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Glossary of Digital Switching Terms and Abbreviations



GLOSSARY OF DIGITAL SWITCHING TERMS AND ABBREVIATIONS

CONTENTS

Par.		Page
1.	Introduction	1
2.	Related Information	1
3.	Glossary of Terms	2
4.	Abbreviations and Mnemonics	49
5.	Index	61

1. INTRODUCTION

1.01 This section provides definitions for words and terms that may not be familiar to all telephone industry personnel but may appear in various Stromberg-Carlson publications related to SYSTEM CENTURY® digital central offices and private branch exchanges. Included, is an alphabetical listing of most abbreviations that appear in Stromberg-Carlson Practices that support the Digital Central Office (DCO) and Digital Branch Exchange (DBX) systems. Also included, at the end of this section, is an index that contains an alphabetical listing of all terms defined.

1.02 The latest edition of the American National Standard Vocabulary for Information Processing ANSI X3.12 should be used for computer or data-processing type terms not defined in this glossary. For other terms not found in a standard Webster's Collegiate Dictionary, the IEEE Standard Dictionary of Electrical and Electronics Terms ANSI C42.100 should be used. Words appearing in italics are defined elsewhere in the glossary. If the same word(s) is used more than once in a definition, the term is italicized the first time only.

1.03 This section is reissued to add the latest definitions and abbreviations. Additions are indicated by bars in the margin.

2. RELATED INFORMATION

2.01 A Sales and Instructional Literature Index of latest available publications can be obtained from your Stromberg-Carlson sales representative or from Publications Services, Stromberg-Carlson Corporation, P.O. Box 1698, Sanford, Florida 32771.

3. GLOSSARY OF TERMS

A

Absolute Address

A *binary* number that is assigned as the *address* of a physical memory storage location.

Absolute Loader

A stand-alone *program* that, when in *memory*, enables the user to *load* into memory *data* in absolute *binary* format.

Ac Service Ground (Neutral)

The reference point for the ac power system. In ac systems, the current-carrying conductor of a distribution or wiring system that is connected to *ground* is called the neutral conductor. This is the grounded side of the power distribution system. Another grounding conductor of the ac system is the metallic conduit grounding path that does not normally carry current but connects at one point to the grounded neutral.

Accessibility

The number of outlets in a switching stage that can be reached from a given inlet.

Access Time

1. The time interval between the instant at which *data* is called for from a storage device and the instant delivery is completed; that is, the *read* time.
2. The time interval between the instant at which data is requested to be stored and the instant at which *storage* is completed; that is, the *write* time.

Account Number

A discrete *code* used to identify a *system* user.

Accumulator

A *register* in which the result of an arithmetic or logic operation is formed.

Active Task List

A priority-ordered list of active tasks used normally in an event-driven multiprogrammed system to determine the order in which tasks receive control of the *central processing unit (CPU)*.

Address

A label, name, or number that designates a location where information is stored.

Administration

The process of making changes to the system data base, relative to line and trunk assignment, and maintaining records of these changes.

Algorithm

A prescribed set of well-defined rules or processes for the solution of a problem in a finite number of steps.

Alphanumeric

1. Referring either to the entire set of 128 *ASCII* characters or the subset of *ASCII* characters that includes the 26 alphabetic characters and the 10 numeric characters.
2. Pertaining to a character set that contains both letters and numerals, and usually other characters.

Analog

Pertaining to information in the form of continuously variable physical quantities. Contrast with *digital*.

Analog-to-Digital Converter

A circuit that converts *analog* signals to *digital* signals.

Append

To add information to the end of an existing *file*.

Application Program

A *program* that does a task specific to a particular end-user's needs. Generally, an application program is any program written on a program-development *operating* system that is not part of the basic operating system.

Argument

An independent variable; for example, in looking up a quantity in a table, the number, or any of the numbers, that identifies the location of the desired value.

Arithmetic Unit

The part of a *central processing unit (CPU)* that actually does the *instructions* and manipulates and tests the contents of accumulators or other *storage* locations.

Array

An ordered arrangement of subscripted *variables*.

ASCII

The American Standard Code for Information Interchange, consisting of 128 7-bit *binary codes* for upper and lower case letters, numbers, punctuation, and special communication *control characters*.

Assemble

To prepare a *machine language* program from a symbolic language program by substituting absolute operation codes for symbolic operation codes and absolute or relocateable addresses for *symbolic addresses*.

Assembler

1. A *program* that translates symbolic source *code* into *machine instructions* by replacing symbolic operation codes with *binary* operation codes and *symbolic addresses* with absolute or relocateable addresses.
2. A *language processor* written for a particular digital computer. The *source language* it translates is called *assembly language*. There is a one-to-one correspondence between most of the *mnemonics* used as the assembly language operators and the binary instructions of the computer.

Assembler Directives

The *mnemonics* used in an assembly language source program that are recognized by the *assembler* as *commands* to control and direct the assembly process.

Assembly Language

A symbolic programming language that can normally be translated directly into machine-language instructions and is, therefore, specific to a given computer system.

Assembly Listing

A listing produced by an *assembler* that shows the symbolic code written by a programmer next to a representation of the actual *machine instruction* generated.

Assigning a Device

Putting an input/output (*I/O*) device under control of a particular user's job, either for the duration of the job or until the user relinquishes control. Also, refer to *attach*.

Asynchronous

A mode in which an operation is started by a signal generated by the completion of the previous operation. When referring to *hardware devices*, it is the method in which each *character* is sent with its own synchronizing information. The hardware operations are scheduled by ready-and-done signals rather than by time intervals. In addition, it implies that a second operation can begin before the first operation is completed. (Does not need a *clock*.)

Asynchronous System Trap (AST)

A *system* condition that occurs as the result of an external *event*, such as completion of an I/O request. On the occurrence of the significant event, control passes to an *AST service routine*.

Attach

To dedicate a *physical device* unit for exclusive use by the task requesting attachment. See also *assigning a device*.

Audit Trail

The historical information required to allow processed *data* to be related to the source transactions, and the supporting documentation to be located.

Automatic Message Accounting (AMA) System

An arrangement of apparatus for recording, on permanent or semipermanent media, the *data* required for computing telephone charges on certain classes of calls.

Automatic Telephone System

A system in which *telephone connections* are ordinarily established under control of the originating *port* as opposed to establishing connections by manual operator control.

Auxiliary Storage

Storage that supplements *core memory*. Examples of auxiliary storage are *disk* and magnetic tape.

B

Background

That region of *memory* in a *foreground/background system* that is available for low-priority, preemptable *programs*. The background programs are allowed to *execute* when the foreground programs are idle.

Background Processing

The automatic execution of a low-priority *program* when higher priority programs are not using the *system* resources.

Backplane

A wiring network that provides interconnections between printed wiring board assemblies (PWBAs) that are plugged into a common panel. The backplane is a fixed-wire network at the rear of the panel.

Backup File

A copy of a *file* created for protection in case the primary file is unintentionally destroyed.

Bad Block

A defective *block* on a *storage* medium that produces a *hardware* error when attempting to *read* or *write* data in that block.

Balance

1. A measure of impedance matching. For example, through-balance is the measure of matching on a connection through an office; terminal-balance is the measure of matching when a connection is established to a reference terminal (outlet) of the office; network-balance is the measure of matching between a hybrid network and a connected two-wire line.
2. The act of achieving optimum impedance matching.

Base Address

An *address* used as the basis for computing the value of some other *relative address*.

BASIC Language

A conversational user's programing language particularly suited for *time-sharing* computers. An acronym for Beginner's All-Purpose Symbolic Instruction Code.

Basic Numbering Plan

A plan whereby every *telephone station* is identified, for nationwide dialing, by a number of *digits*.

Batch Processing

1. A method of scheduling *programs* whereby programs are accumulated and fed to the *computer* for execution, with no programmer interaction.
2. Pertaining to the technique of executing a set of computer programs such that each is completed before the next program of the set is started.
3. Pertaining to the sequential input of computer programs or *data*.
4. Loosely, the execution of computer programs serially.

Battery Return Ground

A conductor path designed to carry direct current between the switching equipment and the office battery. A conductor used in this manner is also referred to as the circuit *ground* or the current-carrying ground lead.

Baud

A unit of measurement of signaling speed derived from the duration of the shortest code element. Speed in bauds is the number of code elements per second.

Bidirectional

A type of *bus* structure where a single conductor is used to transmit data or signals in either direction between a *peripheral* device and a central processor or memory.

Binary

The number system with a radix of 2.

Binary Code

A *code* that uses two distinct *characters*, usually the numbers 0 and 1.

Binary-Coded Decimal (BCD)

Pertaining to a decimal notation in which the individual decimal digits are each represented by a group

of *binary digits*; for example, in the 8-4-2-1 binary-coded decimal notation, the number 23 is represented as 0010 0011; whereas in binary notation, 23 is represented as 10111.

Binary Digit

A character used to represent one of the two *digits* in the number system with a radix of 2. Abbreviated "*bit*."

Binary Loader

Refer to *absolute loader*.

Bipolar Signal

A digital signal containing pulses of opposite polarity.

Bit

Abbreviation for binary digit. The smallest unit of *data* that computer systems handle. An example of a bit is the magnetic core used in some processor memories that is polarized in one direction to represent the *binary* number 0 and in the opposite direction to represent the binary number 1.

Bit Map

A table describing the state of each member of a related set. A bit map is most often used to describe the allocation of *storage* space. Each *bit* in the table indicates whether a particular *block* in the storage medium is occupied or free.

Bit Rate

The speed at which *bits* are transmitted, usually expressed in bits per second (bps).

Blank Character

A *character* used to produce a character space on an output medium.

Block

1. A set of *words*, *characters*, *digits*, etc., handled as a unit.
2. A group of physically adjacent words or *bytes* of a specified size that is particular to a *device*. The smallest system-addressable segment on a *mass-storage device* in reference to I/O.

Boolean-Valued Expression

An expression that, when evaluated, produces either a true or false result.

Bootstrap

A technique or *device* designed to bring itself into a desired state by means of its own action; for example, a machine *routine* whose first few *instructions* are sufficient to bring the rest of itself into the *computer* from an input device.

Bootstrap Loader

A *routine* whose first *instructions* are sufficient to *load* the remainder of itself into *memory* from an input device and normally start a complex system of *programs*.

Bottom Address

The lowest memory *address* in which a *program* is loaded.

Branch

A point in a *routine* where a decision is made as to which part of that routine to process next. Also to pass control to the chosen part of the routine; to jump.

Breakpoint

A location at which program operation is suspended to examine partial results. A preset point in a program where control passes to a debugging routine.

Bridged Ringing

Ringing whereby the ringing voltage is applied from one side of the *line* to the other side.

Buffer

1. A *temporary storage* area that can be a special register or an area of storage. Buffers are often used to hold *data* being passed between processes or *devices* that operate at different speeds or different times.
2. An isolating circuit used to prevent a driven circuit from influencing the driving circuit.

Bug

An *instruction* or sequence of instructions in a *program* that causes unexpected and undesired results.

Bulk Storage

Refer to *mass storage*.

Bus

1. A wire or group of wires that allows *memory*, *central processing unit* and *I/O devices* to exchange information.

2. A conductor used for distributing power to various elements of the system. Dc power distribution and ringing voltage distribution conductors are referred to as buses.

Busy-Hour Calls

The number of calls carried by a telephone switching system during the busiest hour of the busiest day of a normal week.

Busy-Idle Map

A record in the call processors that indicates the status of the *timeslot interchange* paths.

Busy Test

A test made to determine whether certain facilities, such as a subscriber *line* or *trunk*, are available for use.

Busy Tone

An audible call progress signal connected to a calling *line* or *trunk* to indicate that the called line is in use (or in line lockout). A mixture of 480 Hz and 620 Hz, interrupted to a 60-ipm rate, is industry standard.

Byte

1. The smallest memory-addressable unit of information in a memory system.
2. A sequence of adjacent *binary digits* operated upon as a unit; usually shorter than a *word*.

Call Processing Program

The *software*, resident in the *call processor* memory, that is primarily responsible for controlling the switching network.

Call Processor (CP)

In a DCO system, a subsystem consisting of a microcomputer, a synchronizer, and a *random access memory*. Contains sufficient *memory* to accommodate the *call-processing program* and its *data base*.

Call Processor (CP) Startup

The process of bringing one or more call processors into "normal operation" from a start when no useful information existed in *memory*.

Call-Seconds, Hundred

The units in which telephone traffic is measured. One call lasting 100 seconds is one hundred call-second (CCS).

Call State

1. A call within the *call processor (CP)* section is seen by the processor as a series of discrete stimulus-response actions. A typical line-to-line call proceeds accordingly: idle, line off-hook, dial tone, first-digit translation, third-digit translation, final translation, ringing/ringback tone, answer, conversation, and release.
2. In the port control system (PCS), a call state is a defined pattern of network paths between involved *ports* and appropriate PCS commands.

Called Party

The person specified on a person-to-person call, the person who answers on a station-to-station call, or the desired *subscriber line*.

Calling Party

The person who originates a person-to-person call, a station-to-station call, or the originating *subscriber line*.

Carriage Return

An operating function of an I/O device; for example, a teletypewriter, activated by striking the (carriage) RETURN key. Causes the printing element to align with the first print position; normally accompanied by a line-feed operation. (Applicable also to display devices.)

C

In addition, the RETURN key can be used to provide a *delimiter* function.

Carrier

A continuous frequency capable of being modulated or impressed with a signal.

Carrier Facility

Interoffice transmission facilities wherein a quantity of transmission paths are *multiplexed* to share a single-conductor pair or radio channel.

Cartridge Disk

A removable magnetic *mass-storage device* for storing *programs* or *data*.

Catastrophic System Failure

A condition of a stored-program system caused by a failure that puts 25 percent or more of the system *ports* out of service.

Cell

1. An elementary unit for the registration (*storage*) of one *digit*. This digit is usually in the *binary* or decimal form.
2. The PWBA equipment housing.
3. A subassembly within an equipment cabinet. Also referred to as a *circuit unit assembly (CUA)*.

Central-Office Ground

In a telephone office, the central-office (CO) *ground* is the common point to which all grounding paths in the CO are connected electrically. Physically, it consists of a copper *bus* bar. In telephone buildings of more than one floor, a CO ground bus bar is provided on each floor. These bus bars are connected together by a vertical ground riser consisting of a copper cable or bus bar of large cross-section.

Central Processing Unit (CPU)

1. That part of a computer system containing the arithmetic and logical units, instruction control unit, timing generators, and memory and I/O interfaces.
2. The unit of a computing system that includes the circuits controlling the interpretation and execution of instructions.

Character

A single letter, numeral, or symbol used to represent information.

Character String

A linear sequence of *characters*.

Checksum

1. A value representing the sum of all "1" *bits* in a *program*. When the program is *loaded*, the sum of the "1" bits can be compared with the checksum to make sure that the entire program has been loaded correctly.

2. A number used for checking the validity of *data* transfers.

Circle-Digit Phaseout

A feature which permits a mixture of ANI and circle-digit identification within the same system.

Circuit Unit Assembly (CUA)

A subassembly within an equipment cabinet. Also referred to as a *cell*. A CUA accommodates edge-mounted PWBA's that plug into connectors on its backplane.

Class of Service

A subgrouping of *lines* or *trunks* for originating and/or terminating service for the purpose of distinguishing equipment operation.

Clear

1. To place a storage device into a prescribed state, usually that denoting zero or blank.

2. To place a binary *cell* into the zero state.

Clerical Operator

A person trained in the operation of a telephone switching system to the extent that he/she can extract billing-related information, change equipment numbers, keep office records, etc.

Clock

1. A *device* that generates periodic signals used for synchronization.

2. A device that measures and indicates time.

3. A *register* whose content changes at regular intervals in such a way as to measure time.

4. A time-keeping or frequency-measuring device within a computer *system*.

Closed Loop

1. A circuit in which the output is continuously fed back to the input for constant comparison.

2. In a *computer*, a group of indefinitely repeated instructions.

Cluster

1. A collection of *modules* and an optional cluster *data base* whose combined activities support one or more related resources (for example, process all operations on a data table).

2. A number of related modules that together provide a *resource* in a "black box" manner, without requiring the user to know how the resource works or is organized. A cluster can include a data base, and will include one or more modules whose combined activities support the resources of that cluster and nothing more.

Cluster Data Base

Installation-unique or historical data that applies only to the associated *cluster*; can be accessed only from *modules* within the cluster and is not included in any *module data base*.

COBOL

An acronym for COmmon Business-Oriented Language. A business-oriented, procedure-oriented language that is widely taught in college courses on business data processing.

Code

1. The method used to represent *data* and *instructions* in a *computer*.

2. A system of *characters* and/or rules used for representing information.

CODEC

An acronym for COder-DECoder. A circuit that converts analog (audio) signals to *companded* digital code, and vice versa. Refer to *pulse code modulation*

(PCM). In a SYSTEM CENTURY office, a CODEC can be dedicated to a single *port* or arranged to handle several ports.

Code-Point Translator

The facility for interpreting incoming *digits* to determine proper disposition of service requests.

Code Ringing

Party-line ringing wherein the number of rings, or the duration of ringing, or both, indicate the station being called.

Coding

To write instructions for a *computer* using symbols meaningful to the computer itself, or to an *assembler*, *compiler*, or other *language processor*.

Collate

1. To combine items from two or more ordered sets into one set having an order not necessarily the same as any of the original sets.

2. To compare and merge two or more similarly ordered sets of items into one ordered set.

Combined Distributing Frame (CDF)

A *distributing frame* combining the functions of the *main distributing frame (MDF)* and *intermediate distributing frame (IDF)*.

Command or Command Name

1. A *word*, *mnemonic*, or *character* that, by virtue of its syntax in a line of input, causes a predefined operation to be done by a computer system.

2. A control signal.

Command Keyword

An alphabetic *character string* used to invoke or direct a task. It uniquely identifies a memory-resident or disk-based processing task.

Command Language

The vocabulary used by a *program* or set of programs that directs the computer system to do predefined operations.

Command Language Interpreter

The *program* that translates a predefined set of *commands* into *instructions* that a computer system can interpret.

Command String

A *line* of input to a computer system that includes a *command*.

Command String Interpreter

A special *program* or *routine* that accepts and interprets a *command string*.

Common

A section in *memory* that is set aside for common use by many separate *programs* or *modules*.

Companding

Instantaneous compression and expansion of a pulse amplitude modulated (PAM) pulse. Used to improve the ratio of signal to quantizing noise.

Compile

To produce *binary code* from symbolic *instructions* written in a high-level *source language*.

Compiler

A *language processor* written to translate a higher-level language whose structure, syntax, and symbols are independent of any particular machine. The higher-level language instructions most often do not correspond directly to binary instructions. It is the compiler's job to provide *algorithms* for their translation.

Complement

A number that can be derived from a specified number by subtracting it from a second specified number.

Completion Routine

A *routine* that is called at the completion of an operation.

Compute Bound

A state of *program* execution in which all operations are dependent on the activity of the central processor; for example, when a large number of calculations are being done. Also, refer to *I/O bound*.

Computer

1. A *device* capable of solving problems by accepting *data*, doing prescribed operations on the data, and supplying the results of these operations. Various types of computers are calculators, digital computers, and analog computers.
2. In information processing, usually an automatic, *stored-program computer*.

Concatenate

To combine several *files* into one file, or several strings of *characters* into one string, by appending each file, or string, one after the other; to link together.

Concentrator

A switching entity for connecting a number of inlets to a smaller number of outlets.

Conference Connection

A connection for a telephone conversation between more than two stations.

Configuration

A particular selection of hardware *devices* or software *routines* or *programs* that function together.

Congestion Tone

An audible call progress signal connected to a calling *line* or *trunk* to indicate that traffic congestion precludes availability of a path to the called destination. A mixture of 480 Hz, interrupted at a 120-ipm rate, is industry standard.

Console

The console of a central processor is the set of switches and display lights used by an operator or programmer to determine the status and control the operation of the *computer*. Usually refers to the teletypewriter (TTY) keyboard or similar I/O peripheral *device*.

Console Terminal

A keyboard terminal that acts as the primary interface between the *computer* operator and the computer system and is used to initiate and direct overall *system* operation through *software* running on the computer.

Constant

A value that remains the same throughout a distinct operation. An *operand* whose value does not change.

Contiguous File

A *file* consisting of physically adjacent *blocks* on a *mass-storage device*.

Control Character

1. A character whose occurrence in a particular context initiates, modifies, or stops a control operation; for example, a character to control carriage return.
2. A character whose purpose is to control an action rather than to pass *data* to a *program*. An *ASCII* control character has an octal *code* between 0 and 37. It is typed by holding down the CTRL key on a *terminal* keyboard while striking a key.

Copy

To reproduce *data* in a new location or other destination, leaving the source data unchanged, although the physical form of the result may differ from that of the source. For example, to copy *floppy disk* data into *main memory*.

Core Map

Refer to *memory map*.

Core Memory (Core)

A configuration of magnetic material that is placed in a spatial relationship to current-carrying conductors and whose magnetic properties are used for *storage* purposes.

Crash

A *hardware* crash is the complete failure of a particular *device*, sometimes affecting the operation of an entire *computer* system. A *software* crash is the complete failure of an *operating system* characterized by some failure in the system's protection mechanisms. In actual occurrence, it is a system-level *trap*; for example, trap to location 4 or 10 (attempt to execute an illegal *instruction*, parity error, etc.) when the system's trap *routines* have been destroyed.

Crash, Hard

A *crash* where all tasks fail; it will halt the *system*.

Crash, Soft

A *crash* where one task fails; it will not halt the *system*. A local failure or a fault due to an operator error.

Crash Dump

Dumping contents off all *memory*.

Critical System Failure

A failure that causes: major degradation to 25 percent, or more, of the *system ports*; no service to over 60 ports, if 60 is less than 25 percent of the total system ports; or no service for 2 or more special services.

Critical Timeout Period

A time frame within which a particular signal must be received. If not received, a response is generated, indicating the expected response time is longer than the predefined period.

Cross-Reference Listing or Table

A printed list that identifies all references in a *program* to each specific *label* in a program. A list of all symbols used in a source program and statements where they are defined or used.

Crossbar System

An automatic telephone switching system that is generally characterized by the following features:

- a. The selecting mechanisms are crossbar switches.
- b. Common circuits select and test the switching paths and control the operation of the selecting mechanisms.

- c. The method of operation is one in which the switching information is received and stored by controlling mechanisms that determine the operations necessary to establish a *telephone connection*.

Cross-Office Highway (XOH)

Single, unidirectional paths. Part of the *timeslot interchange (TSI)* configuration. Each highway contains a number (system dependent) of timeslots. Generally referred to as the "speech paths." The XOH leaving a TSI subsystem is distributed to itself and to all other TSIs in the system.

Cross-Office Highway Timeslot (XOHTS)

A time period associated with a cross-office highway. Each one-way transmission path is assigned to an XOH TS for the period during which the need exists for a path.

Cross-Office Store (Memory)

Stores the *cross-office highway timeslot* assignments made for a call. Part of the TSI configuration. Receives its instructions from the CP.

Cycle Time

1. A basic unit of time in a *computer*, usually equal to the shortest time required to *execute* an *instruction*. Longer instructions require multiples of the cycle time.
2. Same as *memory cycle time*.
3. Time interval wherein a set of operations is repeated regularly in the same sequence.
4. The time duration between application of one *address* and application of the next address.

D

Data

A general term used to denote any or all facts, numbers, letters, and/or symbols.

Data Base

1. The *data* associated with a *program*, *cluster*, or *module*.
2. A collection of interrelated data items organized by a consistent scheme that allows one or more applications to process the items without regard to physical *storage* locations.

Data Base Administration (DBA)

The background-processing overlay program used by the *program operator* to install service changes in the *data base* of a DBX system.

Data Base Management System

A scheme used to create, maintain, and reference a *data base*.

Data Pointer

An *operand* that contains the *address* of an item, *array*, or *record*.

Data Pointer Chain

A series of *data pointer pointers* followed by a *data pointer*.

Data Pointer Pointer

An *operand* that contains the *address* of a *data pointer* or the *address* of a *data pointer pointer*.

Data Structure

A named collection of *data* items that has logical significance when considered as a group.

Dead Load

The dead load in a building is the weight of all permanent construction, including walls, framing, roofs, permanent partitions, etc.

Debug

1. To detect, locate, and remove mistakes from a *routine* or malfunctions from a *computer*.

2. To detect, locate, and correct coding or logic errors in a *computer program*.

Default

The value of an *argument*, *operand*, or *field* assumed by a *program* if a specific assignment is not supplied by the user.

Deferred Address

Refer to *indirect address*.

Delay Dial

1. An off-hook signal returned to the calling end of a *trunk* when the called end receives a connect (off-hook) signal, to indicate that it is not ready to receive pulses.
2. A *function* generated from a send-supervisory-event (SSE) command. SSE is a *telephony preprocessor (TPP)* command.

Delimiter

A *character* that separates, terminates, or organizes elements of a *character string*, *statement*, or *program*.

Demodulation

The process of retrieving an original signal from a modulation carrier wave.

Demultiplex (Deconcentrate)

A reversal of *multiplex* action. A group of separate signals are derived from the complex multiplex signal.

Destructive Read

A *read* process that also causes the *data* in *storage* to be erased.

Detach a Device

Free an attached *physical device* unit for use by tasks other than the one that attached it.

Device

A *hardware* unit, such as an I/O *peripheral* (for example, magnetic tape drive, card reader, etc.). Also often used synonymously with *volume*.

Device Controller

A *hardware* unit that electronically supervises one or more *peripheral* devices. It acts as the link between the CPU and the I/O devices.

Device Driver

A *program* that controls the physical *hardware* activities of a *peripheral* device. The device driver is generally the device-dependent interface between a device and the common, device-independent I/O code in an *operating system*.

Device Handler

A *program* that drives or services an I/O device. A device handler is similar to a *device driver*, but provides more control and interfacing functions than a device driver.

Device Name

A unique name that identifies each *device unit* on a system.

Device Unit

One of a set of similar *peripheral devices*; for example, *disk* unit 0, TTY unit 1, etc. Also used synonymously with *volume*.

Diagnostic

Pertaining to the detection and isolation of a malfunction or error.

Diagnostic Controller

A *program* designed to monitor and control the execution of a *diagnostic* program.

Dial Pulsing (DP)

DP consists of regular, momentary changes from off-hook to on-hook state on a signaling and supervisory path, for the purpose of signaling decimal, *digital* information under control from the sending end.

Dial Tone

An audible call progress tone used to advise subscribers that the CO is ready for start of subscriber dialing. A mixture of 350 Hz and 440 Hz, applied as a steady tone, is industry standard.

Dial Trap

Circuitry designed to prevent faulty response if *dial pulsing* is received prior to readiness of the impulse receiving and analysis logic.

Digit

1. A *character* used to represent one of the nonnegative integers smaller than the *radix*; for example, in decimal notation, one of the characters 0 to 9.
2. Refer to *binary digit* and *significant digit*.

Digital

Pertaining to quantities with *discrete* or discontinuous values. Contrast with *analog*.

Digital Analyzer

An instrument for the analysis of a *digital data* stream.

Digital Satellite Interface (DSI)

A subsystem that provides direct *digital* interfacing between the span-terminating equipment of remote *Digital Satellite Units* and the DCO network.

Digital Satellite Unit (DSU)

A subsystem that extends DCO line service and features to groups of subscribers located remotely from the DCO. Each DSU can serve up to 240 subscriber lines.

Digital Trunk Interface (DTI)

A subsystem that provides direct *digital* interfacing between the DCO and T1 span lines. When a T1 span is not fully utilized, trunk additions to its maximum capacity of 24 are made by *software program* updates.

Digits Expected

The number of dialed *digits* required before the next translation *event* can be done.

Direct Address

An *address* that specifies the location of an *operand*.

Direct Inward Dialing (DID)

A *private automatic branch exchange (PABX)* or *centrex* service feature that permits outside calls to be dialed directly to the stations.

Direct Memory Access (DMA)

A method of transferring blocks of *data* directly between an external *device* and the system *memory* without the need for CPU intervention. This method significantly increases the data transfer rate.

Directory

1. A table that contains the names of and *pointers* to files on a *mass-storage device*.
2. A system-maintained structure used to organize a *volume* into files. It allows the user to locate files without specifying the physical *addresses* of the files. It is a direct access method applied to the *volume* to locate files.

Directory Number

1. The full complement of *digits* required to designate a subscriber in the directory. Within the USA and Canada, the directory number consists of a three-digit office code followed by four numerals.
2. Refer to *station number*.

Discrete

Pertaining to distinct elements or to representation by means of distinct elements, such as *characters*.

Disk

1. A *mass-storage device*. An electromagnetic platter on which *data* is magnetically recorded. Features *random access* and faster access time than magnetic tape.
2. An external or *auxiliary-storage device*. A thin, circular, rigid plate rotating very rapidly about its center with one or both of its surfaces capable of being magnetized. Information is recorded on the surface by creating, at a specific spot, a magnetic field by means of a recording head. *Reading* is done by recording heads sensing magnetized areas.

Diskette

A flexible oxide-on-mylar *disk* encased in a sealed plastic jacket with a hole for the read/write head, a hole for the drive spindle/hub, and a hole for the index mark. (Sometimes called a cartridge.) The diskette, or cartridge, is normally stored in a protective storage envelope.

Distributed Network Interface (DNI)

A line *concentrator* used with the DCO to concentrate a group of low-usage lines into a smaller number of DCO *ports*. This increases the line capacity of the DCO and takes advantage of the high traffic-carrying capabilities of the DCO.

Distributing Frame (DF)

A structure for terminating a CO, PBX, or *private exchange* and for permitting the easy change of connections between them by means of cross-connecting wires.

Divided Code Ringing

1. Divided *code* ringing (divided ringing) is a method of code ringing that provides partial ringing selectivity by connecting one-half of the ringers from one side of the line to *ground* and the other half from the other side of the line to ground. This method of ringing is used for four-party semiselective ringing systems.
2. Ringing wherein one or more subscribers on a *line* use a ringing current from one side of the line to *ground*, and other subscriber(s) use a ringing current from the other side of the line to ground.

Double-Buffered I/O

An input or output operation that uses two buffers to transfer *data*. While one buffer is being used by the *program*, the other buffer is being read from or written to by an *I/O device*.

Downtime

1. The time interval during which a *device* or system is malfunctioning.
2. The time interval during which a device is not operating correctly due to machine malfunction; it includes the time to repair the malfunction.

Dual-Program Mode

Refer to *foreground/background mode*.

Dump

1. To *copy* the contents of all or part of a *storage* usually from an internal storage into an external storage.
2. The *data* resulting from the process as in paragraph 1 above.

Duplex

In communications, pertaining to a simultaneous two-way independent transmission.

Duplex System

Redundant *computers*.

Dynamic Dump

A *dump* that is done during the execution of a *program*.

Dynamic Memory

A type of semiconductor *memory* in which the presence or absence of an electrical charge represents the two possible states of a *storage* element. The *data* must be periodically refreshed to maintain its validity.

E

E Lead

1. The lead used for receipt of signaling/supervisory information at a switching system *port*.
2. Refer to *E&M signaling*.

E&M Signaling

A technique for transferring information between a trunk port and a separate signaling circuit over leads designated E and M. The M lead transmits to the signaling circuit from the port and the E lead receives from the signaling circuit to the port.

Echo

The printing by an *I/O device*, such as a TTY or CRT, of *characters* typed by the operator.

Echo Return Loss (ERL)

The difference, in dB, between the level of a specific signal applied to a circuit and the level of that portion of the signal that is reflected back to the port of application. Normally, this signal is measured as a composite signal containing all frequencies between 500 and 2500 Hz at equal magnitude.

Edit

To modify the form or *format* of *data*; for example, to insert or delete *characters*, such as page numbers or decimal points.

Effective Address

The *address* that is derived by applying any specified *indirect addressing* rules to the specified address and that is used to identify the current *operand*.

Entry Point

A point in a software *subroutine* to which control is transferred when the subroutine is called.

Equipment Number

A unique, physical or other identification of an *I/O* termination of a switching network.

Erlang

1. A unit of telephone traffic intensity, measured in number of arrivals per mean service time. For traffic measurements, the number of erlangs is the average

number of simultaneous connections observed during a measurement period.

2. A unit of telephone traffic numerically equal to relative (percent x 100) occupancy. It represents the hours of call volume, or usage in an hour.

Error Flag

An indication that an error has occurred.

Error Message

A message from the computer *system* to the operator that points toward a malfunction or discrepancy between values expected and actual. A diagnostic message.

Event

An occurrence or happening.

Event Code

A method of identifying what *event* has occurred.

Event Driven

A process controlled by the occurrence of *events*.

Execute

To cause the *computer* to carry out an *instruction*; to run a *program* on the computer.

Executive

1. An *operating system* executive is an integrated set of *routines* that acts as the primary interface between the *hardware* and a *program* running on the system, and between the *hardware* and the people who use the system. The executive's basic functions can be divided among the routines that provide the following services:

- a. *Device* and *data* management.
- b. User interface.
- c. Programed processing services.
- d. *Memory* allocation.
- e. Processor time allocation.

2. The controlling program or set of routines in an operating system. The executive coordinates all activities in the system including *I/O* supervision, resource allocation, program execution, and operator communication. Refer also to *monitor*.

Executive Mode

A central processor mode characterized by the lack of *memory* protection and relocation and by the normal execution of all defined *instruction codes*.

Executive Routine

A *routine* that controls the execution of other routines.

Exponentiation

A mathematical operation denoting increases in the base number by a factor previously selected.

Expression

A combination of *operands* and *operators* that can be evaluated to a distinct result by a computer *system*.

Extended Area Service (EAS)

Service that provides toll-free calling to subscribers outside the boundaries of the exchange area of the calling customer.

External Module

A *module* accessible to modules of other *clusters*.

F

Failure Rate

A value that indicates the number of failures that have occurred during a predetermined period.

Fetch

1. To obtain and decode an *instruction*. When fetch is completed, the processor enters another major state.
2. To locate and load a quantity of *data* from *storage*.

Field

1. In a *record*, a specified area used for a particular category of *data*; for example, a group of card columns used to represent a wage rate or a set of *bit* locations in a computer *word* used to express the *address* of the *operand*.
2. A field is the smallest logical unit of data. For example, the field on a punched card used to contain a person's name is a logical unit of data. It can have any length arbitrarily determined by the programmer who defines the field.

File

1. A file is a logical collection of *data* that occupies one or more *blocks* on a *mass-storage device*, such as a *disk*.
2. A file is a system-recognized logical unit of data that can be referenced by a logical name.
3. A group of similar or related *records*.

Firmware

1. A computer *program* that is incorporated, at least temporarily, as machine *hardware*; for example, *instructions* contained in a *read-only memory (ROM)*. Sometimes referred to as *microprograms*.
2. A permanent program stored on ROM in an *I/O page*. Used for *bootstrap* operation.

First-Level Diagnostic Programs

Routines that are called immediately (and automatically) when a fault is detected. The functions of these routines are: to determine whether the *on-line* or *off-line* system is faulty, to initiate *switchover* expediently, and to schedule the appropriate *second-level diagnostic programs*.

Flag

1. *Data* used to record the status of a *program* or *device*. In the latter case, it is sometimes called a device flag.
2. Any of various types of indicators used for identification.

Floppy Disk Drive

A low-cost *random access*, *mass storage device* that stores *data* in fixed-length *blocks* on a preformatted, flexible *diskette*.

Flow Chart

A graphical representation for the definition, analysis, or solution of a problem in which symbols are used to represent operations, *data*, flow, and equipment.

Foreground

1. The area in *memory* designated for use by a high-priority *program*. The program, set of programs, or functions that gain the use of machine facilities immediately upon request.
2. The region of memory in a foreground/background system that is occupied by a program requiring fast response to its demands and priority on all resources while it is processing; for example, a real-time application program.

Foreground/Background Mode

An operating system's processing method for executing *software* programs. In this method, user *memory* is divided into a *foreground* region (for example, real-time application programs) and a *background* region (for example, a *compiler*).

Foreground Processing

High-priority processing, usually resulting from real-time entries, given precedence by means of *interrupts* over lower-priority, *background processing*.

Format

The arrangement of the elements comprising any *field*, *record*, *file*, or *volume*.

Formatted Device

A *volume* that has been prepared for use on a *system* under *program* control.

FORTTRAN

Developed for the scientific community. It was one of the first and most popular high-level programming languages. An acronym for FORMula TRANslator.

Frequency Ringing

Refer to *frequency-selective ringing*.

Frequency-Selective Ringing

Selective ringing that uses currents of several frequencies to activate ringers, each of which is tuned mechanically or electrically, or both, to one of the frequencies so that only the desired ringer responds.

Full Duplex

1. Describing a communications channel capable of simultaneous and independent transmission and reception.
2. Refer to *duplex*.

Function

An *algorithm*, accessible by name and contained in the system *software*, that does commonly-used operations; for example, the square-root calculation function.

G

Garbage

Meaningless signals or *bit* patterns in *memory*.

Global Symbol (Global)

Any symbol accessible to other *programs*. Linkage must be supplied by a *linking loader*.

Grade of Service (GOS)

A measure of the quality of *system* performance, as related to the probability of the system being unable to accommodate offered traffic. It indicates the proportion of equipment that is not free for assignment to completion of the call.

Ground

The assumed arbitrary point of zero potential; a zero referenced point. Although assumed to always represent the zero reference point, a ground conducting path can have its own impedance that can result in degradation of performance and a hazard to both equipment and personnel. Normally, connections are made from a *system* ground point to earth or other conducting medium that serves in place of earth.

Ground Electrode

The conductor (pipe, rod, plate, or cable) that is buried in the earth for the purpose of deriving a stable

earth potential point for the switching office and to dissipate to earth the currents conducted to it. This electrode is called the office *ground*. Two types of electrodes are used: primary and supplementary.

Ground Window

The single point from which the *ground* connection for a *single-point ground* system is connected to the CO ground *bus*. Physically, it is a copper bus bar or plate.

Grounded Circuits

A circuit that is connected to the *ground* reference point. Circuits and equipment are effectively grounded when connected to a ground path of sufficiently low impedance to eliminate common path coupling of signal circuits and sufficiently high current-carrying capacity to prevent dangerous or hazardous voltage rise in the equipment under all operating conditions.

Ground-Start Signaling

Signaling using direct current from one side of a wire pair, with a *ground* return path, to indicate a service request.

H

Half-Duplex

Pertaining to a communication system in which two-way communication is possible, but only one way at a time; for example, a ham radio or radio telephone with a pushbutton on the mouthpiece.

Handler

Refer to *device handler*.

Hard Copy

A printed copy on some kind of paper and generally in readable form, like listings and other documents.

Hardware

Physical equipment components.

Harmonic-Selective Ringing

Ringing that uses currents of several harmonically related frequencies.

Head

A component that reads, records, or erases *data* on a storage device, such as a *disk* or magnetic tape.

High-Level Language

A programming language whose statements are translated into more than one machine language *instruction*.

Highway

A transmission path capable of carrying *multiplexed information*.

Hookflash

A temporary manual actuation of the telephone *hookswitch* to cause an off-hook to on-hook to off-hook transition in a supervisory state.

Hookswitch

A switch, on a telephone set, associated with the structure that supports the receiver or handset. It is operated by the removal or replacement of the receiver or handset on the support, or by hand.

I

Idle Time

That part of uptime in which no job can run because all jobs are halted or waiting for some external action, such as I/O.

Improved Mobile Telephone Service

This feature provides *direct inward dialing* to a mobile terminal and direct outward dialing from a mobile terminal to the switching network. The IMTS may be equipped with Mobile *Automatic Message Accounting* (MAMA), or the DDD traffic may be ticketed in the DCO or in a connecting toll center.

Indirect Address

1. An *address* in a computer *instruction* that indicates a location in *memory* where the address of the referenced *operand* is to be found.
2. An *address* that specifies a storage *location* that contains either a *direct address* or another indirect address.

Indirect File

A sequence of *command* instructions executed from a storage medium (usually a *disk*) rather than a *terminal*.

Individual Line

A subscriber *line* arranged to serve only one main station, although additional stations can be connected to the line as extensions. An individual line is not arranged for discriminatory ringing with respect to the stations on that line.

Initialize

To set counters, switches, or *addresses* to starting values at prescribed points in the execution of a *program*, particularly in preparation for re-execution of a sequence of *code*. To format a *volume* in a particular file-structured format in preparation for use by an *operating system*.

Insertion Loss

The added transmission loss introduced into a circuit when the circuit is interposed between two elements of a system.

Installation Unique Data

Data that describes the environment and execution limits of a *program*. It does not include *data-base* contents.

Instruction

A statement that specifies an operation and the values or locations of its *operands*. In this context, the term instruction is preferable to the terms *command* or order that are sometimes used synonymously. *Command* should be reserved for electronic signals; order should be reserved for sequence, interpolation, and related usage.

Insulate

To separate conducting surfaces with nonconducting material to prevent the transfer of electricity.

Interactive

A technique of user/system communication in which the *operating system* immediately acknowledges and acts upon requests entered by the user at a *terminal*.

Intercepting Trunk

A *trunk* to which a call for a vacant number (or changed number) or a *line* out of order is connected for action by an operator.

NOTE. A trunk for intercepting calls to a line that is out of order is called a trouble-intercepting trunk. Where necessary to distinguish the vacant- or changed-number intercepting trunk from the trouble-intercepting trunk, the term regular-intercepting trunk is used.

Interface

A shared boundary connecting two subsystems.

Interlace (or Interleave)

To arrange parts of one sequence of *events* so that they alternate with parts of one or more other sequences of events, while each sequence retains its own identity.

Intermediate Distributing Frame (IDF)

A *distributing frame* in a local CO used to cross-connect circuits within the CO, such as *lines* to *loop* extenders and *trunks* to signaling equipment.

Internal Module

A *module* accessible only to modules of the defining *cluster*.

Interoffice Trunk

A communications circuit between two COs.

Interrupt

A signal that, when activated, causes a transfer of control to a specific location in *memory*, thereby breaking the normal flow of control of the *routine* being executed. An interrupt is normally caused by an external *event*, such as a "done" condition in a *peripheral*. It is distinguished from a *trap*, which is caused by the execution of a processor *instruction*.

Interrupt Driven

Pertaining to *software* that uses the *interrupt* facility of a *computer* to handle I/O and responds to user requests.

Interrupt Request

A signal to the *computer* that temporarily suspends the normal sequence of a *routine* and transfers control to a special routine. Operation can be resumed from this point later.

Interrupt Service Routine

The *routine* entered when an external *interrupt* occurs.

Jump

A departure from the normal sequence of executing *instructions* in a *computer*.

Keyboard

On a typing *device*, the array of buttons that, when pushed, cause letters or numbers to be generated.

Keyboard Monitor

A *program* that provides and supervises communication between the user at the system *console* and an *operating system*.

Interrupt Vector Address

A unique *address* that points to two consecutive *memory* locations containing the start address of the *interrupt service routine* and priority at which the interrupt is to be serviced.

Intertoll Trunk

An intertoll *trunk* (intertoll office trunk is a communications circuit between a telephone CO and a *toll office*, or between two toll offices.

I/O Bound

A state of *program* execution in which all operations are dependent on the activity of an *I/O device*; for example, when a program is waiting for input from a *terminal*. Refer also to *compute bound*.

I/O Device

A *device* external to the CPU that transmits or receives *data*.

I/O Page

That portion of *memory* in which specific *storage allocations* are associated directly with *I/O devices*.

Isolate

Insulate from incidental grounds and *single-point ground* at the *ground window*.

J

K

Keyword

Refer to *command keyword*.

L

Label

One or more characters used to identify a *source language* statement or line.

Language Processor

A *program* that translates one programming language into another. It *reads* a program written in a language easily understood by people and translates it into a program written in the *binary* language of a digital computer. The program that the processor reads is called the *source program*. The program that the processor writes is called the *object program*.

Large-Scale Integrated (LSI) Circuits

Monolithic large-scale integrated (LSI) circuits of very high density. Such circuits typically have, on a single chip, the equivalent of hundreds to thousands of simple logic circuits.

Last-In, First-Out

A storage/retrieval method in which the last item stored is the first item retrieved; a pushdown stack.

Latency

The time from initiation of a transfer operation to the beginning of actual transfer; that is, verification plus *search* time. The delay while waiting for a rotating *memory* to reach a given location.

Leader

A blank section of tape at the beginning of a reel of magnetic tape or at the beginning of paper tape.

Least Significant Digit

The right-most *digit* of a number.

Library

A *file* containing one or more relocatable *binary modules* that are *routines* that can be incorporated into other *programs*.

Library Routine

A proven *routine* that is maintained in a *program library*.

Line

1. A string of characters terminated with a line-feed, vertical-tab, or form-feed character (and usually also a carriage return). The terminator belongs to the line that it terminates.

2. Refer to *line circuit*.

Line Circuit

A circuit that provides a controlled interface between the system and subscriber lines terminated on the MDF.

Line Circuit, Private

A leased local or toll communication path assigned for the private use of one customer and having no connection to the public telephone system.

Line Feed (LF)

1. A *console terminal* operation that advances the paper by one line.

2. A *console terminal* function key that, when operated, causes the paper to be advanced one line.

3. The *ASCII* character generated when the console line-feed key is operated.

Line Load Control

Selective denial of call-origination capability to specified subscriber's lines when emergency demands for service are offered to a switching center. It does not affect the capability to receive calls.

Link

1. A connection between specific stages within the same switching system.

2. An address *pointer* to the next element of a list or to the next block of a *file*.

Linker

A *program* that combines many relocatable *object modules* into an executable module. It satisfies global references and combines control sections.

Linking Loader

A *program* that provides automatic loading, relocation, and linking of compiler- and assembler-generated *object modules*.

List

1. A set of items.

2. To print out a *listing* on the TTY or line printer. The listing of a *source program* is a sequential copy of *statements* or *instructions* in the *program*.

List File

A *file* of assembly listings of *source modules* in *machine language* format.

Listing

The hard copy generated by a line printer or TTY.

Literal

An element of a programming language that permits the explicit representation of *character* strings in expressions and *command* and function elements. In most languages, a literal is enclosed in either single or double quotes to denote that the enclosed string is to be taken "literally" and not evaluated.

Live Load

In a building, the load or weight imposed with occupancy. Also, the load to which a structure is subjected to in addition to its own weight. Thus, telephone equipment constitutes a live load despite the permanency of an installation. The live load of telephone equipment is the total initial and planned future as-installed room area. Floor loading is normally expressed in pounds per square foot or kilograms per square meter. Contrast with *dead load*.

Load

To store a *program* or *data* in *memory*. To mount a tape on a *device* such that the read point is at the beginning of the tape. To place a removable *disk* in a disk drive and start the drive.

Load Image File

A *program* that can be executed in a stand-alone environment, without the aid of relocation.

Load Map

A table produced by a *linker* that provides information about a *load module's* characteristics; for example, the transfer *address* and the low and high limits of the relocatable *code*.

Load Module

A *program* in a format ready for loading and executing.

Loader

A *program* that takes a *machine language* program from an input *device* and loads it into *memory*.

Local Call

Any call to a destination within the local service area of the calling station.

Local Central Office

A CO arranged for terminating subscriber lines and provided with *trunks* for establishing connections to and from other COs.

Local Message Rate Service (LMRS)

A service that provides accumulated detail billing information while a call is in progress. This includes the *calling party* identity, *called party* identity, and date and time of each chargeable, answered, local or EAS call.

Local Service Area

That area within which are located the stations that a customer can call at rates in accordance with the local tariff.

Location

1. Any place in which *data* can be stored. Location is similar to *address*, a unique identification of the storage area in which data is to be placed or retrieved. It is usually expressed as a number.

2. An address in *storage* or *memory* where a unit of data or an *instruction* can be stored.

Location Number

Refer to *location*.

Locked Loop

A DBX feature that enables the attendant to retain the capability to access and control any call handled at a DBX console. Once the loop is locked, the attendant is free to do other duties but is kept visually informed of the condition of the call. The DBX console can maintain several locked loops at one time.

Lockout

Treatment of a subscriber line that is permanent or in trouble, in which it is automatically disconnected so the equipment is not held busy.

Log In

To identify oneself to an *operating system* as a legitimate user of the *system* in order to gain access to its services.

Log Out or Log Off

To terminate operational control of a *system* by an *operator*.

Logical Device Name

An *alphanumeric* name assigned by the user to represent a *physical device*. The name can then be used synonymously with the actual physical device name in all references to the *device*. Logical device names are used in device-independent systems to enable a *program* to refer to a logical device name that can be assigned to a physical device at run-time.

Longitudinal Balance

The measure of the degree symmetry, with respect to *ground* potential, of the impedance presented by a two-wire terminal to the network to which it is connected. The result of longitudinal unbalance is that loop (circulating) currents will exist as a consequence of equal noise or power voltages induced in the two conductors of the pair.

Loop

1. A sequence of *instructions* that is repeatedly executed until a terminal condition occurs. Also, used as a verb meaning to execute this circle of instructions while waiting for the ending condition.

2. A conductor pair extended from a switching office *port* to a subscriber's premises, or to a *trunk* port in another office. Also used as a verb meaning to connect trunks together, forming a loop.

Loop Around

A feature that permits test personnel in a distant office to *loop* trunks together to make transmissions and other tests.

Loop Range Extender

A device that increases the signaling range on long subscriber lines by adding a series-aiding voltage to each side of the *loop*, thus effectively increasing the loop supply voltage.

Machine Instruction

An *instruction* that a machine can recognize and *execute*.

Machine Language

The language particular to each kind of *computer*. It is a *binary code* that contains an operation code to tell the computer what to do and an *address* to tell the computer what *data* to do the operation on. For example, the instruction 010001 might tell the computer to clear the "A" *register*.

Machine Mode

An operation *code* that a machine is designed to recognize.

Macro

An *instruction* in a source language that is equivalent to a specified sequence of *machine or assembler instructions*. An acronym for MACHine ROUTine.

Macro File

1. An ordered collection of macro *instructions*.
2. Macro source in machine-readable format.

Magnetic Tape Unit (MTU)

A *mass storage* device that stores information on magnetic tape; in a SYSTEM CENTURY DBX, the tape is contained in an interchangeable minicartridge.

Main Distributing Frame (MDF)

A *distributing frame* on one part of which terminate the outside lines entering the CO building, and on another part of which terminate the *subscriber line* cabling, trunk cabling, etc., from the switching system. Used for associating any outside line with any desired *terminal* of the switching system or with any other outside line. It usually carries the CO protective *devices* and can function also as a test point between line and office.

Main Frame Computer

Synonymous with CPU, which is a unit of the *computer* that includes the circuits controlling the interpretation and execution of *instructions*. These circuits are: arithmetic logical unit (ALU), instruction control unit, timing generators, *memory*, and I/O interfaces.

M**Main Memory**

The set of *storage* locations connected directly to the CPU. Also called (generically) *core memory*.

Main Program

The *module* of a *program* that contains the *instructions* at which program execution begins. Normally, the main program exercises primary control over the operations done and calls subroutines or subprograms to do specific functions.

Maintenance Assurance Plan (MAP)

A Stromberg-Carlson program that provides 24-hour-a-day availability to SYSTEM CENTURY experts who can diagnose faults the customer is unable to clear quickly.

Maintenance Processor

The processing unit of the maintenance and administration (M&A) subsystem of a SYSTEM CENTURY office.

Maintenance Processor Startup (MP Startup)

The process of bringing the *maintenance processor* into normal operation from a state in which no useful information exists in its *memory*.

Major Degradation

When any transmission requirement is out of tolerance by at least 15 dB and/or the probability of obtaining the required service is between 10 and 90 percent.

Manual Switchboard

A telephone switchboard in which the connections are made manually by plugs and jacks or by keys.

Manual Telephone System

A telephone system in which *telephone connections* between customers are made manually by telephone operators in accordance with orders given verbally by the calling parties.

Marker

A control circuit that (among other functions) tests, selects, and establishes paths through a switching stage(s) in response to external signals.

Mask

1. A combination of *bits* that is used to clear selected portions of any *word*, *character*, *byte*, or *register* while retaining other parts for use. Also to clear these selected locations with a mask.
2. A *software* technique for sheltering a particular area of information.

Mass Storage Device

Pertaining to a *device* that can store large amounts of *data* to make it readily accessible to the CPU; for example, *disk*, magnetic tape, etc. Mass-storage devices are called file-structured devices, since a *file*, consisting of a group of *physical records*, can be stored on and retrieved from the device. Mass-storage devices differ in their ability to *read* and *write* physical records. Disks are *block-replaceable* devices because a given block can be read or written without accessing or disturbing all the other blocks on the medium. *Magnetic tape units* are not block-replaceable devices; they can *read* a given block but usually *write* the entire tape.

Master File Directory

1. The system-maintained *file* on a *volume* that contains the names and *addresses* of all the files stored on the volume.
2. A directory file containing the names of all the possible users of a particular *device*.

Matrix

An orderly array of elements.

Matrix Switch

Synonymous with *timeslot interchange (TSI)* in SYSTEM CENTURY exchanges.

Matrix Switch Controller (Controller)

An interfacing subassembly of the common control sector that enables the TSI to *read*, *write*, or *search*.

Matrix Switch Diagram

A diagram that includes: a MUX/DEMUX, a TSI, an XOH, a TSI control, a supervisory I/O, a control *memory*, a called equipment number, a calling equipment number, and an XOHTS functional block. This diagram is also called the TDM network.

Memory

1. The main *storage* in a *computer* from which *instructions* must be *fetch*ed and *exec*uted.
2. Pertaining to a *device* in which *data* can be stored and from which data can later be retrieved.
3. Any form of data storage, including main memory and mass storage, in which data can be read and written. In the strict sense, memory refers to main memory.

Memory Cycle Time

1. The cycle time of magnetic core *memory* is made up of two subcycles: the *read* cycle, which destructively extracts information from a location, and the *write* cycle, which is used to restore the memory location to its original value. The memory cycle often sets the basic *cycle time* of a machine.
2. Generally, the total time necessary to complete a memory *read/write* operation.

Memory Image

A replication of the contents of a portion of *memory*.

Memory Map

A diagram that shows the *location* assignments of an entire *memory* area, as related to a specific application.

Memory Protection

A scheme for preventing *read* and/or *write* access to certain areas of *memory*.

Microcomputer

1. A *computer* whose major sections — CPU, control, timing, and *memory* — are all contained in a single, integrated-circuit chip, or, at most, a few chips; in other words, an LSI computer.
2. A general term used to describe small computers. In this sense, small usually implies both the computer's physical size and its word size (data-path width). Most microcomputers are designed with a 16-bit word size, but sizes from 8 to 18 bits are considered in the microcomputer range.

Microprocessor

1. A set of one or more LSI devices capable of doing the essential functions of a *computer* CPU.

2. A small computer processing unit.

Microprogram

1. A special-purpose *program* stored in a fixed *memory*, which is initiated by a single *instruction* in a system's *main program*. For example, one instruction in the main program may initiate a stored microprogram of six or seven instructions needed to *execute* the single main program instruction.
2. The sequence of elementary steps that permits the computer *hardware* to carry out a computer *instruction*. A microprogram can be considered as the last act in the series of operations involved in solving a problem on a computer.

Minor Degradation

When transmission requirement is out of tolerance by 0.1 dB to 3.0 dB and/or the probability of obtaining the required service is between 90 percent and the guaranteed *grade of service*.

Minor System Failure

A failure that causes either no service or a major degradation to less than 30 *ports* or to 1 special service, or that causes minor degradation to less than 25 percent of the *system ports*.

M Lead

1. The lead used for transmitting signaling/supervisory information from a *port* of a switching system.
2. Refer to *E&M signaling*.

Mnemonic

A symbolic representation of an operation *code* or *address*; for example, ATL for Atlanta, JMP for jump.

Modular Stub

An incomplete *module* consisting of heading complementary and the *program* statements required to define the module interfaces.

Modulation

The process by which some characteristic of a high-frequency "carrier signal" is varied in accordance with a lower frequency "information" signal.

Module

1. A generic term that can stand for a distinct and identifiable unit of *program* for such purposes as *compiling*, *loading*, and linkage editing.
2. A functional entity of program in some language and some *format*.
3. A module includes a closed *procedure* and an optional *data base*. Modules in high-level *clusters* will state primarily what is to be done and who will do it; those in low-level clusters will do it.
4. A conceptual term for a procedure and an optional data base. It is used in describing program organization.
5. A packaged functional *hardware* unit designed for use with other components.

Module Data Base

Either constant *data* or *temporary storage* data that applies only to the associated *module* and can only be accessed by the associated module.

Modulus

An integer designating the number of states through which a counter sequences during each cycle.

Monitor

The master control *program* that observes, supervises, controls, or verifies the operation of a computer *system*. The collection of *routines* that controls the operation of user *programs* and *system programs*, schedules operation, allocates resources, does I/O, etc. More commonly called the *executive*.

Monitor Commands

Those directives entered by an operator on the system console (TTY) that direct the *operating system* to *execute* a specific task. Every monitor command consists of a *command keyword* and an optional *parameter string*.

Monitor Console

The system control *terminal*.

Monitor Console Routine (MCR)

The *executive routine* that allows the user to communicate with the system using an *on-line* terminal device. MCR accepts and interprets commands typed on the terminal *keyboard* and calls appropriate *routines* to execute the specified requests.

Most Significant Digit

The leftmost, nonzero *digit*.

Mother Board

An assembly that physically supports a series of printed wiring board assemblies (PWBA's) and includes the interconnections (hard wiring) between these PWBA's.

Mount a Device or Volume

To logically associate a physical *mass-storage* media with a *physical device* unit. To place a *volume* on a physical mass-storage drive unit; for example, place a *floppy disk* in a disk drive and put the drive *on-line*.

Multicomputer System

Two or more interconnected *computers*.

Multifrequency Ring Bus

A path (*bus*) that sequentially conducts each of a number of ringing frequencies. Refer to *frequency-selective ringing*.

Multifrequency (MF) Signaling or Pulsing

This system consists of transmitting and receiving equipment for transferring valid number information over telephone *trunks* by various combinations of two (and only two) out of five (2/5) frequencies in the voiceband. Each pulse represents a *digit*.

Multiple

In telephony, a parallel connection or a group of conductors, each having a number of parallel connections. Equivalent to the term *bus*.

Multiplex

1. To interleave, or simultaneously transmit, two or more messages on a single channel.
2. The technique by which a single communications channel is shared by a number of users, either by *time-sharing* or by frequency separation.

Multiprocessing

Simultaneous execution of two or more *programs* by two or more processors.

Multiprograming

1. A processing method in which more than one task is in an executable state at any one time.
2. Pertaining to the interleaved execution of two or more *programs* by a *computer*.

N**Nationwide Toll Dialing**

A system of telephone CO interconnections that allows a subscriber or toll operator to establish a connection, by way of toll and/or intertoll *trunks*, to a subscriber of a distant office.

Negative Current Test

A test made on a subscriber's line, for the two-party ANI test or as part of the four-party ANI test, to determine if a dc path exists for negative voltages applied to the subscriber's line, using a *ground* return path.

New Switching Logic (or Line) (NSL)

A Stromberg-Carlson research and development program preceding the introduction of the SYSTEM CENTURY family of switching centers. The abbreviation NSL stands for New Switching Logic and/or New Switching Line.

No Service

When the probability of obtaining any usable service of the type desired is less than 10 percent.

Nodal Operation

Remote location and control of line groups.

Nondestructive Read

A *read* process that does not erase the *data* in the source.

Nonfile-Structured Device

A *device*, such as paper tape, line printer, or *terminal*, in which *data* can not be referenced, as in a *file*.

Nonreturn to Zero

A digital signal that remains at a constant level until a change of logic state occurs.

Normal System Operation

When both sides of a SYSTEM CENTURY DCO office are in "*synchronous operation*" and no known faults exist.

O

Object Code

Machine language code.

Object File (Module)

A *file* made up of the relocatable *machine language* code, relocation information, and the corresponding symbol table defining the use of symbols within the file.

Object Library File

All *object files* used to build a software *system*.

Object Module

The primary output of an *assembler* or *compiler* that can be linked with other object modules and *loaded* into *memory* as a runnable *program*. The object module is composed of the relocatable *machine language* code, relocation information, and the corresponding symbol table defining the use of symbols within the *module*.

Object Program

The binary *program* that is the output of a *compiler* or *assembler*.

Octal

The number system with a base, or radix, of 8. Counting to 10 in octal notation: 1, 2, 3, 4, 5, 6, 7, 10, 11, and 12.

Office Record Listing

A list of all lines, trunks, classes of service, route treatments, PBX groups, etc., provided by the system upon proper request by maintenance personnel or the clerical operator.

Off-Line

1. Pertaining to equipment or *devices* not under direct control of the CPU.
2. That mode of operation of a system that is intentionally brought about by maintenance personnel, or by the system itself, in which certain circuits, units, etc., are not available for normal operation.

One-Way Trunk

A *trunk* between two COs, used for calls that originate at one of those offices, but not for calls that originate at the other. At the originating office, the

one-way trunk is known as an outgoing trunk; at the other office, it is known as an incoming trunk.

ONI Link

Connection between a calling subscriber, the CAMA operator, and the tape billing system for determination of the calling directory number and subsequent entry by the operator into the AMA system.

On-Line

1. Pertaining to equipment or *devices* directly connected and under control of the CPU.
2. That mode of operation of a system that is intentionally brought about by maintenance personnel, or by the machine itself, in which certain circuits, units, etc., are made available for normal operation.

OP Code

The part of a machine language *instruction* that identifies the operation the instruction will ask the CPU to do.

Operand

The *data* or *variables* to be used when an *instruction* is *executed*.

Operating System

1. The collection of *programs*, including a *monitor* or *executive* and *system* program that organizes a central processor and *peripheral devices* into a working unit for the development and execution of *application program*.
2. An organized collection of techniques and procedures for operating a *computer*.

Operator

1. That portion of an *instruction* that indicates the action to be done on an *operand* or *operands*.
2. A person whose duties include the operation of telephone switching equipment. Refer to *clerical operator*, *program operator*, and *system operator*.

Order Wire

In communication practice, an order wire is an auxiliary voice communication circuit for use in the

lineup and maintenance of communication facilities, or for coordinating activity of installation or maintenance personnel.

Overdial

A fault condition in dial-pulse operation that results in transmission of more than 10 pulses in a single-digit train.

Overflow (Digits)

The resulting *digits* from an operation that involved the *storage* of a predefined number of digits.

Overlay

The techniques of repeatedly using the same area of *memory* during different stages of a *program*. When one *routine* is no longer needed in memory, another routine can replace all or part of it.

Overlay Segment

A section of *code* treated as a unit that can *overlay* code already in *memory* and be overlaid by other overlay segments.

Overlay Structure

A task overlay system consisting of a root segment and, optionally, one or more *overlay segments*.

P

Pack

1. To compress several items of *data* in a *storage* medium in such a way that the individual items can later be recovered.
2. A removable *disk*.

Pad

1. A nonadjustable resistance network used to insert transmission loss into a circuit.
2. Refer to *scratch-pad memory*.

Parameter String

A list of *data* items passed from one *module* to another.

Parity Bit

A *binary digit* appended to a group of *bits* to make the sum of all the bits odd (odd parity) or even (even parity). Used to verify *data storage*.

Parity Check

1. A check that tests whether the sum of all the *bits* in an *array* is odd or even.
2. A check that tests whether the number of ones (or zeros) in an array of *binary* digits is odd or even.

Partition

A contiguous area of *memory* where tasks are *loaded* and *executed*.

Party Line

A *subscriber line* arranged to serve more than one main station, with distinctive or *selective ringing* for each main station.

Password

A *word* or string of *characters* that is recognizable by automatic means and that permits a user access to protected *storage*, *files*, or *I/O devices*.

Patch

To modify a *program* by changing the *binary code* rather than the *source code*.

PBX Trunk

A PBX trunk is a *subscriber line* or *loop trunk* circuit used to provide service between a PBX and the CO that serves it. Refer to *private branch exchange*.

Peak Hour(s)

Those hours that have an average calling rate that is 30 percent more than during a busy hour.

Peripheral

Any *device*, distinct from the *central processor*, that can provide input or accept output from the *computer*.

Physical Address Space

The set of *memory* locations where information can actually be stored for *program* execution. Virtual *memory addresses* can be mapped, relocated, or translated to produce a final *memory address* that is sent to hardware *memory units*; the final *memory address* is the *physical address*.

Physical Block

A *physical record* on a *mass-storage* device. *Physical blocks* can be grouped into a collection called a *device* or a *physical volume*. This collection generally has a size equal to the capacity of the *device media*. The term *physical volume* is generally used with removable media, such as a *disk*, *disk pack*, or *magnetic tape*.

Physical Device

An *I/O* or *peripheral-storage* device connected to or associated with a *central processor*.

Physical Record

1. The smallest unit of *data* that an *I/O peripheral device* can transfer. The size of a *physical record* is usually fixed and depends on the type of *device* being referenced.
2. The largest unit of *data* that the *read/write* hardware of an *I/O device* can transmit or receive in a single *I/O* operation. The length of a *physical record* is *device dependent*.

Pointer

1. An *address* of a *memory* location.
2. A *data pointer*, *procedure pointer*, or *label pointer*.

Pointer Chain

A series of *pointers*.

Port

An access at the *I/O* position of a circuit that allows transmitted or received signals to enter/exit.

Port Circuit

The tristate driver circuit that interfaces with the MDF and the transmit/receive filters. The drivers and filters are part of the *port* grouping.

Port Control Store

A *memory* unit in the *port control system* of a SYSTEM CENTURY office.

Port Group

That group of functional blocks listed under the *port* grouping diagram.

Port Group Control

A *port* grouping unit that interfaces with the MUX/DMUX and provides control circuitry common to all *ports* in the *port group*.

Port Group Highway (PGH)

Single, unidirectional paths between the MUX/DMUX of a *port group* and the TSI. The *bit* rate for each PGH is 2.048 megabits per second. Each PGH is allotted 32 timeslots, 30 being dedicated to preassigned *ports* and 2 for signaling between the *ports* and common control equipment. One PGH is used for each direction of transmission to each *port group*.

Port Group Highway Timeslot (PGHTS)

I/O ports are connected to the TSI by way of the PGHs. Each PGH handles 30 *ports*, plus supervisory information. A *timeslot* is assigned to each *port*.

Port Store Area

A 128-bit x 4096-word *memory* in the *port control store* used to store *data* for each of 1920 *ports*. Each *port* uses 256 bits of this *memory*.

Position-Independent Code

A *code* that can *execute* properly wherever it is *loaded* in *memory* without modification or relinking. Generally, this code uses addressing modes that form an effective *memory address* relative to the *central processor's* *program counter*.

Positive Current Test

A test made on a *subscriber's line*, as part of the four-party ANI test (only), to ascertain if a dc path exists for positive voltages applied to the *subscriber line*, using a *ground* return path.

Preventive Maintenance

The scheduled activity, following formal procedures, designed to reduce the probability of unscheduled maintenance.

Primary Ground Electrode

Either the continuous metallic water system pipes (public or private) or the *ground* connection to the common multigrounded neutral (MGN) of an electric supply system.

Primary Outlet

A toll switching point to which a number of *toll centers* are connected.

Priority

A number associated with a task that determines the preference its requests for service receives from the *executive*, relative to other tasks requesting service.

Priority Interrupt

An *interrupt* that is given preference over other interrupts within the *system* because it has been designated as more important.

Priority Queuing

The ordering of objects or *events* in a predetermined manner.

Private Automatic Branch Exchange (PABX)

A *private branch exchange* (PBX) in which connections are made under control of the PBX subscriber, as opposed to requiring services of a manual operator.

Private Automatic Exchange (PAX)

A *private telephone exchange* arranged for PAX subscriber dialing control, but which has no connections to a public telephone exchange.

Private Branch Exchange (PBX)

A *telephone exchange* serving a single organization and having connections to a public telephone exchange.

Private Exchange

A *telephone exchange* serving a single organization and having no means of connection to a public telephone exchange.

Privilege

A characteristic of a user, or *program*, that determines what kinds of operations that user or program can do. In general, a privileged user or program is allowed to do operations normally considered to be the domain of the *monitor* or *executive*, or that can affect *system* operation as a whole.

Procedure

A collection of computer *instructions*, with one entrance and one exit that does a single function (for example, *search a table*).

Procedure Pointer

An *operand* that contains the *address* of a *procedure*.

Processor Status Word

A *word* stored in a computer's *register* that indicates the current priority of the processor, the condition of the previous operation, and other basic control items.

Program

1. A collection of three or more *clusters* and an optional *program data base*, whose combined activities support a specific *computer* equipment configuration (for example, control a PABX).

2. A group of *words* called *instructions*.

Program Counter

A *register* in the CPU that holds the *address* of the current *instruction* being *executed* plus one; in other words, it holds the address of the next instruction, unless the current instruction causes a *jump*.

Program Data Base

Data that is not assigned as either *cluster data base* or *module data base*, that is not subject to change, and that is used by more than one *cluster*.

Program Development

The process of wiring, entering, translating, and debugging source *programs*.

Program Library

A collection of available computer *programs* and *routines*.

Program Logic (PL)

Superseded by telephony preprocessor (TPP).

Program Operator

A suitably trained person charged with making service changes to the *data base*, using appropriate administrative programs. Refer also to *clerical operator* and *system operator*.

Programed Request

An *instruction*, available only to *programs*, that is used to invoke a *monitor* service.

Protected Location

A *storage* location reserved for special purposes in which *data* cannot be stored without undergoing a screening procedure to establish suitability for storage therein.

Protective Ground System

This is the grounding system provided for protection of personnel and equipment and for the reduction of noise. Any *ground* lead that is not normally used in a current-carrying capacity can be considered a protective ground.

Pseudo-Device

A logical entity treated as an *I/O device* by the user or the *system*, but that is not actually any particular *physical device*.

Pulse Code Modulation (PCM)

That form of pulse modulation in which a *digital code* is used to represent quantized (small finite incremental) values of instantaneous samples of the signal wave. Used in the conversion of *analog* (voice) signals to digital codes.

Pure Code

A *code* that is never modified during execution. It is possible to let many users share the same copy of a *program* that is written as pure code.

Purge

To *clear* a condition.

Qualifier

A parameter specified in a *command string* that modifies some other parameter.

Quantize

To subdivide the range of values of a *variable* into a finite number of nonoverlapping, but not necessarily equal, subranges or intervals, each of which is

Rack (the digits)

A term that generally implies the storing or registering of numerical data.

Random Access

1. Access to *data* where the memory locations from which data are to be obtained or placed into can be addressed in a nonsequential manner and the *access time* is a constant value.

2. Pertaining to the process of obtaining data from, or placing data into, *storage*, where the time required for such access is independent of the location of the data most recently obtained or placed in storage.

3. Pertaining to a storage device in which the *access time* is effectively independent of the location of the data.

4. An access mode in which specified logical records are obtained from or placed into a mass-storage *file* in a nonsequential manner. Random access can also be called direct access.

Random Access Memory (RAM)

1. A *memory* that stores information in such a way that each *bit* of information can be retrieved within the same amount of time as any other bit.

2. True RAMs are static devices; for example, *core memory* and *solid-state memory*. Many so-called random access devices, such as *floppy disks* and *magnetic tape units*, are, in reality, cyclic access devices.

Read

1. To acquire *data* from a source.

2. Refer to *destructive read*, *nondestructive read*.

Q

represented by an assigned value within the subrange.

Queue

1. Any *list* of items; for example, items waiting to be scheduled or processed according to *system* or user assigned priorities.

2. A waiting *list*.

R**Read-Only Memory (ROM)**

1. A *memory* that can be read from, but not written into.

2. A *memory* in which information is stored permanently; for example, a math function or a microprogram. A ROM is *programed* according to the user's requirements during memory fabrication and cannot be reprogramed.

Real Time

1. Pertaining to the actual time during which a physical process transpires.

2. Pertaining to the performance of a computation during the actual time that the related physical process transpires in order that results of the computation can be used in guiding the physical process.

Real-Time Processing

Computation done while a related or controlled physical activity is occurring, so that the results of the computation can be used in guiding the process.

Record

1. A collection of adjacent *data* items treated as a unit. Refer to *physical record*.

2. A group of *fields* or a group of related items.

Recording Trunk

A *trunk* extending from a local CO or PBX to a *toll office*, that is used only for communication with toll operators and not for completing toll connections.

Recording-Completing Trunk (CLR Trunk)

A *trunk* for extending a connection from a local line to a toll operator, used for recording the information necessary to bill the call and for completing toll connections.

Recovery

To return the system to synchronized and *redundant* operation after one side has been out of operation.

Redundant

A system that contains duplicate components for backup support in case of malfunctioning of the single operating unit.

Refresh Cycle

A process where information in *storage* is read and then rewritten in the same storage area.

Register

A *device* capable of storing a specified amount of *data*, such as one *word*.

Relative Address

The number that specifies the difference between the actual *address* and some *base address*.

Relocate

In programing, to move a *routine* from one portion of *storages* to another and to adjust the necessary *address* references so that the routine, in its new location, can be *executed*.

Request Flag, Processor

A *bit* that is set in the *port store area* when the *telephony preprocessor (TPP)* detects a reportable external *event*. This causes subsequent processing to be done on a priority basis.

Reset

The process of causing one or both call processors to terminate its present task, reset any *variable* data associated with the task, and return to a predefined state ready to *execute* the next task.

Resident

Pertaining to *data* or *instructions* that are normally permanently located in *main memory*.

Resource

A source of supply, support, or aid; for example, *I/O device* and *data* structure.

Restart

The process of *loading* either one or both processors with fresh copies of the *programs* and *data base* from the disk and then doing a "*reset*."

Restart Address

The *address* at which a *program* can be restarted. It is normally the address of the *code* required to initialize *variables*, counters, etc.

Return to Zero

A digital signal that returns to a reference level after each *bit*.

Reverse-Battery Supervision

A form of supervision in which supervisory signals are furnished from the terminating end of the originating end by reversing the direction of current flow over the *trunk*.

Reverting Call

A telephone call between two subscriber stations on the same *party line*.

Ring Lead

Refer to *tip and ring wires*.

Ring Tone

An audible, call-progress signal connected to the calling line to indicate that the called station is being rung. Industry standard is a mixture of 440 Hz and 480 Hz, interrupted at the same rate as the ringing current being applied to the called subscriber's line.

Ring Trip

The arrangement used on all machine ringing circuits to cut off (trip) the ringing current when the called party answers.

Routine

A set of *instructions* arranged in proper sequence to cause the *computer* to do a desired task.

Routine Testing

Periodic verification of equipment operating performance.

Routining of Hardware

To run a series of tests on *hardware* by means of a test-exercising unit. These tests exercise enough

hardware and in such a manner as to closely approximate the real environment of the hardware.

Run Time

The time in which a *program* is *executed*.

S

Sanity Test

A test to determine if a processor is functioning properly.

Scratch Area

An area in *memory* that can be used to hold temporary results.

Scratch-Pad Memory

RAM or registers that are used to store temporary intermediate results (*data*) so that the results can be retrieved quickly when needed.

Screen Class

A number that, combined with a line or trunk class of service, determines the route treatment for specific dialed digits.

Screening

The acceptance or rejection of calls based on predetermined trunk or line class, or number, information.

Search

To examine a set of items for those that have a desired characteristic.

Second-Level Diagnostic Programs

Those *programs* that are called automatically after the faulty side is identified and that subsequently attempt to diagnose the fault down to the circuit-card level.

Secondary Storage

Storage that is not an integral part of a computer, but that is directly linked to and controlled by it.

Sector

A physical portion of a *mass-storage* device.

Selective Dump

A *dump* of a selected area of *storage*.

Selective Originating EAS

This feature requires that an EAS route be provided from the DCO to an adjacent foreign toll area. It allows a subscriber to make calls to an adjacent foreign toll area without toll charges. Incoming calls from that toll area

are routed over the normal toll routes. Subscribers with this *class of service* dial only the seven-digit number to reach an adjacent foreign toll area on an EAS basis.

Selective Ringing

Party-line ringing that affects only the desired station.

Selective Terminating EAS

This feature requires that an EAS route be provided from the adjacent toll area to the local DCO. It allows a subscriber to receive toll-free calls from an adjacent area which otherwise would be routed over toll lines. To reach a line with this EAS service, it is only necessary to dial the seven-digit directory number.

Semiselective Ringing

Party-line ringing affecting two stations simultaneously, differentiation being by the number of rings, either one or two.

Sequential Operation

Pertaining to the performance of operations, one after the other.

Serial

1. Pertaining to the time sequencing of two or more processes.
2. Pertaining to the time sequencing of two or more similar or identical processes, using the same facilities for the successive processes.
3. Pertaining to the time-sequential processing of the individual parts of a whole, such as the *bits* of a *character*.

Serial Access

Pertaining to the process of obtaining *data* from, or placing data into, *storage* when there is a sequential relation governing the access time to successive storage locations.

Serial Operation

Pertaining to the performance of operations one after the other.

Serious System Failure

A failure that causes: no service to between 31 and 60 system *ports*; major degradation to over 60 system ports, if less than 25 percent of the total system ports; major degradation to 2 or more special services; or minor degradation to 25 percent or more of the system ports.

Service Circuit

A circuit associated with a communication path on a temporary basis and not permanently assigned to any specific equipment.

Service Group

In the DCO system, this group interfaces with the port I/O, the TSI, and the common control circuits. The circuits in this group are associated with ports that do not have corresponding outside plant equipment. These circuits, for example, multifrequency detector, dual-tone multifrequency (DTMF) detector, and MF sender, are used temporarily during the establishment of a call.

Service Routine

A *routine* in general support of the operation of a *computer*; for example, an input-output, diagnostic, tracing, or monitoring routine. Synonymous with *utility routine*.

Significant Digit

1. A *digit* that contributes to the accuracy or precision of a numeral. The number of significant digits is counted beginning with the digit contributing the most value, called the *most significant digit*, and ending with the one contributing the least value, called the *least significant digit*.
2. A digit that is needed for a certain purpose; for example, to identify all numbers above or below a certain value.

Significant Event

An *event* or condition that indicates a change in *system* status in an *event-driven* system. A significant event is declared, for example, when an I/O operation completes. A declaration of a significant event indicates that the *executive* should review the eligibility of task execution, since the event might unblock the execution of a higher-priority task. The following are considered to be significant events: I/O queuing, I/O request completion, a task request, a scheduled task execution, a mark-time expiration, and a task exit.

Simplex

1. In communications, pertaining to a channel that operates in one direction only.
2. In signaling, an arrangement where supervisory signals are transmitted in a balanced manner to both conductors of a conductor pair.

Single-Office Exchange

A telephone exchange served by a single CO.

Single-Point Ground

A special grounding system, required for electronic switching centers, that electrically *isolates* the equipment associated with the telephone switching system from equipment in other areas of the building, the building steel, superstructure, etc., except at one point. The *grounds* for all related equipment and services are connected to a centrally located copper *bus* (ground window), and from this point connected by a single conductor to earth ground or the master building ground.

Snapshot Dump

A *dynamic dump* done at a selected point(s) in a program run.

Software

1. Coded *instructions* that direct the operation of a *computer*. A set of such instructions for doing a particular task is called a *program*.
2. The collection of *programs* and *routines* associated with a *computer*; for example, *compilers*, *library routines*, etc.

Solid-State Memory

The state-of-the-art form of static memory used in RAM and ROM. Solid-state RAM is erased when power is removed, but solid-state ROM retains its content in spite of power removal or transients.

Source Code

The symbols and syntax comprising the *source language*.

Source File (Module)

A *file* of *source codes* in machine-readable format.

Source Language

1. The easily understood system of symbols and syntax that is used to describe a procedure that a *computer* can *execute*.
2. The language from which a *software* statement is translated into an object language.

Source Program

A *program* written in *source language*.

Specification

A statement of particulars; a detailed description of requirements.

Stack

1. An area of *memory* set aside for temporary *storage* or *subroutine/interrupt* service linkage. It uses the *last-in, first-out* concept.
2. A section of *main memory* reserved (by programmer) to allow for temporary and shared *storage* of information.

Stack Pointer

The counter or *register* used to *address* a *stack* in the *memory*.

Standard

An authoritative model or rule by comparison with which the excellence of other things is measured.

Startup

The process of bringing the *system* into operation from a totally inoperative condition, such as when putting a new installation into service or following total power loss or other *catastrophic failure*.

Statement

A meaningful expression or generalized instruction in a *source language*.

Station Number

The *directory number* that identifies a *telephone station*.

Step-by-Step Telephone System

An automatic telephone switching system that is generally characterized by the following features:

- a. The selecting mechanisms are each selected by a preceding stage of switching equipment.
- b. The switching pulses can either actuate the successive selecting mechanisms directly or can be received and stored by controlling mechanisms that, in turn, actuate the selecting mechanisms.

Storage

1. Pertaining to a *device* into which *data* can be entered, in which it can be held, and from which it can be retrieved at a later time.
2. Loosely, any devices that can store data.

Storage Allocation

The assignment of *blocks* of *data* to specified blocks of *storage*.

Stored-Program Computer

A digital computer that, under control of internally stored *instructions*, can synthesize, alter, and store instructions as though they were *data* and can subsequently *execute* these new instructions.

Strobe

1. A signal that triggers a data reading, sampling, or transferring circuit; a signal that marks the instant of sampling.
2. To sample.

Stromberg-Carlson Assistance Team (SCATSM)

A highly skilled group of Stromberg-Carlson service engineers capable of assisting the customer in troubleshooting and other support activities.

Subroutine

A *routine* that can be part of another routine.

Subscriber Line

A subscriber line (subscriber loop or CO line) is a *telephone line* between a central office and a *telephone station*, PBX, or other end equipment.

Superimposed Ringing

Party-line ringing that uses a combination of alternating and direct currents, with positive and negative direct current being provided to obtain selectivity.

Supervisory Control Bit

Signals, initiated in the common control, used to invoke a controlled response.

Supervisory Routine

Same as *executive routine*.

Supervisory Sense Bit

Signals (initiated in *ports*) used to report to the common control, supervisory, or other status information sensed at the port.

Supplementary Ground Electrode

An electrode that can be either rods driven into the ground and interconnected with copper conductors, or a network of conducting elements buried under and around the building.

Switchroom

That part of a CO building that houses the CO switching system.

Switchover

The process of switching between *redundant* equipment.

Symbolic Address

Alphanumeric characters used to represent a *storage* location in the context of a particular *program*. They must be translated to *absolute address* by the *assembler*.

Synchronous

1. The performance of a sequence of operations controlled by an external clocking device. Implies that no operation can take place until the previous operation is complete.

2. In-step or in-phase, as applied to two *devices* or machines.

Synchronous Digital Network

A group of digital switching and/or transmission systems controlled by a master clock to ensure that all timing signals within the network operate in synchronism with the master clock.

Synchronous Operation

Redundant equipment doing the same operation at the same time.

Synchronous System Trap

A *system* condition that occurs as a result of an error or fault within the executing task.

System

A computer *program* and equipment configuration that does a set of functions. (Refer to *operating system*.)

System Generation

The process of building a *software* system on or for a particular *hardware* configuration with software configuration modifications.

System Operator

A person, knowledgeable in the overall operational capabilities of a telephone switching system, who is capable of loading programs, clearing errors, using system diagnostics, etc.

System Program

A *program* that does system-level functions. Any program that is part of the basic *operating system*. A system *utility* program.

T

Table

A collection of *data* stored in a predefined order.

Tandem

One after, or behind, another; working in conjunction with each other.

Tandem Office

A telephone central office used primarily as a switching or concentration point for telephone traffic between other central offices.

Tandem Switch

1. A switching arrangement in which the *trunk* from the calling office is connected to a trunk going to the called office (directly or through an intermediate point) known as a *tandem office*.

2. A *cluster* in the *call processor* at the state-transition level. Responsible for processing the occurring *events* during trunk-to-trunk signaling and conversation.

Tandem Trunk

A *trunk* extending from a telephone central office (or *tandem office*) to a tandem office and used as part of a connection between *telephone stations* in different central offices.

Task Image

The machine-readable format required to *load* and *execute* a *program*.

Telephone Central Office (CO)

A telephone switching unit, installed in a *telephone system* providing service to the general public, having the necessary equipment and operating arrangements for terminating and interconnecting *lines* and *trunks*.

NOTE. There can be more than one CO in the same building.

Telephone Connection

A two-way telephone channel completed between two points by means of suitable switching apparatus and arranged for the transmission of telephone currents, together with the associated arrangements for its functioning with the other part of a *telephone system* in switching and signaling operations.

Telephone Exchange

A unit of a telephone communication system for the provision of communication service in a specified area that usually includes a city, town, or village, and its environs.

Telephone Line

A general term used in communication practice in several different senses, primarily being:

- a. The conductor or conductors and supporting or containing structures extending between *telephone stations* and a CO or between COs, whether they be in the same or in different communities.
- b. The conductors and circuit apparatus associated with a particular communication channel.

Telephone Station

An installed telephone set and associated wiring and apparatus, in service for telephone communication.

Telephone Subscriber

A customer of a *telephone system* who is served by the system under a specific agreement or contract.

Telephone System

An assemblage of *telephone stations*, *lines*, channels, and switching arrangements for their interconnection, together with all the accessories for providing telephone communications.

Telephony Preprocessor (TPP)

A call-processing unit in a SYSTEM CENTURY office dedicated to handling all "real-time" control requirements of a call. The TPP interfaces with the TDM network and the CPS.

Temporary Storage

Storage locations reserved for intermediate results.

Ten-High Day

A term related to traffic studies. Ten-high day traffic is the average of the traffic during the same clock hour on the 10 busiest normally recurring days of the busy season.

Terminal

1. A point at which information can enter or leave a communication network.
2. An *I/O device* associated with a particular *program*; usually one capable of two-way communication.
3. An *I/O device*, such as a teletypewriter, that includes a *keyboard* and a display mechanism. A terminal is used as the primary communicating device between a *computer system* and a person.

Test Access

Conveniently located points that permit connection of test equipment.

Test Access Selector

In a SYSTEM CENTURY office, the control and relay circuitry between the maintenance processor and the T, R, E, and M buses that enable selected test functions to be done on these buses.

Third-Level Diagnostic Programs

Those *routines*, called by maintenance personnel in response to requests entered on the *system console*, that attempt to diagnose the fault down to the circuit-card level. They normally reside in the *system mass-storage device*.

Tie Trunk/Tie Line

A telephone *line*, trunk, or channel directly connecting two PBXs.

Time-Division Multiplex (TDM)

The process of transmitting two or more signals over a common path by using different time intervals (*timeslots*) for the transmission of the intelligence of each signal.

Time Sharing

1. In *computer* technology, the apparent simultaneous use of a computer by two or more parties from separate, remote *I/O terminals*.
2. A method of allocating CPU time and other *computer* services to multiple users so that the computer, in effect, processes a number of *programs* concurrently.

Time Slice

The period of time allocated by the *operating system* to process a particular *program*.

Timeslot

In a SYSTEM CENTURY office, a fundamental time period resulting from a symmetrical clock signal and used in the *time-division multiplex* process. Two separate signals provide timeslots of 122 nanoseconds (*cross-office highway timeslot*) and 488 nanoseconds (*port group highway timeslot*).

Timeslot Interchange (TSI).

1. An arrangement in a SYSTEM CENTURY office that permits the switching of TDM information between a set of time-divided input *buses* and a set of time-divided output buses. In general, the outgoing *timeslot* will be different from the incoming one. Formerly referred to as *matrix switch*.
2. In the DCO system an assembly, synonymously called a *matrix switch*, that does the following functions: a TSI function between 8 PGHs (256 timeslot total) and a dedicated XOH (128 timeslots); a *time-shared* space-divided switch allowing any XOH to be connected to any TSI; a TSI function between the chosen XOH (chosen on a timeslot basis) and 8 PGHs.

Tip and Ring Wires

A pair of conductors associated with the transmission portion of circuits and apparatus. "tip" and "ring" designations of the individual conductors are arbitrary, except when applied to cord-type switchboard wiring, in which case the conductors are designed according to their association with tip and ring contacts of the jacks and plugs.

Tip Lead

Refer to *tip and ring wires*.

Toll Call

Any telephone call, subject to charge, to a destination outside of the local service area of the calling station.

Toll Center

A *toll office* that serves as a switching point between local exchanges and the long-distance telephone network.

Toll Office

A CO primarily arranged for terminating toll lines, toll switching trunks, recording trunks, and recording-completing trunks and for their interconnection with each other as necessary for establishing connections over toll lines.

Track

The portion of a moving storage medium, such as disk drum, or tape, that is accessible to a given reading-head position.

Traffic Capacity

The total traffic volume that a telephone switching system is designed to carry.

Trap

A condition jump to a known location done automatically by hardware as a side effect to executing a processor instruction. It is distinguished from an interrupt, which is caused by an external event.

Trip, Ring

Refer to ring trip.

Trunk

A telephone line or channel between two COs or switching devices that is used in providing telephone

connections between subscribers. Also, refer to trunk circuit.

Trunk Circuit

An interface circuit between a trunk and a switching system. Also, frequently referred to as "trunk" or "trunk port."

Trunk Group

A grouping of all trunks that can be assigned to carry traffic between the same two switching points without variations in call-handling procedures or characteristics.

Trunk Hunting

The operation of a selection process to establish connection with an idle circuit of a chosen trunk group.

Two's Complement

A number used to represent the negative of a given value in many computers. This number is formed from the given binary value by changing all 1's to 0's and all 0's to 1's, and then adding 1.

Type of Call

The DCO system features line-to-line calls, line-to-trunk calls, trunk-to-line calls, and trunk-to-trunk (tandem) calls.

Unattended Automatic Exchange

An automatic telephone exchange that, under normal conditions, is not attended by either operators or maintenance personnel.

UNIBUS*

The single, asynchronous, high-speed bus structure shared by a processor, its memory, and all of its peripherals.

Unscheduled Maintenance

The activity required to locate, repair, and check out repairs of faults when they occur. This includes troubles found during preventive maintenance activities.

Variable

The symbolic representative of a logical storage location that can contain a value that changes during a discrete processing operation.

Vector

A forwarding address to an interrupt routine.

Virtual Address Space

A set of memory addresses that are mapped into physical memory addresses by the paging or relocation hardware when a program is executed.

Whistle Through

A feature that allows CAMA-type identification from a PBX line or trunk to be extended through a DCO connection to an outgoing trunk to a class 4 office.

Wink Off

A feature of some last-party-release circuits that acts to release all unnecessary circuitry and free the calling line when the called party fails to hang up at the completion of the call.

Wink Operation

A method by which an incoming register-sender can indicate readiness to receive pulses from the calling office. Indication is by a timed off-hook (wink) signal of no less than 140 milliseconds duration.

*Registered trademark of the Digital Equipment Corporation.

U**User Program**

An application program.

Utility

Any general-purpose program included in an operating system to do common functions.

Utility Routine

Refer to service routine.

V**Volatile Memory**

A memory whose contents are irretrievably lost when operating power is removed.

Volume

A mass storage media that can be treated as file-structured data storage.

W**Word**

1. The number of bits needed to represent the largest data element normally processed by the computer.
2. Sixteen binary digits treated as a unit in the PDP-11 processor memory.

Word Length

The number of bits or other characters in a word.

Work Area

Refer to scratch area.

Write

To record data in a medium such as storage.

X

Y

Z

Zero a Device

To erase all the *data* stored on a *volume* and reinitialize the *format* of the volume.

Zero Real-Time Load

Associated with an operation that involves no processor *real-time* allocation. Calls in stable states

present no load to the processor. Calls in transient state consume a variable amount of real-time allocation.

Zero Suppression

The elimination of nonsignificant zeros in a numeral.

4. ABBREVIATIONS AND MNEMONICS

A

ABSBH	Average Busy-Season Busy-Hour
ACP	Attendant Call Processing
A/D	Analog-to-Digital (converters)
AIOD	Automatic Identification on Outward Dialing
AIS	Automatic Intercept System
ALI	Automatic Line Identification
ALU	Arithmetic Logical Unit
AMA	Automatic Message Accounting
AN	Answer
ANI	Automatic Number Identification
ANIF	ANI Fail
ANSI	American National Standards Institute, Inc.
APB	All Paths Busy
ARG	Argument
ASB	Alternating Supervisory Bit
ASCII	American Standard Code for Information Interchange
ASF	Auto Start Flag
AST	Asynchronous System Trap
ATB	All Trunks Busy

B

BASIC	Beginners All-Purpose Symbolic Instruction Code
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BAT	Battery
BCD	Binary-Coded Decimal
BDF	Battery Discharge Frame
BHC	Busy-Hour Calls
BMP	Basic Maintenance Panel
BNP	Basic Numbering Plan
BSY	Busy
BT	Busy Tone
C	
CAMA	Centralized Automatic Message Accounting
CB	Calling Bridge (relay)
CC	Common Control
CC	Country Code (international)
CCF	Common Control Frame
CCIS	Common Channel Interoffice Signaling
CCITT	Consultative Committee for International Telephone and Telegraph
CCS	Hundred-Call Seconds
CD	Circle Digit
CDB	Copy Data Base
CDF	Combined Distributing Frame
CDI	Circle Digit Identification
CDO	Central (or Community) Dial Office

CE	Common Equipment	CPU	Central Processing Unit
CEF	Common Equipment Frame	CRT	Cathode Ray Tube
CGA	Carrier Group Alarm	CST	Call State (field)
CHDCT	Clear Digit Count Module	CTD	Critical Timing Digit
CHNG	Change	CTO	Critical Timeout
CL	Combinational Logic	CUA	Circuit Unit Assembly
CL/LCD	Clock and Local Clock Distribution (PWBA)	D	
CLK	Clock	D/A	Digital-to-Analog (converters)
CLR	Combined Line and Recording	DAC	Digital-to-Analog Converter
CMD	Command	DAD	Disk Address
CMOS	Complementary Metal-Oxide Semi-Conductor	DATA	Data Security
CO	Central Office	DBA	Data Base Administration
COBOL	COmmon Business-Oriented Language	DBO	Drop Build-out (capacitor)
CODEC	Coder-Decoder	DBS	Data Base Select
COMP	Comparator	DBU	Data Base Utility (cluster)
COP	Central-Office Prefix	DBX	Digital Branch Exchange
COS	Class of Service	DCO	Digital Central Office
CP	Call Processor	DCT	Digit Count (field)
CPLTST	Call Processor Logic Test	DDD	Direct Distance Dialing
CPM	Call Processor Memory	DEC*	Digital Equipment Corporation
CP/MP	Call Processor/Maintenance Processor	DEL	Delete
CPMTST	Call Processor Memory Test	DEMUX	Demultiplexer
CPS	Call Processing System	DERV	Derive

* Registered trademark of Digital Equipment Corporation.

DEX	Digits Expected (field)	DSU-R	DSU-Remote
DGT	Digit	DT	Dial Tone
DID	Direct Inward Dialing	DTI	Digital Trunk Interface
DISP	Display	DTM	Digital Tandem
DL	Data Link	DTMF	Dual-Tone Multifrequency
DLS	Data Line Security	E	
DMA	Direct Memory Access	E&M	Receive and Transmit (trunk signaling)
DN	Directory Number	EAS	Extended Area Service
DNCOS	DN Class of Service	EBCDIC	Extended Binary Coded Decimal Interchange
DNI	Distributed Network Interface	EBT	Equipment Busy Tone
DNMP	DN Multiparty	EC	Equipment Connect (cluster)
DOC	Dynamic Overload Controls	EDDD	Expanded Direct Distance Dialing
DOD	Direct Outward Dialing	EMER	Emergency Service
DOT	Originations and Dial Tone (cluster)	EN	Equipment Number
DP	Dial Pulse	EOT	End of Tape
DR	Digits Received	EOT	End of Timeout
DRE	Directional Reservation Equipment	EOT	End of Transmission
DSA	Digital Storage Area	ER	Equipment Release (cluster)
DSA	Directory Service Assistance	ERL	Echo Return Loss
DSN	Digital Switching Network	ET	Expansion Table
DSI	Digital Satellite Interface	EVC	Event Code
DSO	Directory Service Order	EXEC	Executive (program)
DSU	Digital Satellite Unit	F	
DSU-L	DSU-Local	FDM	Frequency Division Multiplex

FET	Field Effect Transistor	HS	Helping Sleeve
FF	Flip-Flop	HT	Holding Time
FIFO	First-In, First-Out (memory)	HWY	Highway
FNPA	Foreign Numbering Plan Area	I	
FORTRAN	FORmula TRANslator	IC	Integrated Circuit
FPPAY	Full Prepay Paystation	ICDD	Incoming/Delay Dial
FPPS	Full Prepay Paystation	ICID	Incoming/Immediate Dial
FR	Frequency Ringing	ICWS	Incoming/Wink Start
FREE	Free Terminating	ID	Identification
FS	False Start	IDDD	International Direct Distance Dialing
FSK	Frequency Shift Keying	IDF	Intermediate Distributing Frame
FT	Free Terminating	IDTO	Interdigital Timeout
FX	Foreign Exchange	IML	Incoming Matching Loss
G		IMTS	Improved Mobile Telephone Service
G	Ground-Start Relay	INWATS	Inward Wide-Area Telephone Service
GND	Ground	INWS	Inward WATS Service
GNDST	Ground Start	I/O	Input/Output
GOS	Grade of Service	IOF	Input/Output Frame
GRA	Growth Analysis	IPM	Interruptions Per Minute
GS	Ground Start	IT	Interdigit Timeout
H		J	
HG	Hunt Group	JMP	Jump
HMDT	Hotel-Motel Data Terminal		
HOOK	Off-Hook Service		
HOTL	Hotel/Motel		

K		LSG	Line/Service Group
KOC	Kind of Call (tone)	LSI	Large-Scale Integrated (circuit)
KP	Key Pulse	LSI-11*	DEC Microcomputer
L		LTF	Line/Trunk Frame
L	Line	LUM	Line Usage Meter
LAMA	Local Automatic Message Accounting	LXC	DNI Common Control Frame
LCD	Local Clock Distribution	LXN	DNI Line/Network Frame
LCOS	Line Class of Service	M	
LED	Light-Emitting Diode	M&A	Maintenance and Administration
LDN	Listed Directory Number	MAC	Maintenance and Administration Center
LF	Line Frame	MAF	Maintenance and Administration Frame
LG	Line Group	MAMA	Mobile Automatic Message Accounting
LIFO	Last-In, First-Out (memory)	MAP	Maintenance Assurance Plan
LLA	Long-Line Adapter	MBI	Maintenance Bus Interface
LLI	Local Line Interface	MCAL	Malicious Call
LMRS	Local Message Rate Service	MDCF	Main Discharge Control Frame
LN	Location Number	MDF	Main Distributing Frame
LO	Lockout	MF	Multifrequency
LPPAY	Local Prepay Paystation	MFR	Multifrequency Receiver
LPPS	Local Prepay Paystation	MFRB	Multiple Frequency Ring Bus
LRE	Loop Range Extender		
LS	Low-Power Schottky (transistor logic)		
LSB	Least Significant Bit		
LSD	Least Significant Digit		

* Registered trademark of Digital Equipment Corporation.

MFS	Multifrequency Sender	NN	National Number
MFSD	Multifrequency Signal Detector	NOB	Number of Blocks
ML	Matching Loss	NOP	No Operation
MOD	Modulation	NPA	No Path Available
MOS	Maintenance-Out-of-Service(side)	NPA	Numbering Plan Area
MOS	Metal Oxide Semiconductor	N/PCT	Negative and Positive Current Test (PWBA)
MOV	Metal Oxide Varistor	NPYS	Not Paystation
MP	Maintenance Processor	NRZI	Nonreturn Zero Inversion
MPC	Microprocessor Control	NSL	New Switching Logic or New Switching Line (superseded by SYSTEM CENTURY)
MPS	MP System	NU	Network Utility (cluster)
MS	Matrix Switch (superseded by TSI)	NWC	New Command
MSB	Most Significant Bit		O
MSC	Matrix Switch Controller	OA	Operational Amplifier
MSD	Mass Storage Device	ODCP	One-Digit Code Point (table)
MSD	Matrix Switch Diagnostic (card)	OF	Overflow
MSD	Most Significant Digit	OG	Outgoing (relay)
MTS	Mobile Telephone Service	OGDD	Outgoing/Delay Dial
MTU	Magnetic Tape Unit	OGID	Outgoing/Immediate Dial
MUX	Multiplexer	OGWS	Outgoing/Wink Start
	N	OGT	Outgoing Toll
NBO	Network Build-Out (capacitor)	OGT	Outgoing Trunk
NCT	Negative Current Test	OHS	Off-Hook Service
NEC	National Electrical Code	OLPS	On-Line Processor Select Switch
NEG	Negative		

OML	Outgoing Matching Loss	PCS	Port Control Store
ONI	Operator Number Identification	PCS	Port Control System
ONID	Operator Number Identification	PCT	Pulse Count (field)
OP	Operation	PD relay	Switch-Pad Relay
O/S	Operating System	PDD	Port Dialing Delay
O/S	Out of Service	PDP-11*	DEC Microcomputer
OSO	Origination Screening Office	PE	Phase Encoding
OUTWATS	Outgoing Wide-Area Telephone Service	PF	Power Frame
	P	PG	Port Group
PABX	Private Automatic Branch Exchange	PGC	Port Group Control
PAM	Pulse Amplitude Modulation	PGH	Port Group Highway
PAMA [®]	Private Automatic Message Accounting	PGHTS	PGH Timeslot
PAX	Private Automatic Exchange	PGI	Port Group Interface
PBX	Private Branch Exchange	PGRS	Port Group Ring Bus
PC	Port Control	PIC	Position Independent Code
PC	Peg Count	PID	Port Identification
PCA	Port Communications Area	PL	Program Logic (superseded by TPP)
PCB	Port Check Bit	PL	Pulse (relay)
PCD	Port Control Diagnostic (card)	PLS	PL (state) relay
PCHK	Parity Check	POS	Positive
PCM	Port Command Area	POTS	Plain Old Telephone Service
PCM	Pulse Code Modulation	PPCS	Person-to-Person, Collect, Special
PCP	Port Call Processing	PRF	Processor Request Flag

* Registered trademark of Digital Equipment Corporation.

PRM	Pulse Rate Modulation	RD	Receive Digits (command)
PROM	Programable Read-Only Memory	R Dig	Routing Digit
PS	Port Strobe	RG	Ringing Generator
PS	Port Store	RGL	Ring Line (command)
PSA	Port Storage Area	RL	Release
PSAP	Public Safety Answering Point	RL	Ring Line
PSU	Port Storage Utility (cluster)	RLST	Release Timer
PT	Port Number Assignment	ROH	Receiver Off-Hook (tone)
PTC	Party Test Control (signal)	ROM	Read-Only Memory
PTER	Path Trace and Erase (module)	RRT	Ring-Ring Trip
PTG	Precise Tone Generator	RSE	Receive Supervisory Event
PTI	Party Identity	RT	Ring Trip
PTT	Party Test	RT	Route Treatment
PTY	Party	R Tab	Route Table
PTY	Port Type	RTI	Route Treatment Index
PWBA	Printed Wiring Board Assembly	RV	Reverse (relay)
PX	Private Exchange	RZ	Return to Zero
	R	S	Sleeve
R	Ring Lead	SAC	Special Area Code
RAM	Random Access Memory	SAR	Successive Approximation Register
RBT	Ringback Tone	SC	Sending Complete
RC	Ringing Code	SCAT	Stromberg-Carlson Assistance Team
RCAN	Recorded Announcement	SCCF	Small Common Control Frame
RCVDGT	Receive Digits (module)		

SCP	Stromberg-Carlson Practices	SSSP	Station-to-Station, Send Paid
SCRCL	Screen Class	ST	Screening Table
SCRn	Scratch Area n	STCH	State Change (module)
SD	Send Digits	STL	Stop Outpulse
SDM	Space-Division Multiplex	STL	Subtransition Level
SDN	Subscriber Directory Number	STO	State Timer
SE	Service Expansion	SUPY	Supervisory
SETPC	Set Port Command (module)	SUPY IN	Incoming Supervisory
SFRB	Single-Frequency Ring Bus	S x S	Step-by-Step
SGD	Service Group Diagnostics	SWC	Switchover Control
SGD	Signal Ground	SYNC	Synchronize
SH	Shunt (relay)	SZ	Seizure
SISO	Supervisory In/Supervisory Out (buffer)	T	T
SLC	Secretary Last Choice	T	Tip Lead
SLEAD	Sleeve Lead	TA	Test Access (relay)
SLEV	Sleeve Lead	TAS	Test Access Selector
SMAN	Switched Maintenance Access Network	TCG	Test Call Generator
SNC	Synchronous Network Clock	TCOS	Trunk Class of Service
SP	Single Party	TD	TONE-DIAL [®] (telephone)
SPC	Stored Program Control	TDM	Time-Division Multiplex
SPOL	Set Processor On-Line	TDR	TONE-DIAL Receiver
SPPAY	Semipostpay Paystation	TE	Trunk Expansion
SPPS	Semipostpay Paystation	TELCO	Telephone Operating Company
SSE	Send Supervisory Event	TF	Trunk Frame
		TG	Trunk Group

TGB Termination Barred

TGOS Trunk Group Class of Service

TK Trunk Equipment

TL Transition Level

TMAX Time Maximum

TMF Toll MF

TMFG Toll MF Generator

TMIN Time Minimum

TML Tandem Matching Loss

TMRS Traffic Measuring and Recording System

TN Tone

TN BLK LN Tone Blocked Line

TOC Type of Call

TOLR Toll Restricted

TP Toll Prefix

TPP Telephony Preprocessor (supersedes PL)

TPC TP Check

TR Tip and Ring

TRK Trunk

TS Timeslot

TSG Timeslot Generator

TSI Timeslot Interchange (super-sedes MS)

TSID Timeslot Interchange Diagnostic

TSPS Traffic Service Position System

TTL Transistor-Transistor Logic

TTU Translator Table Update

TTY Teletypewriter

TWDD Two-Way/Delay Dial

TWID Two-Way/Immediate Dial

TWWS Two-Way/Wink Start

TWX Teletypewriter Exchange Service

TY Type of Port

U Utility

UL Utility Lead

UN Unassigned

UNA Universal Night Answering

USR Usage Sensitive Recording

VFA Volunteer Fire Alarm

VNL Via Net Loss

WATS Wide-Area Telephone Service

WCTP Wire Chiefs Test Panel

WDTA Watchdog Timer A

WDTB Watchdog Timer B

XFER Transfer

XIOF Expanded IOF

XOH Cross-Office Highway

XOHTS XOH Timeslot

Y

Z

5. INDEX

		Page	
A			
Absolute Address	2	Battery Return Ground	4
Absolute Loader	2	Baud	4
Ac Service Ground (Neutral)	2	Bidirectional	4
Accessibility	2	Binary	4
Access Time	2	Binary Code	4
Account Number	2	Binary-Coded Decimal	4
Accumulator	2	Binary Digit	5
Active Task List	2	Binary Loader	5
Address	2	Bipolar Signal	5
Administration	2	Bit	5
Algorithm	2	Bit Map	5
Alphanumeric	2	Bit Rate	5
Analog	2	Blank Character	5
Analog-to-Digital Converter	2	Block	5
Append	2	Boolean-Valued Expression	5
Application Program	2	Bootstrap	5
Argument	2	Bootstrap Loader	5
Arithmetic Unit	3	Bottom Address	5
Array	3	Branch	5
ASCII	3	Breakpoint	5
Assemble	3	Bridged Ringing	5
Assembler	3	Buffer	5
Assembler Directives	3	Bug	5
Assembly Language	3	Bulk Storage	5
Assembly Listing	3	Bus	5
Assigning a Device	3	Busy-Hour Calls	6
Asynchronous	3	Busy-Idle Map	6
Asynchronous System Trap (AST)	3	Busy Test	6
Attach	3	Busy Tone	6
Audit Trail	3	Byte	6
Automatic Message Accounting (AMA) System	3	C	
Automatic Telephone System	3	Call-Processing Program	7
Auxiliary Storage	3	Call Processor (CP)	7
B		Call Processor (CP) Startup	7
Background	4	Call Seconds, Hundred	7
Background Processing	4	Call State	7
Backplane	4	Called Party	7
Backup File	4	Calling Party	7
Bad Block	4	Carriage Return	7
Balance	4	Carrier	7
Base Address	4	Carrier Facility	7
BASIC Language	4	Cartridge Disk	7
Basic Numbering Plan	4	Catastrophic System Failure	7
Batch Processing	4	Cell	7
		Central-Office Ground	7
		Central Processing Unit	7
		Character	8

	Page		Page
Character String	8	Crash Dump	11
Checksum	8	Critical System Failure	11
Circle-Digit Phaseout	8	Critical Timeout Period	11
Circuit Unit Assembly (CUA)	8	Cross-Reference Listing or Table	11
Class of Service	8	Crossbar System	11
Clear	8	Cross-Office Highway (XOH)	11
Clerical Operator	8	Cross-Office Highway Timeslot (XOHTS)	11
Clock	8	Cross-Office Store (Memory)	11
Closed Loop	8	Cycle Time	11
Cluster	8		
Cluster Data Base	8	D	
COBOL	8		
Code	8	Data	12
CODEC	8	Data Base	12
Code-Point Translator	9	Data Base Administration (DBA)	12
Code Ringing	9	Data Base Management System	12
Coding	9	Data Pointer	12
Collate	9	Data Pointer Chain	12
Combined Distributing Frame (CDF)	9	Data Pointer Pointer	12
Command or Command Name	9	Data Structure	12
Command Keyword	9	Dead Load	12
Command Language	9	Debug	12
Command Language Interpreter	9	Default	12
Command String	9	Deferred Address	12
Command String Interpreter	9	Delay Dial	12
Common	9	Delimiter	12
Companding	9	Demodulation	12
Compile	9	Demultiplex (Deconcentrate)	12
Compiler	9	Destructive Read	12
Complement	9	Detach a Device	12
Completion Routine	9	Device	12
Compute Bound	9	Device Controller	13
Computer	10	Device Driver	13
Concatenate	10	Device Handler	13
Concentrator	10	Device Name	13
Conference Connection	10	Device Unit	13
Configuration	10	Diagnostic	13
Congestion Tone	10	Diagnostic Controller	13
Console	10	Dial Pulsing (DP)	13
Console Terminal	10	Dial Tone	13
Constant	10	Dial Trap	13
Contiguous File	10	Digit	13
Control Character	10	Digital	13
Copy	10	Digital Analyzer	13
Core Map	10	Digits Expected	13
Core Memory (Core)	10	Direct Address	13
Crash	10	Direct Inward Dialing (DID)	13
Crash, Hard	10	Direct Memory Access (DMA)	13
Crash, Soft	11	Directory	14

	Page		Page
Directory Number	14	Floppy Disk Drive	18
Discrete	14	Flow Chart	18
Disk	14	Foreground	18
Diskette	14	Foreground/Background Mode	18
Distributed Network Interface	14	Foreground Processing	18
Distributing Frame (DF)	14	Format	18
Divided Code Ringing	14	Formatted Device	18
Double-Buffered I/O	14	FORTRAN	19
Downtime	14	Frequency Ringing	19
Dual-Program Mode	14	Frequency-Selective Ringing	19
Dump	14	Full Duplex	19
Duplex	14	Function	19
Duplex System	15		
Dynamic Dump	15	G	
Dynamic Memory	15		
		Garbage	20
E		Global Symbol (Global)	20
		Grade of Service (GOS)	20
E Lead	16	Ground	20
E&M Signaling	16	Ground Electrode	20
Echo	16	Ground Window	20
Echo Return Loss (ERL)	16	Grounded Circuit	20
Edit	16	Ground-Start Signaling	20
Effective Address	16		
Entry Point	16	H	
Equipment Number	16		
Erlang	16	Half-Duplex	21
Error Flag	16	Handler	21
Error Message	16	Hard Copy	21
Event	16	Hardware	21
Event Code	16	Harmonic-Selective Ringing	21
Event Driven	16	Head	21
Execute	16	High-Level Language	21
Executive	16	Highway	21
Executive Mode	17	Hookflash	21
Executive Routine	17	Hookswitch	21
Exponentiation	17		
Expression	17	I	
Extended Area Service (EAS)	17		
External Module	17	Idle Time	22
		Improved Mobile Telephone Service	22
F		Indirect Address	22
		Indirect File	22
Failure Rate	18	Individual Line	22
Fetch	18	Initialize	22
Field	18	Insertion Loss	22
File	18	Installation Unique Data	22
Firmware	18	Instruction	22
First-Level Diagnostic Programs	18	Insulate	22
Flag	18	Interactive	22

	Page		Page
Position-Independent Code	35	Recording-Completing Trunk (CLR Trunk)	38
Positive Current Test	35	Recovery	38
Preventive Maintenance	35	Redundant	38
Primary Ground Electrode	35	Refresh Cycle	38
Primary Outlet	35	Register	38
Priority	35	Relative Address	38
Priority Interrupt	35	Relocate	38
Priority Queuing	35	Request Flag, Processor	38
Private Automatic Branch Exchange (PABX)	35	Reset	38
Private Automatic Exchange (PAX)	35	Resident	38
Private Branch Exchange (PBX)	35	Resource	38
Private Exchange	36	Restart	38
Privilege	36	Restart Address	38
Procedure	36	Return to Zero	38
Procedure Pointer	36	Reverse-Battery Supervision	38
Processor Status Word	36	Reverting Call	38
Program	36	Ring Lead	38
Program Counter	36	Ring Tone	38
Program Data Base	36	Ring Trip	38
Program Development	36	Routine	38
Program Library	36	Routine Testing	39
Program Logic (PL)	36	Routining of Hardware	39
Program Operator	36	Run Time	39
Programed Request	36		
Protected Location	36	S	
Protective Ground System	36		
Pseudo-Device	36	Sanity Test	40
Pulse Code Modulation (PCM)	36	Scratch Area	40
Pure Code	36	Scratch-Pad Memory	40
Purge	36	Screen Class	40
		Screening	40
Q		Search	40
		Second-Level Diagnostic Programs	40
Qualifier	37	Secondary Storage	40
Quantize	37	Sector	40
Queue	37	Selective Dump	40
		Selective Originating EAS	40
R		Selective Ringing	40
		Selective Terminating EAS	40
Rack (the digits)	37	Semiselective Ringing	40
Random Access	37	Sequential Operation	40
Random Access Memory (RAM)	37	Serial	40
Read	37	Serial Access	40
Read-Only Memory (ROM)	37	Serial Operation	40
Real Time	37	Serious System Failure	41
Real Time Processing	37	Service Circuit	41
Record	37	Service Group	41
Recording Trunk	37	Service Routine	41

	Page		Page
Significant Digit	41	Tandem Switch	44
Significant Event	41	Tandem Trunk	44
Simplex	41	Task Image	44
Single-Office Exchange	41	Telephone Central Office (CO)	44
Single-Point Ground	41	Telephone Connection	44
Snapshot Dump	41	Telephone Exchange	44
Software	41	Telephone Line	44
Solid-State Memory	41	Telephone Station	44
Source Code	41	Telephone Subscriber	44
Source File (Module)	41	Telephone System	44
Source Language	42	Telephony Preprocessor (TPP)	44
Source Program	42	Temporary Storage	44
Specification	42	Ten-High Day	44
Stack	42	Terminal	45
Stack Pointer	42	Test Access	45
Standard	42	Test Access Selector	45
Startup	42	Third-Level Diagnostic Programs	45
Statement	42	Tie Trunk/Tie Line	45
Station Number	42	Time-Division Multiplex (TDM)	45
Step-by-Step Telephone System	42	Time Sharing	45
Storage	42	Time Slice	45
Storage Allocation	42	Timeslot	45
Stored-Program Computer	42	Timeslot Interchange (TSI)	45
Strobe	42	Tip and Ring Wires	45
Stromberg-Carlson Assistance Team (SCAT)	42	Tip Lead	45
Subroutine	42	Toll Call	45
Subscriber Line	42	Toll Center	45
Superimposed Ringing	42	Toll Office	46
Supervisory Control Bit	43	Track	46
Supervisory Routine	43	Traffic Capacity	46
Supervisory Sense Bit	43	Trap	46
Supplementary Ground Electrode	43	Trip, Ring	46
Switchroom	43	Trunk	46
Switchover	43	Trunk Circuit	46
Symbolic Address	43	Trunk Group	46
Synchronous	43	Trunk Hunting	46
Synchronous Digital Network	43	Two's Complement	46
Synchronous Operation	43	Type of Call	46
Synchronous System Trap	43		
System	43	U	
System Generation	43		
System Operator	43	Unattended Automatic Exchange	47
System Program	43	UNIBUS	47
		Unscheduled Maintenance	47
T		User Program	47
		Utility	47
Table	44	Utility Routine	47
Tandem	44		
Tandem Office	44		

	Page
V	
Variable	47
Vector	47
Virtual Address Space	47
Volatile Memory	47
Volume	47
W	
Whistle Through	47
Wink Off	47
Wink Operation	47
Word	47
Word Length	47
Work Area	47
Write	47
X	
Y	
Z	
Zero a Device	48
Zero Real-Time Load	48
Zero Suppression	48

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