing of more than one message by an application program.

Music On Camp-On • audio source input for use with the attendant camp-on facility.

Music On Hold-System • audio source input for system wide distribution to all held call conditions within system; attendant and station use.

Music On Hold-Trunk • audio source input for all held conditions placed on trunk circuits.

■ N

NCO • Network Control Office.

Negative Acknowledge (NAK) • method of error control which relies on repeating any message received with detectable errors; the return signal which reports an error is NAK.

Network • 1) series of points connected by communications channels; 2) network of telephone lines normally used for dialed telephone calls; 3) network of communications channels confined to the use of one customer.

Network Terminating Unit (NTU) • the part of the network equipment which connects directly to the data terminal equipment.

Night Audit • provides automatic printout of message registration data for all guest rooms by key operation at front desk console.

Night Console Position • provides alternate attendant position which can be used at night in lieu of regular console.

Night Service • provides arrangements to route calls normally directed to attendant to preselected or random station lines within the PBX when regular attendant positions are not in use.

Night Service Automatic Switching • if attendant neglects to place the console in night mode, entire system will automatically engage night service mode after a certain period of timed ringing from an incoming central office call.

NIOD • Network Inward/Outward Dialing.

Nmbr • number.

NMOS • N-channel Metal Oxide Semiconductor.

NNX • one form of central office code where N is any digit 2 to 9 and X is any digit.

Node • point of junction of the links in a network; also a switching center used in data networks.

Noise • unwanted electrical signals which tend to degrade the performance of a communications channel.

Nonblocking System • switching system in which users never encounter a busy condition.

Nonconsecutive Hunting • nonconsecutive station numbers can be searched by switching equipment to connect to the first nonbusy station.

NPA • Numbering Plan Area.

NRZ • Non-Return to Zero (magnetic tape format).

ns • nanosecond (also nsec).

NXX • newer form of central office code.

NXX Code • a central office code of 3 digits that designates a particular central office or a given 10,000-line unit of subscriber lines; "N" is any number from 2 to 9, and "X" is any number from 0 to 9.

■ O

OCC • Other Charges or Credits (on phone bill), also Other Common Carrier (MCI, SPC, etc).

Off Hook • telephone set in use; handset removed from its cradle.

Off-Line • pertaining to equipment or devices not under direct control of the central processing unit.

Off-Premise Extensions (OPX) • using leased lines, an extension station can be located away from the main PBX installation.

Off-Premises Extension (OPX) • telephone extension located other than where the main switch is.

Off-the-Shelf • equipment already manufactured and available for delivery from stock.

OGT • Outgoing Trunk.

OHQ • Off-Hook Queue.

On Hook • telephone set not in use; handset resting in cradle.

On-Hook Dialing • station user can dial a number and listen to the call's progress over the set's speaker, lifts handset when conversation begins.

On-Line • connected to a computer so that data can pass to or from the computer without human intervention.

On-Line Computer System • system in which the input data enter the computer directly from their point of origin and/or output data are transmitted directly to where they are used.

One-Way Splitting • when attendant is connected to an outside trunk and an internal station, activation of a key allows attendant to speak privately with internal station only.

ONI • Operator Number Identification.

Operating Time • the time required for dialing the call, waiting for the connection to be established, and coordinating the transaction with the personnel or equipment at the receiving end.

OPS • Off Premises Station (formerly OPX or off premises extension).

OR • Originating Register (crossbar switching).

Originating Restriction • a station line with this restriction cannot place calls at any time; calls to the station will be completed normally.

OSHA • Occupational Safety and Health Act.

Other Common Carrier (OCC) • specialized common carriers (SCC), domestic and international record carriers, and domestic satellite carriers engaged in providing services authorized by the Federal Communications Commission.

Outgoing Line Restriction • system can selectively restrict any outside line to an incoming only line.

Outgoing Station Restriction • system can restrict any given station from originating calls on outside lines.

Outgoing Trunk Queuing (OTQ) • extensions can dial a busy outgoing trunk group, be automatically placed in a queue and then called back when a trunk in the group is available.

Outward Restriction • station lines denied the ability to access the exchange network without the attendant assistance.

Overflow • excess traffic on a particular route, which is offered to another (alternate) route.

Override • when a circuit is seized, although already occupied.

■ P

PA • Public Address (loud speaker system, sometimes used for paging), also Position Available.

PABX • Private Automatic Branch Exchange.

PABX (Private Automatic Branch Exchange) • local telephone switch that serves stations in a business complex and accesses the public network.

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Packet • a group of binary digits including data and call control signals which is switched as a composite whole; data, call control signals, and error control information are arranged in a specified format.

Packet Switching • the transmission of data by means of addressed packet whereby a transmission channel is occupied for the duration of transmission of the packet only.

Packet Switching Network • a network designed to carry data in the form of packets.

Paging Speakers • inclusion of speakers within station instrument; also includes external units located in larger areas.

Paging—By Zone • by dialing appropriate access code, station is able to selectively page groups of predesignated stations or speakers.

Paging—Total System • upon dialing appropriate code, any station can page through all loudspeakers.

PAL • Programmable Array Logic.

PAM • Pulse Amplitude Modulation.

Parallel Transmission • simultaneous transmission of the bits making up a character or byte, either over separate channels or on different carrier frequencies on one channel.

Parity Check • addition of noninformation bits to data, making the number of ones in a grouping of bits either always even or always odd.

PBX • Private Branch Exchange.

PCB • Printed Circuit Board.

PCM • Pulse Code Modulation.

Peg Count • a tally of the number of calls made, or received, over a specified period of time.

Perforator • an instrument for the manual preparation of a perforated tape, in which telegraph signals are represented by holes punched in accordance with a predetermined code.

Peripheral Device or Equipment • input or output unit that is not included within the confines of the primary system.

PERT • Program Evaluation and Reporting Technique.

Phase Jitter • unwanted random distortion which results in the intermittent shortening or lengthening of signals.

Phase Modulation • sine wave or "carrier" has its phase changed in accordance with the information to be transmitted.

Picturephone Meeting Service (PMS) • video teleconferencing service that permits users to see as well as talk with other individuals at the distant end in specially designated meeting rooms.

Pilot Tone • test frequency of controlled amplitude transmitted over carrier system for monitoring and control purposes.

Plant • physical equipment of a telephone company that provides communications services.

Plug-In Stations • station cabling remains constant for all types of station instruments; stations are provided as plug-in instruments.

PMOS • P-channel Metal Oxide Semiconductor.

PMS • Property Management System.

Point-to-Point • a connection permanently established between 2 specific stations.

Polling • a means of controlling communication lines.

POTS • plain old telephone service.

POTS • Plain Old Telephone Service (basic phone service).

Power Failure Transfer • provides ringing for selected central office lines at externally mounted bells on a one-to-one basis during a commercial power failure.

PPS • Pulses Per Second.

Preset Call Forwarding • incoming calls rerouted to a predetermined secondary number.

Primary Center • a control center connecting toll centers; a class 3 office. It can also serve as a toll center for its local end offices.

Primary Group • a group of basic signals which are combined by multiplexing; the lowest level of the multiplexing hierarchy.

Priority Trunk Queuing • places any caller with this or higher level in the class of service assignment ahead of all callers with a lower trunk access level in the queue of callers waiting for the same trunk group.

Privacy and Privacy Release • all other extensions of a line are unable to enter a conversation in progress on that line unless initiating station releases privacy.

Privacy Lockout • privacy automatically splits connection whenever an attendant would otherwise be included on a call; attendant lockout feature also supplied.

Privacy Override • allows station user to gain access to a given busy line, even though automatic exclusion facility is engaged by station using that line.

Private Branch Exchange (PBX) • telephone exchange serving an individual organization and having connections to a public telephone exchange.

Private Exchange (PX) • an exchange serving a particular organization and having no means of connection with a public exchange.

Private Line • denotes the channel and channel equipment furnished to a customer as a unit for exclusive use, without interexchange switching arrangements.

Private Line Service • outside telephone number independent of PBX can be set up to appear on one of the buttons of a key telephone.

Processing, Batch • a method of computer operation in which a number of similar input items are accumulated and sorted for processing.

Processor Occupancy • a fraction of time that a processor is in use.

PROM • Programmable Read-Only Memory.

Propagation Delay • the time necessary for a signal to travel from one point on a circuit to another.

Protector • interface between inside and outside plant providing protection against hazardous voltages or currents.

Protocol • procedure required to initiate and maintain communication.

PRX • Program.

PSK • Phase Shift Keying.

PTT • postal, telegraph, and telephone organization, usually a governmental department which acts as its nation's common carrier.

Pty • party.

Public Switched Network • switching system that provides switching transmission facilities to many customers.

Public Telephone Station • coin phone; pay phone.

Public Utility Commission (PUC) • state regulatory body charged with regulating intrastate utilities, including telecommunications.

PUC • Public Utilities Commission.

Pulse • a brief change of current or voltage produced in a circuit to operate a switch or relay or which can be detected by a logic circuit.

Pulse-Amplitude Modulation (PAM) • amplitude modulation of a pulse carrier.

Pulse-Code Modulation (PCM) • representation of a speech signal (or other analog signal) by sampling at a regular rate and converting each sample to a binary number.

Pulsing • the transmission of address information to a switching office by means of digital pulses.

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Pushbutton Dialing • use of keys or pushbuttons instead of rotary dial to generate a sequence of digits to establish a circuit connection.

PWB • Printed Wire Board.

PWM • Pulse Width Modulation.

Pwr • power.

■ Q

Q • queue.

Queue • collection of items, such as telephone calls, arranged in sequence.

QZ • special billing arrangement for PBXs prior to Centrex.

■ R

Rack • a framework or structure on which apparatus is mounted, usually by means of shelves, or mounting plates.

Radio Communication • any telecommunication by means of radio waves.

Radio Paging Access • attendant and station user dial access to customer-owned radio paging equipment to selectively tone-alert or voice-page individuals carrying pocket radio receivers.

Radio Paging Access with Answer Back • allows access to customer-provided paging systems and provides capability in PBX to connect paged party to paging party by dialing a special code from any PBX telephone.

Radio Wave • electromagnetic waves of frequencies between 10 KHz and 3 MHz, propagated without guide in free space.

RAM • Random Access Memory.

Random Access Memory (RAM) • storage arrangement from which information can be retrieved with a speed that is independent of the location of the information in storage.

Rate • the cost of a particular service or equipment.

Rate Averaging • telephone companies' method for establishing uniform toll rates based on distance rather than on the relative cost and/or volume of telephone traffic on a given route.

Rate Base • total invested capital on which a regulated company is entitled a reasonable rate of return.

Rate of Return • the percentage net profit which a telephone company is authorized to earn.

RBOC • Regional Bell Operating Company.

RCL • Recall.

RDT • Recall Dial Tone.

RDY • Ready.

Read-Only Memory (ROM) • storage arrangement primarily for information retrieval applications.

Real-Time • actual time during which a physical process transpires.

Reasonableness Checks • tests made on information reaching a real-time system or being transmitted from it to ensure that the data in question lie within a given range.

Recall Dial Tone • special dial tone which indicates that the hookswitch flash has been properly used to gain access to system features.

Receiving Perforator (Reperforator) • a telegraph instrument in which the received signals cause the code of the corresponding characters or functions to be punched in a tape.

Record Communication • written record of transmission, such as teletypewriter and facsimile.

Recorded Announcement Service • special type of access trunk which connects caller to a prerecorded message.

Recorded Telephone Dictation • users can dial into centralized telephone dictation equipment.

Recovery From Fallback • system has switched to a fall-back mode of operation and the cause of the fallback has been removed; process that restores system operation.

Redundancy • duplicate control components available if main system fails.

Redundancy Check • an automatic or programmed check based on the systematic insertion of components or characters used especially for checking purposes.

Regenerator • equipment which takes a digital signal that has been distorted by transmission and produces from it a new signal in which the shape, timing, and amplitude of pulses has been received.

Regional Bell Operating Company (RBOC) • one of the 7 holding companies formed by the divestiture of AT&T to provide both regulated and nonregulated telephone services; includes Bell Atlantic, NYNEX, Bell South, Pacific Telesis, U.S. West, Southwestern Bell Corp, and Ameritech.

Regional Center • a control center (class 1 office) connecting sectional centers of the telephone system together.

Register • the first unit in the assembly of common control equipment in an automatic central office.

Registration Program • FCC program which governs the direct connection of terminal equipment, whether customer-provided or telco-provided, to the telecommunications network.

Reinitiation Time • the time required for a device or system to restart (usually after a power outage).

Relay • a device which causes abrupt changes in an electrical circuit (i.e., breaking the circuit, changing the circuit connection, or varying the circuit characteristics).

Release Link Trunk (RLT) • telecommunications channel used with Centralized Attendant Service to connect attendant-seeking calls from a branch location to a main location.

Release with Howler • if phone stays off hook without originating a call, system transmits a loud tone over the line and then disconnects it until it goes on hook again.

Remote Access • PBX feature that allows a user at a remote location to access PBX features by telephone.

Remote Call Forwarding • provides a listed number terminating in the PBX which answers an incoming central office call, generates a new call to any preassigned central office number, and connects incoming call to the new destination.

Remote Maintenance • service technician can dial PBX and be connected to system processor to test or modify the program.

Remote Maintenance, Administration and Testing System (RMATS) • permits PBX trouble reports and conditions to be analyzed and located from a remote location.

Remote Traffic Measurement • traffic and feature usage data can be transmitted to a distant service technician.

Repeater • 1) a device whereby currents received over 1 circuit are automatically repeated in another circuit or circuits, generally in an amplified and/or reshaped form; 2) a device used to restore signals, which have been distorted because of attenuation, to their original shape and transmission level.

Repeater, Regenerative • 1) repeater used to retune and retransmit received signal impulses restored to their original strength; 2) repeater used in PCM or digital circuits detects, retunes, and reconstructs the bits transmitted.

Reperforator (Receiving Perforator) • a telegraph instrument in which the received signals cause the code of the corresponding characters or functions to be punched in a tape.

Reperforator/Transmitter (RT) • a teletypewriter unit consisting of a reperforator and a tape transmitter, each independent of the other.

Resale Carrier • a company which redistributes the services of

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another common carrier and retails the services to the public.

Reserve Power • alternate, independent source of power provided to maintain telecommunications service for a limited time during a power failure at a PBX system.

Residual Error Rate, Undetected Error Rate • the ratio of the number of bits, unit elements, characters or blocks incorrectly received but undetected or uncorrected by the error-control equipment, to the total number of bits, unit elements, characters, or blocks sent.

Response Time • time a system takes to react to a given input.

Restriction Services • features that allow attendant to control the restriction of stations or groups of stations.

Reverse-Battery Signaling • type of loop signaling in which battery and ground are reversed on the tip and ring of the loop to give an off-hook signal, when the called party answers.

RFP • Request For Proposal.

Ring • audible alerting signal on a telephone line.

Ring Again • PBX will redial the last number called when feature is activated.

Ringback Tone • interrupted tone indicating the called telephone is ringing.

Ringdown • a type of signal that uses either a 135-Hz or 1000-Hz signal, interrupted 20 times per second.

Ringling Key • a key that sends a ringing current.

Ringling Signal • any ac or dc signal transmitted over a line or trunk for the purpose of alerting a party at the distant end of an incoming call.

Ringling Transfer • designated bells in a group of stations ring for incoming calls.

RLT • Release-Link Trunks.

RMATS • Remote Maintenance, Administration, and Traffic System.

RO • Receive Only.

ROH • Receiver Off Hook (permanent signal).

ROM • Read-Only Memory (can be random access).

Room Cut-Off • guest telephones restricted from outgoing calls when room is unoccupied (hotel/motel check-out).

Room Status • provides room status indication from hotel/motel console or with an optional printer.

Room Status and Selection • provides the capability to store and display the occupancy and cleaning status and the type number of each guestroom, facilitating housekeeping management, maid locating, and room selection.

Rotary Dial Calling • system will accept dialing from conventional rotary dial sets.

Rotary Output to Central Office • system outpulses rotary dial signals to rotary COs.

Route Advance • allows the caller to select the first-choice trunk group; if that group is busy, system will attempt to place the call over alternate trunk groups.

Routing • the assignment of the communications path by which a message or telephone call will reach its destination.

Routing Indicator • an address, or group of characters, in the heading of a message defining the final circuit or terminal to which the message has to be delivered.

Routing Table • a table associated with a network node which states for each message (or packet) destination the preferred outgoing link that the message should use.

Routing, Alternate • assignment of a secondary communications path to a destination when the primary path is unavailable.

RPQ • Request for Price Quotation.

RS-232C • data interface.

RS-449 • electrical interface specified by the Electronic Industry Association (EIA); downward compatible with RS-232C.

RT • Reorder Tone.

■ S

Satellite Operation • capability of a PBX system to operate at a remote location as a completely unattended system in association with an attended "main" PBX system; tie line circuits connect the 2 systems.

SCAN • Switched Circuit Automatic Network.

Schematic • diagram which details the electrical elements of a circuit or system.

Scrambler • coding device applied to a digital channel which produces an apparently random bit sequence.

SDMA • Station Detail Message Accounting.

Sectional Center • a control center connecting primary telco switching centers; a Class 2 office.

Selective Calling • the ability of the transmitting station to specify which of several stations on the same line is to receive a message.

Selective Paging to Station • station can page to individual station instruments.

Selective Ringing • a system designed with the capability of ringing only the desired subscriber's telephone on a multiparty line.

Self-Test and Fault Isolation • processor-check capability that allows the controlling computer to test itself and the rest of the system.

Sender • device which receives address information from a register or routing information from a translator, and then outpulses the proper routing digits to a trunk or to local equipment.

Separations and Settlements • a complex set of accounting procedures which classifies telephone plant as intrastate or interstate, and returns revenues derived from interstate service to local telephone companies to subsidize local exchange service.

Serial Call • operator can arrange for a call to return to the console after the extension it was connected to hangs up.

Serial Transmission • a system wherein the bits of a character occur serially in time.

Service Bureau • company that processes various types of data for a client for a fee.

Service Order • a request for service or equipment with a telecommunications vendor or carrier.

Service Terminal • the equipment needed to terminate the channel and connect to the station apparatus or customer terminal.

SF • Single Frequency (signaling).

Shielded Pair • 2 insulated wires in a cable wrapped with metallic braid or foil to prevent interference and provide noise-free transmission.

SHT • Short Hold Time.

Sideband • the frequency band on either the upper or lower side of the carrier frequency.

Sidetone • the reproduction in a telephone receiver of sounds picked up by the associated microphone.

Signal • aggregate waves propagated along a transmission channel and intended to act on a receiving unit.

Signal-to-Noise Ratio • the ratio, expressed in dB, of the usable signal to the noise signal present.

Signaling • the process by which a caller or equipment on the transmitting end of a line informs a particular party or equipment at the receiving end that a message is to be communicated.

Simplex Circuit • a circuit permitting the transmission of signals in one specified direction only.

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Single-Digit Dialing • provides for single-digit dialing to reach a preselected group of stations.

SMDR • Station Message Detail Recording (AMA, CDR).

SOH • Start of Header (card).

SOP • Standard Operating Procedure.

Space • the opposite signal condition to a "mark." A space impulse is equivalent to a binary 0.

Space-Division Switching • method for switching circuits in which each connection through the switch takes a physically separate path.

SPC • Stored Program Control.

Spcl • special.

Speakerphone • speaker-microphone unit that allows hands-free conversation.

Special Night Answering Position • provides either a console or a preassigned single extension station to answer all incoming night calls.

Specialized Common Carrier • a common carrier offering specialized type of service or serving a specialized market.

Spectrum • a continuous range of frequencies, usually wide in extent within which waves have some specific common characteristics.

Speed Calling • allows station users to assign abbreviated codes to certain frequently called numbers.

Speed Dial • a feature that enables a PBX or PBX station to store certain telephone numbers and dial them automatically when a code is entered.

Split Access to Outgoing Trunks • 2 separate trunk groups provided for direct outward dialing which can be accessed by dialing the same trunk access code; controlled on class of service basis.

Splitting—One-Way Auto-Manual • permits operator to consult privately with one party on a call without the other party's hearing.

SSB • Single Sideband.

ST • Start (signal to indicate end of outpulsing).

Standby Processor • a standby computer can be provided to direct PBX operations if primary one fails.

Start-Stop Signaling • signaling in which each group of code elements corresponding to an alphabetical signal is preceded by a start signal which serves to prepare the receiving mechanism for the reception and registration of a character, and is followed by a stop signal which serves to bring the receiving mechanism to rest in preparation for the reception of the next character, asynchronous transmission.

Station • telephone set or the point where a business machine interfaces the channel on a leased private line.

Station Busy Lamps • lamps located on a station instrument, providing visual indication of each busy station in the system.

Station Busy Override • preselected stations have the facility to preempt busy circuits and override a private conversation.

Station Call Transfer • station user can transfer incoming and outgoing central office calls to another station without attendant assistance.

Station Camp-On • stations can camp-on to a busy extension; called station notified of the camp-on by a special signal.

Station Direct Station Selection • station user places a call to preselected station lines within PBX by depressing a single pushbutton on the station.

Station Equipment • telephone instruments and associated equipment furnished to subscribers.

Station Hunting • routes a call to an idle station line in a prearranged group when called station line is busy.

Station Message Detail Recording • computer-generated records of all calls originated and/or received by a PBX system.

Station Message Registers • message unit information centrally recorded on a per-station basis for each completed outgoing call.

Station Message Waiting • special light on a station can be activated alert hotel/motel guests of messages waiting at the front desk.

Station Monitoring • selected stations can monitor any other stations within the system.

Station Override Security • designated stations can be shielded against executive busy override.

Station Rearrangement and Change • allows customer to move stations, change the features and/or restrictions assigned to a station, administer features associated with electronic telephones, and perform search routines on individual stations in order to identify services provided for that station.

Station Tone Ringing • electronic tone ringer that replaces bell.

Station Transfer Security • if trunk call is transferred from one station to another, and the second station does not answer within a predetermined time interval, trunk call will be automatically rerouted to attendant.

Station Visual Signaling • lamp provided which indicates flashing incoming, steady busy, and "wink" hold visual conditions associated with that station.

Station-to-Station Dialing • allows calling between stations by direct dialing without operator assistance.

Status Information • information about the logical state of a piece of equipment.

Stop Call • allows attendant or station user, upon finding that called station is busy, to call a nearby idle station by dialing an additional digit when nearby station number has a different last digit.

Stop Element • the last element of a character in asynchronous serial transmission, used to ensure recognition of the next start element.

Store and Forward • applied to communication systems in which messages are received at intermediate routing points and recorded (stored); retransmitted to a further routing point or to the ultimate recipient.

Stored Programs • instructions in computer memory specifying operations to be performed and the location of the data on which these operations will be performed.

Straightforward Outward Completion • operator can place an outgoing call for station user; also called Through Supervision.

Stunt Box • a device to 1) control the nonprinting functions of a teletypewriter terminal, such as a carriage return and line feed; and 2) a device to recognize line control characters.

STX • Start of Text (of message).

Subscriber's Line • line connecting the telco exchange to the subscriber's station.

Subvoice-Grade Channel • a channel of bandwidth narrower than that of voice-grade channels.

Supergroup • the assembly of 5 12-channel groups occupying adjacent bands in the spectrum for the purpose of simultaneous modulation or demodulation, i.e., 60 voice channels.

Supervision • the process of detecting a change of state between idle and busy conditions on a circuit.

Supervisory Control • characters or signals which automatically actuate equipment or indicators at a remote terminal.

Supervisory Lamp • a lamp illuminated or darkened during a call and indicating to an operator the status of the call.

Supervisory Programs • computer programs designed to coordinate service and augment the machine components of the system, and coordinate and service application programs; operating systems.

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Supervisory Signal • 1) a signal which indicates whether a circuit is in use, or which gives an indication of status or change of status in a telephone system; 2) a signal used to indicate the various operating states of circuit combinations.

Switchboard • equipment on which switching operations are performed by operators.

Switched Loop Operation • each call requiring attendant assistance automatically switched to one of several switched loops on an attendant position.

Switchhook • a switch on a telephone set, associated with the structure supporting the receiver or handset.

Switching Center (Office) • a location which terminates multiple circuits and is capable of interconnecting circuits or transferring traffic between circuits.

Switchover • when a failure occurs in the equipment, a switch may occur to an alternative component.

SXS • Step By Step (Strowger automatic switching).

Synchronous • having a constant time interval between successive bits, characters, or events.

Synchronous Network • a network in which all the communication links are synchronized to a common clock.

Synchronous Transmission • transmission process where the information and control characters are sent at regular clocked intervals so that the sending and receiving terminals are operating continuously in step with each other.

■ T

T,R • Tip, Ring; sometimes Transmit and Receive on block diagrams.

T-Carrier (AT&T) • a hierarchy of digital systems designed to carry speech and other signals in digital form, designated T1, T2, and T4. T1 carrier has 24 PCM voice channels.

T1 • type of digital carrier system.

TAAS • Trunk Answer From Any Station.

Talking Battery • the dc voltage supplied by the central office to the subscriber's loop to operate the carbon transmitter in the handset.

Talking Path • transmission path in a telephone circuit.

Tandem Office • an office that is used to interconnect local end offices over tandem trunks in a densely populated exchange area; completes all calls between end offices but is not directly connected to subscribers.

Tandem Tie Trunk Switching • PBX permits tie lines to tandem through the switch; incoming tie line call from distant PBX receives a dial tone instead of automatically connecting with the operator; caller then dials station or trunk at distant PBX.

Tandem Trunk • a trunk which can connect PBXs or central offices to another system; calls can be routed from A or B or A through B to C on the same trunk.

Tariff • the published rate for a specific unit of equipment, facility, or type of service provided by a communications common carrier.

TAS • Telephone Answering Service.

TASI • Time Assignment Speech Interpolation.

TASI (Time Assignment Speech Interpolation) • specialized switching equipment that connects a party to an idle circuit while speech is taking place, but disconnects the party when speech stops, so that a different party can use the same circuit.

TAT • Transatlantic Telephone (cable).

TCM • Traveling Class Mark.

TDF • Trunk Distributing Frame.

Tdm • tandem.

TDM • Time-Division Multiplexing.

TDMA • Time-Division Multiple Access (satellite transmission).

TEHO • Tail End Hop-Off (traffic engineering).

Telecommunication • process that permits the passage of information from a sender to one or more receivers in any usable form by means of electronic system.

Telegram • hard-copy information, whether in written, printed, or pictorial form, routed to the general telegraph service for transmission and delivery to the addressee.

Telegraph Channel • transmission media and intervening apparatus involved in the transmission of telegraph signals between 2 terminal sets or 2 intermediate telegraph installations.

Telegraphy • reproduction, at a distance, of written, printed, or pictorial matter, or the reproduction at a distance of any kind of information in such form.

Telephone Circuit (Line) • electrical connection permitting the establishment of a telephone communication in both directions between 2 telephone exchanges.

Telephone Exchange • a switching center for interconnecting the lines which terminate there; central office.

Telephone Frequency • any frequency within that part of the audio frequency range essential for the transmission of speech of commercial quality, i.e., 300 to 3000 Hz.

Telephone Receiver • device that converts electrical energy into sound energy and designed to be applied to the ear.

Telephony • a system of telecommunications set up primarily for the transmission of speech.

Teletypewriter • a start-stop apparatus comprising a keyboard transmitter, together with a printing receiver.

Teleprocessing • information handling in which a data processing system utilizes telecommunications facilities.

Teletype • trademark of AT&T Teletype Corporation, usually referring to a series of different types of teletypewriter equipment such as tape punches, reperforators, page printers, etc, utilized for communications systems.

Teletypewriter Exchange Service (TWX) • a public switched teletypewriter service in which suitably arranged teletypewriter stations are provided with lines to a central office for access to other such stations throughout the U.S. and Canada.

Telex • automatic teletypewriter exchange service.

Telex Service • a dial-up telegraph service enabling its subscribers to communicate directly and temporarily among themselves by means of start-stop apparatus and of circuits of the public telegraph network.

Telpak • service formerly offered by telephone companies for leasing wideband channels between 2 or more points.

Temporary Station Disconnection • allows attendant to completely remove selected stations from service at any time on a temporary basis.

Tenant Service • 2 or more closely located customers can simultaneously be served by the same PBX equipment.

Terminal • point at which information can enter or leave a communication network; device capable of sending and/or receiving information over a communication channel.

Terminals to Long-Distance Operator • known as "toll terminals," provide special trunks directly to long-distance telephone company operators.

Test Board • a switchboard equipped with testing apparatus.

Test Center • facility which receives customer trouble reports, test communications lines and equipment, and dispatches repair technicians.

Text • part of a message which contains the substantive information to be conveyed.

TGB • Trunk Group Busy.

TGW • Trunk Group Warning.

Three-Way Conference Transfer • user can dial another

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extension and either 1) hang up and transfer call, 2) get information from the called party and then resume first call, or 3) bridge all parties together for a 3-way conference.

Throughput • the total useful information processed or communicated during a specified time period.

Tie Line • a private-line communications channel for linking 2 or more points together, typically PBXs.

Tie Trunk Access • allows system to handle tie lines which can be accessed either by dialing a trunk group access code or through attendant.

Time of Day Routing • routing patterns of Route Advance and Least Cost Routing may be programmed to automatically change based on the time of day.

Time-Division Multiple Access (TDMA) • communicating devices at different geographical locations share a multipoint or broadcast channel by means of a technique which allocates different time slots to different users.

Time-Division Multiplex (TDM) • a means of obtaining a number of channels over a single path by dividing the path into a number of time slots and assigning each channel its own intermittently repeated time slot. At the receiving end, each time-separated channel is reassembled.

Time-Division Signaling • signaling over a time-division multiplex system in which all voice channels share a common signaling channel, with time division providing the separation between signaling channels.

Time-Division Switching • switching method for TDM channel requiring the shifting of data from one slot to another in the TDM frame.

Timed Recall • PBX can be instructed to place a call at a designated time.

Timed Recall on Outgoing Calls • outgoing trunk calls can be automatically transferred to attendant after a time interval.

Timesharing • a method of operation in which a computer facility is shared by several users for different purposes at the same time.

Tip • the contacting part at the end of a telephone plug or the top spring of a jack.

TL • Tie Line.

TLF • Trunk Link Frame (crossbar switching).

TLP • Transmission Level Point.

Toll Call • call outside the local exchange area, charged at toll rates.

Toll Center • basic toll switching facility; a central office where channels and toll message circuits terminate.

Toll Connecting Trunk • a trunk used to connect a Class 5 office (local central office) to the direct distance dialing network.

Toll Restriction • permits station users to dial local calls but blocks toll calls or calls to toll operator without attendant assistance.

Toll Restriction • blocking a telephone user's access to the toll network.

Toll Terminal Access • allows guest stations to access toll calling trunks.

Tone Ringing • electronic tone provided at the station instrument to provide incoming call audible signaling.

Tone Signaling • the transmission of supervisory, address, and alerting signals over a telephone circuit by means of tones.

Tone-to-Dial-Pulse Conversion • converts DTMF signals to dial pulse signals when trunks associated with outgoing trunk calls are not equipped to receive tone signals.

TOPS • Traffic Operator Position System.

Touchtone • AT&T term for pushbutton dialing.

Trace Packet • a special kind of packet in a packet-switching network which functions as a normal packet but causes a report

of each stage of its progress to be sent to the network control center.

Traffic • messages sent and received over a communications channel; quantitative measurement of the total messages and their length, expressed in hundred call seconds (CCS) or other units.

Traffic Data to Customer • customer can poll switching locations on a daily or hourly basis to obtain traffic measurements.

Traffic Monitor • PBX feature that provides basic statistics on the amount of traffic handled by the system.

Traffic Overflow • occurs when traffic flow exceeds the capacity of a particular trunk group and flows over to another trunk group.

Transceiver • a terminal that can transmit and receive traffic.

Transducer • a device for converting signals from one form to another, such as microphone or a receiver.

Translation • when using Automatic Route Selection or Trunk-to-Trunk Connection features, PBX can add or delete area codes and toll access digits from numbers so that call will be handled properly by switching network.

Translator • a device that converts information from one system of representation into equivalent information in another system of representation.

Transmission • sending electrical signals over electric wires or radio.

Transparency • if signal passes through a network or facility unchanged, that network or facility is said to be transparent to it.

Transponder • a receiver-transmitter combination that retransmits the received signal greatly amplified at a different frequency.

Traveling Class Mark (TCM) • when Automatic Route Selection (ARS) or Uniform Numbering/Automatic Alternate Routing (UN/AAR) selects a tie trunk to a distant tandem PBX, traveling class mark (TCM) is sent over the tie trunk; used by distant system to determine the best available facility consistent with user's calling privileges.

TRFR • Transfer.

Trunk • a telephone exchange line that terminates in a PBX.

Trunk Answer from any Station • night service facility whereby incoming calls normally directed to the attendant activate a common alerting signal on the customer's premises; calls answered by dialing a special code from nonrestricted stations.

Trunk Group • arrangements of similar trunk circuits into a group.

Trunk Group • discrete group of trunk lines in a PBX with a specific function.

Trunk Group Busy Indication on Attendant Position • light associated with a trunk group is activated when all lines in group are busy.

Trunk Group Warning Indication on Attendant Position • provides attendant with a visual indication when a certain number of trunks in a trunk group are busy.

Trunk Reservation • attendant can hold a single trunk in a group and then extend it to a specific station.

Trunk Verification by Customer • provides attendant or station user access to individual lines in a trunk group to check their condition.

Trunk-to-Tie Trunk Connections • provides attendant with capability of extending an incoming central office trunk call to a tie trunk.

Trunk-to-Trunk Connections—Attendant • attendant can connect one trunk call to another.

Trunk-to-Trunk Consultation • allows station connected to an outside trunk access to a second outside trunk circuit for consultation.

Trunks—Direct Termination • each incoming or combination trunk appears on button at a console.

Glossary

Telecommunications Terminology

TSPS • traffic service position system; a stored-program computer with telephone operator consoles permitting calls needing operator intervention to be handled as efficiently as possible.

Tst • test.

TTL • Transistor-Transistor Logic.

TTTN • Tandem Tie Trunk Network.

TTY • Teletypewriter.

TUR • Traffic Usage Recorder.

Turnaround Time • time required to reverse the direction of transmission from send to receive or vice versa on a half-duplex circuit.

Turnkey System • a complete communications system, with hardware and software, assembled and installed by a vendor and sold as a total package.

TVC • Trunk Verification by Customer.

TVS • Trunk Verification by Station.

Twisted Pair • 2 insulated wires twisted together but not covered with an outer sheath.

Two-Way Splitting • attendant is able to consult privately with either party (internal or external) on a call.

Two-Wire Circuit • circuit formed of 2 conductors insulated from each other.

TWX • Teletypewriter exchange service.

■ U

UCD • Uniform Call Distribution.

UG • Underground.

Uniform Call Distribution • spreads incoming calls to assigned stations as smoothly as possible, so all stations handle relatively similar loads.

Uniform Numbering Plan • permits station users at a PBX to place calls over tie trunks using a uniform dialing plan.

Uniform-Spectrum Random Noise • noise distributed over the spectrum in such a way that the power per unit bandwidth is constant; "white" noise.

UNIX • Proprietary AT&T timesharing operating system for data processing equipment.

UPS • Uninterruptible Power Supply.

USOC • Uniform Service Order Code.

■ V

VA • Volt-Ampere.

Vac • Volts Alternating Current.

Vacant Code Intercept • routes all calls made to an unassigned code to attendant, a busy signal, a reorder signal, or to a recorded announcement.

Vacant Number Intercept • routes all calls of unassigned numbers to attendant, a busy signal, or a prerecorded announcement.

Value-Added Common Carrier • a company which sells services of a value-added network.

Variable Term Pricing Plan (VTPP) • a rate plan developed by AT&T to replace 2-tier pricing; provides for 2-, 4-, or 6-year contracts, over which period the customer is promised stable prices.

VDT • Video Display Terminal.

Via Net Loss • describes the net losses of trunks in the long-distance switched telephone network.

Video Signal • a signal comprised of frequencies normally required to transmit pictorial information (1 to 6 MHz).

Virtual Circuit • data transmission service in which the user presents a data message for delivery, with a header of a specified format; system delivers the message as though a circuit existed to the specified destination.

Virtual Storage • computer which appears to have a much larger memory than its real memory.

Visually Impaired Attendant Service • visually impaired attendant service capability is achieved by augmenting normal visual signals provided on a standard attendant position with special tactile devices and/or audible signals.

VLSI • Very Large-Scale Integration.

VNL • Via Net Loss (minimum loss in trunk to control echo).

Voice Calling • allows a calling station user to have call automatically connected to the called station's loudspeaker; associated with electronic multibutton instruments.

Voice Frequency, Telephone Frequency • any frequency within that part of the audio-frequency range essential for the transmission of speech of commercial quality, i.e., 300 to 3000 Hz.

Voice Message Service • provides ability for a station user to access an optional voice message recording facility and leave a message for a particular station user.

Voice Paging Access • attendants and station users have dial access to customer-provided loud-speaker paging equipment.

Voice-Grade • a telecommunication link with a bandwidth (about 3 KHz) appropriate to an audio telephone line.

Voice-Grade Channel • a channel suitable for transmission of speech, digital or analog data, or facsimile, generally with a frequency range of about 300 to 3000 Hz.

VTPP • Variable Term Pricing Plan.

■ W

WATS • wide area telecommunication service; provided by telephone companies in the U.S. which permits a customer, by use of an access line, to make calls to telephones in a specific zone on a dial basis at a lower cost or to receive incoming calls at a specified number at a reduced cost.

WATS • Wide Area Telecommunication Service.

WATS Access • system can accept direct connection of WATS lines.

Wide Frequency Tolerant Power Plant • PBX power facilities provided that will tolerate average frequency deviations of up to +/-3 Hz or voltage variations of -15% to +10% as long as both of the conditions do not occur simultaneously.

Wideband Channel • a channel wider in bandwidth than a voice-grade channel.

Wtng • waiting.

■ X

XBAR • crossbar.

Xfr • transfer.

Xmit • transmit.

XY • form of SXS switching by Stromberg-Carlson.

■ Z

Zip Tone • short burst of dial tone to an ACD agent, through headset, indicating that a call is being connected to the agent console.

• END