CLASS 379, TELEPHONIC COMMUNICATIONS

SECTION I - CLASS DEFINITION

STATEMENT OF THE CLASS SUBJECT MATTER:

(A) Systems, processes and instruments for the two-way electrical transmission of intelligible audio information having arbitrary content over a link including an electrical conductor, between spaced apart locations, so as to enable conversation therebetween, and intended for the private use of a listener or a group of listeners. The term "intelligible" used above is intended to include the capability for transmission of speech or the like (e.g., music), rather than restriction to a specified audible signal, such as a bell or buzzer.

(B) Switching, signalling or signal transmission peculiar to, or specified as for a telephone or a telephone system, except for multiplex communications as indicated in Lines With Other Classes and Within This Class, below.

(C) Subsystems, elements and adjuncts peculiar to such transmission and not provided for elsewhere.

SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS

(1) Bi-directional audio communication is normally a duplex arrangement, and simultaneous audio transmission of a single conversation is in this class (379) and excluded from Class 370, Multiplex Communications, in the absence of some other particular multiplexing technique.

(2) With exception of voice signal duplexing as pointed out in (1) above, subject matter including multiplexing, particularly involving plural conversations, regardless of recitation of telephone limitations, is excluded from this class (379) and is classified elsewhere.

(3) Audible signalling for call alerting, or producing a signal having other specific content, such as bells, buzzers, etc., are classified elsewhere, even if nominally characterized as used in a telephone.

(4) Electromagnetic switches for automatic telephone switching type, per se, are classified elsewhere.

(5) Electrical connectors merely nominally characterized as for telephones, in the absence of additional telephone structure are classified elsewhere.

(6) Named communications or telecommunications networks absent recitation of telephone or voice limitation are not classifiable herein.

(7) The following terms when used in a communication system or instrument are considered to specify telephone equipment except as specified in (2) above with respect to multiplexing or in class or subclass search notes: dial tone - off-hook, handset - on-hook, hookswitch - ringback, howler - sidetone, intercom - switchboard, key set - switchhook, telephone line (used with switching system), tip and ring (leads)

RELATIONSHIP TO OTHER SPEECH COMMUNICATIONS CLASSES

This class (379) requires the capability for two-way spoken communications, or specified used of a telephone line, and subsystems peculiar to either of the above.

A mechanical telephone is classified elsewhere. See References to Other Classes, below.

All speech or telephone equipment which conceals message content despite interception or unauthorized reception of a telephone signal is classified elsewhere. See References to Other Classes, below.

Electrical speech processing system and apparatus, including for example, such systems as, megaphones, public address systems and hearing aids; and transducers such as microphones, earphones or loudspeakers and also includes either of a telephone microphone or receiver are classified elsewhere. See References to Other Classes, below.

Audio signal telecommunications by a modulated carrier wave not having telephone land line structure or limitations is classified elsewhere. See References to Other Classes, below.

SECTION III - SUBCLASS REFERENCES TO THE CURRENT CLASS

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.01,	through 36, for observation, measuring, or testing.
37,	through 51, for coin-free paystation, emergency, or alarm equipment.
52,	for handicapped user.
55.1,	through 56.3, for wireless or carrier link.
67.1,	through 88.28, for voice signal storage.

90, through 110, for composite system or terminal.
111, through 142,for usage measurement or display.
143, through 155, for paystations.
156, through 187, for key, private or party systems.
188, through 200, for call or terminal limiting.
201, through 218, for special services.
219, through 332, for switch telephone network.
333, through 349, for network component systems.
350, through 386, for supervisory or control signalling.
387, through 418, for substation or line circuitry or component.
419, through 456, for terminal structure or accessory.
457, for miscellaneous.

SECTION IV - REFERENCES TO OTHER CLASSES

SEE OR SEARCH CLASS:

181, Acoustics, includes a mechanical telephone.
335, Electricity: Magnetically Operated Switches, Magnets, and Electromagnets, for electromagnetic switches for automatic telephone switching type, per se.
340, Communications: Electrical, for audible signalling for call alerting, or producing a signal having other specific content, such as bells, buzzers, etc., even if nominally characterized as used in a telephone.
370, Multiplex Communications, for subject matter including multiplexing, particularly involving plural conversations, regardless of recitation of telephone limitations; subclasses 276+ for duplex transmission.
380, Cryptography, includes all speech or telephone equipment which conceals message content despite interception or unauthorized reception of a telephone signal.
381, Electrical Audio Signal Processing and Systems, a generic electrical speech processing system and apparatus class and includes, for example, such systems as, megaphones, public address systems and hearing aids; and transducers such as microphones, earphones or loudspeakers and also includes either of a telephone microphone or receiver, but not their combination as in a handset.
439, Electrical Connectors, for electrical connectors merely nominally characterized as for telephones, in the absence of additional telephone structure.
455, Telecommunications, includes audio signal telecommunications by a modulated carrier wave not having telephone land line structure or limitations.

SECTION V - GLOSSARY

BI-DIRECTIONAL

Capable of use, particularly in transmitting information in two opposite directions. Additionally, when used to describe an audio transducer, capable of conversion of sound both to and from electrical signal variations.

CALL ADDRESS SIGNAL

An electrical representation of a called terminal designation (i.e., telephone number) which controls switching apparatus to establish a connection from a calling terminal.

DIALING

Generating a call address signal. Although a dial is a rotary pulse generating switch, the term dialing is sometimes used generically as in the terms "tone dialing" and "resistance dialing".

SUBSCRIBER

Telephone user or service location.

SUBSCRIBER

Telephone circuitry or instruments at subscriber location.

TELEPHONE

An instrument, known as a user terminal set, containing an audio reproducer, and a speech-to-electricity transducer. An obsolete usage of this term (telephone) is broad enough to include a microphone or reproducer; however, a microphone or reproducer, per se, is classified in Class 381.

SUBCLASSES

1.01 DIAGNOSTIC TESTING, MALFUNCTION INDICATION, OR ELECTRICAL CONDITION MEASUREMENT:
This subclass is indented under the class definition. Subject matter for either (a) evaluating or monitoring the condition of a telephone system or a component thereof in order to determine the presence of a faulty or nonstandard condition or (b) quantitatively determining an electrical parameter of a telephone system or component thereof.

(1) Note. Testing to determine which one of several normal status conditions exist (e.g., busy-idle, off-hook) is not classified in this or indented subclasses.

(2) Note. The testing or measurement must be specifically claimed as in or for a telephone system or a component thereof for classification in this or indented communication or telecommunication system is not sufficient for classification in these subclasses.

SEE OR SEARCH CLASS:
324, Electricity: Measuring and Testing, appropriate subclasses for an electrical measurement or test not limited to a telephone instrument or system.
361, Electricity: Electrical Systems and Devices, subclasses 1 through 138 for safety and protection of electrical systems and devices not provided elsewhere.
370, Communications: Multiplexing, subclasses 241 through 253 for fault indication of a packet switch or circuit switching network or line.
375, Pulse or Digital Communications, subclasses 224 through 228 for testing of a digital communications system.
381, Electrical Audio Signal Processing Systems and Devices, subclasses 58 through 60 for evaluation of an audio device other than telephone equipment.
455, Telecommunications, subclasses 423 through 425, 67.11-67.7, 115.1-115.4 and subclasses 226.1-226.4 for testing of a cellular radiotelephone system, system having transmitter and receiver at separated stations, and transmitter or receiver only station, respectively.

1.02 Of audio message storage and retrieval:
This subclass is indented under subclass 1.01. Subject matter including testing or qualifying an instrument used for the retention, recovery, or formation of an audible information signal (e.g., voice mail).

SEE OR SEARCH THIS CLASS, SUBCLASS:
67.1 through 88.28, for telephone system having an audio message storage, retrieval or synthesis, in general.

1.03 Of data transmission:
This subclass is indented under subclass 1.01. Subject matter including testing a two wire telephone line using an audio modulated data signal to indicate proper line quality.

SEE OR SEARCH THIS CLASS, SUBCLASS:
93.01 through 93.37, for transmission of a digital message signal over a telephone line in general.

1.04 Qualifying line for data transmission:
This subclass is indented under subclass 1.03. Subject matter including rating the line quality for particular measurements

(1) Note. For example, rating the line for baud rates 14.4 k or 28.8 k.

2 Including fault responsive disconnection of tested component:
This subclass is indented under subclass 1. Subject matter including automatic removal from operation of a component evaluated as faulty.

3 Of hybrid, or echo suppressor or canceller:
This subclass is indented under subclass 1. Subject matter for testing a device for coupling a two-wire to four-wire interconnecting circuit or for eliminating an echo effect in a telephone system.

SEE OR SEARCH THIS CLASS, SUBCLASS:
345, 391 and 402+, for a hybrid in telephone equipment.
406+, for an echo suppressor.

4 Of repeater:
This subclass is indented under subclass 1. Subject matter which tests a device which amplifies or transfers a signal between two telephone circuits, or circuit sections.

SEE OR SEARCH THIS CLASS, SUBCLASS:
338+, for a telephone repeater.

SEE OR SEARCH CLASS:
370, Multiplex Communications, subclass 243 for fault detection of a multiplex repeater, and subclasses 246+ for testing of a standard operation of a multiplex repeater.
375, Pulse or Digital Communications, subclass 213 for testing of a pulse or digital repeater.

7 For detection of eavesdropping device:
This subclass is indented under subclass 1. Subject matter to determine whether an undesired or surreptitious receiving device is connected to telephone equipment.

SEE OR SEARCH THIS CLASS, SUBCLASS:
35, for an eavesdropping device.

8 With blocking of normal usage:
This subclass is indented under subclass 1. Subject matter including prevention of normal use of a telephone system component being evaluated.

SEE OR SEARCH THIS CLASS, SUBCLASS:
381, for a make busy circuit, in general.

9 Of centralized switching system:
This subclass is indented under subclass 1. Subject matter for evaluating the operation of a system or component which selectively connects two of a plurality of telephone lines for communication therebetween.

SEE OR SEARCH THIS CLASS, SUBCLASS:
242+, for a centralized telephone switching system.

9.01 Software compatibility:
This subclass is indented under subclass 9. Subject matter including testing a new or replacement software in a telephone switching system to ensure its proper operation.

9.02 Maintenance console:
This subclass is indented under subclass 9. Subject matter including the use of a computer workstation for monitoring or routine testing the telephone network.

9.03 Trouble ticket reporting:
This subclass is indented under subclass 9. Subject matter including reception at the maintenance unit a report of system malfunction.

9.04 Record or report generation:
This subclass is indented under subclass 9. Subject matter including generating action reports with regards to the outcome of a particular testing sequence including initial input parameters.

SEE OR SEARCH THIS CLASS, SUBCLASS:
116, and 119, for hardcopy record generating in the interexchange or telephone call charge metering or monitoring.

9.05 Backup system:
This subclass is indented under subclass 9. Subject matter including the use of a spare equipment in case of failure or overload of the primary system.

9.06 Of line interface circuitry:
This subclass is indented under subclass 9. Subject matter including testing of circuitry which connects a subscriber line or instrument to a telephone switching system or network (e.g., analog to digital interface).

(1) Note. The subscriber line interface circuitry (SLIC) performs conventional Borscht functions such as, power to the telephone (battery feed), over voltage protection, ringing, on or off hook status

(supervision), codec, 2 to 4 wire conversion (hybrid), and testing.

SEE OR SEARCH THIS CLASS, SUBCLASS:
399.01 through 413.04, for telephone subscriber line to transmission line interface, in general.

10.01 By automatic testing sequence:
This subclass is indented under subclass 9. Subject matter which serially performs plural steps included in a central switching arrangement evaluation.

10.02 By call generator:
This subclass is indented under subclass 10.01. Subject matter which automatically places the call by the test equipment in order to perform the testing operation.

10.03 Script file generation or execution:
This subclass is indented under subclass 10.01. Subject matter which determines a plurality of steps needed to perform the testing sequence.

11 Routiner:
This subclass is indented under subclass 10. Subject matter wherein centralized switching equipment is tested by performing actual line selection.

12 With dedicated testing line or trunk:
This subclass is indented under subclass 9. Subject matter including a line or trunk used exclusively for measurement or diagnostic testing.

13 Of call timing or charging equipment:
This subclass is indented under subclass 9. Subject matter for evaluating equipment which measures call duration or cost.

SEE OR SEARCH THIS CLASS, SUBCLASS:
111+, for a call timing and charging arrangement.

14 Of plural exchange network:
This subclass is indented under subclass 9. Subject matter wherein a plurality of switching offices facilities are tested.

SEE OR SEARCH THIS CLASS, SUBCLASS:
219+, for a plural exchange telephone network.

14.01 Fault segmentation (e.g., error location in network):
This subclass is indented under subclass 14. Subject matter including locating a fault within a network of plural switching offices.

15.01 Of switching equipment or network element:
This subclass is indented under subclass 9. Subject matter for evaluating the operation of a individual telephone central office or peripheral equipment.

15.02 Advanced intelligent network (AIN):
This subclass is indented under subclass 15.01. Subject matter wherein computer based elements control the operation of the telephone network via out of band signaling (e.g., signaling system 7).

SEE OR SEARCH THIS CLASS, SUBCLASS:
230, for interexchange signaling with signaling path distinct from trunk.

15.03 Provisioning of service:
This subclass is indented under subclass 15.01. Subject matter includes testing the implementation or operation of newly added functions to the system (e.g., special services)

SEE OR SEARCH THIS CLASS, SUBCLASS:
201.01 through 218.01, for special services in telephonic communications in general.

15.04 Of plural AIN elements:
This subclass is indented under subclass 15.01. Subject matter wherein testing of multiple advanced intelligent switches is to be performed.

15.05 Determining fault location:
This subclass is indented under subclass 15.04. Subject matter includes finding the exact fault place between network elements.

16 Of switching path:
This subclass is indented under subclass 15. Subject matter which evaluates the route of a switching connection through telephone switching equipment.

SEE OR SEARCH THIS CLASS, SUBCLASS:
273+, for alternate routing of a call connection.

17 Of switching selector:
This subclass is indented under subclass 15. Subject matter for testing a device which selects a branch of the switching path.

SEE OR SEARCH CLASS:
324, Electricity: Measuring and Testing, subclasses 415+ for testing of an electromagnetic switch.

18 By use of call address signal:
This subclass is indented under subclass 15. Subject matter which generates a selective switching control signal specifying a called station address.

SEE OR SEARCH THIS CLASS, SUBCLASS:
352+, for telephone call address signal generating, in general.

19 Rapid manual connecting structure for test equipment:
This subclass is indented under subclass 15. Subject matter designed or located for connection of a testing or measurement arrangement.

SEE OR SEARCH CLASS:
439, Electrical Connectors, appropriate subclasses for such connectors not limited to testing telephone switching devices.

20 Of switchboard element condition (e.g., lamp):
This subclass is indented under subclass 9. Subject matter for evaluating an element of an arrangement for manual line interconnection.

(1) Note. Such elements may include lamps or cords.

SEE OR SEARCH CLASS:
324, Electricity: Measuring and Testing, subclasses 403+ for testing of a lamp, in general.

21 Using portable test set (e.g., handset type):
This subclass is indented under subclass 1. Subject matter in which a line test or measurement is performed with a device which is small and light enough to be easily carried by an individual.

22 Of trunk or long line:
This subclass is indented under subclass 1. Subject matter wherein a characteristic of an interexchange or in specified telephone conductor is evaluated.

SEE OR SEARCH THIS CLASS, SUBCLASS:
27, for testing of a subscriber line or loop.

22.01 By loopback:
This subclass is indented under subclass 22. Subject matter including transmitting a known signal from a testing location over a communication path to a second remote location which retransmits the known signal back to the testing location for use in evaluating the transmission path or a device are the remote location.

SEE OR SEARCH CLASS:
370, Multiplex Communications, subclass 249 for loopback testing in a multiplex system.
714, Error Detection/Correction and Fault Detection/Recovery, subclass 716, for loopback testing of a communications circuit of general utility by a digital test signal.

22.02 By analysis of injected tone signal:
This subclass is indented under subclass 22.01. Subject matter which includes placing a signal into the system to be tested and comparing the parameters of the output signal from the system over a continuous range with the corresponding parameters of the signal input.

(1) Note. Such testing is often used in determination of degradation or crosstalk.

SEE OR SEARCH CLASS:
324, Electricity: Measuring and Testing, subclass 628 for measurement of interference between circuits.

22.03 Fault detection or fault location on telephone link (e.g., continuity, leakage):
This subclass is indented under subclass 22.01. Subject matter to determine the presence or location of a conductor fault in a telephone line conductor.

SEE OR SEARCH CLASS:
324, Electricity: Measuring and Testing, appropriate subclasses for electrical testing, in general.
370, Multiplex Communications, subclasses 242 through 253 for fault detection in a multiplex communications system.
381, Electrical Audio Signal Processing Systems and Devices, subclasses 58 through 60 for evaluation of an audio device other than telephone equipment.
455, Telecommunications, subclasses 423 through 425, 67.11-67.7, 115.1-115.4 and subclasses 226.1-226.4 for testing in a cellular radiotelephone system, system having transmitter and receiver at separated stations, and transmitter or receiver only station, respectively.

22.04 Of digital loop carrier:
This subclass is indented under subclass 22.03. Subject matter to determine the presence or location of a loop fault in a network transmission equipment used to provide a pair gain function.

22.05 Pair gain test controller:
This subclass is indented under subclass 22.04. Subject matter which includes a test controller connecting in tandem between testing facilities and central office switch which responds to test initiation signals by connecting a metallic pair to the test facilities at one end and to the subscriber voice frequency drop at the other end.

22.06 Having special connector:
This subclass is indented under subclass 22.03. Subject matter which includes an accessing device connected between the testing equipment and the device under test for facilitating the testing process or procedure.

22.07 Telephone multiconducting wires (e.g., tip, ring and ground wires):
This subclass is indented under subclass 22.03. Subject matter where a test signal is applied to more than one conductors under test to locate the fault.

22.08 Noise:
This subclass is indented under subclass 22.03. Subject matter wherein the evaluated parameter is representative of an unwanted electrical disturbance or a spurious signal in the circuit or substance being measured or tested.

23 Of line signalling:
This subclass is indented under subclass 22. Subject matter which evaluates the transmission or operation of a control signal on a telephone line.

24 Electrical parameter measurement (e.g., attenuation):
This subclass is indented under subclass 22. Subject matter including structure for providing a quantitative indication of an electrical characteristic of the line or trunk or the signal thereon.

SEE OR SEARCH CLASS:
324, Electricity: Measuring and Testing, subclasses 600+ for impedance measurement of a nontelephone line.

25 Conductor identification or location:
This subclass is indented under subclass 22. Subject matter for determining the identity or position of a telephone line conductor.

26.01 Testing of network terminating interface, subscriber trunk interface, or service function:
This subclass is indented under subclass 1.01. Subject matter for evaluating, measuring, or monitoring a characteristic of a subscriber s line or card as well as service function of an interface.

(1) Note. Include herein the U or T type network terminating interface, COT, SLIC, etc.

26.02 With a programmable or self-test device:
This subclass is indented under subclass 26.01. Subject matter which includes an automated diagnosis circuit connected thereto and automatically places test signals to test the subscriber s line card.

27.01 Testing of subscriber loop or terminal:
This subclass is indented under subclass 1.01. Subject matter for evaluating, measuring, or monitoring a characteristic of a subscriber line or station.

27.02 By generating call signal:
This subclass is indented under subclass 27.01. Subject matter which includes placing an actual telephone call into the system to be tested.

27.03 By analysis of testing signal:
This subclass is indented under subclass 27.01. Subject matter which includes placing a signal into the system to be tested and comparing the parameters of the output signal from the system over a continuous range with the corresponding parameters of the signal input.

27.04 By automatic testing sequence (e.g., programmable, test script or test call generation program):
This subclass is indented under subclass 27.01. Subject matter which includes placing signals into the system to be tested by using programmable, or automated testing device.

27.05 Having protection circuit (e.g., surge or short circuit protector):
This subclass is indented under subclass 27.01. Subject matter which includes over voltage, over current or surge prevention circuitry.

SEE OR SEARCH CLASS:
361, Electricity: Electrical Systems and Devices, subclasses 1 through 138, for safety and protection of electrical systems and devices not provided elsewhere.

27.06 Having electromechanical switch or relay:
This subclass is indented under subclass 27.01. Subject matter which includes connection or disconnection device for physically connecting or disconnecting communication device from or to the telephone line.

27.07 Having plugging maintenance or test module:
This subclass is indented under subclass 27.01. Subject matter includes simple faulty identification device capable to plug into telephone jack or to couple to tip and ring wires in subscriber s premises location to troubleshoot problem appeared on subscriber s loop or terminal.

27.08 Including sampling measurement technique:
This subclass is indented under subclass 27.01. Subject matter including measuring an input value at intervals.

28 Of data transmission instrument:
This subclass is indented under subclass 27. Subject matter for testing of a digital signal data terminal connected to a telephone line.

SEE OR SEARCH THIS CLASS, SUBCLASS:
93.01+, transmission of a digital message signal over a telephone line.

SEE OR SEARCH CLASS:
375, Pulse or Digital Communications, subclasses 224+ for testing a digital transmission instrument not part of a telephone arrangement.

29.01 Terminal arrangement to enable remote testing (e.g., testing interface):
This subclass is indented under subclass 27.01. Subject matter including a remote arrangement to facilitate localization of faults in, or localized testing of, either a substation or a subscriber loop.

(1) Note. The testing may be performed either at the substation or remotely, e.g., from a central office.

29.02 By simulator (e.g., computer simulates testing personnel):
Subject matter under class 29.01 including an automated device (e.g., a computer) which places testing signals into the system under test.

29.03 Voltage or current determination:
This subclass is indented under subclass 29.01. Subject matter having a device for measuring the voltage or current of telephone elements.

29.04 Voltage or current detector:
This subclass is indented under subclass 29.01. Subject matter having a device for sensing the voltage or current of telephone elements.

29.05 Metallic loop testing:
This subclass is indented under subclass 29.01. Subject matter which includes a single metallic test pair providing between the central office and the remote terminals of the pair gain system to accomplish metallic testing of the voice frequency drops for a plurality of carrier-served subscribers.

29.06 By dialing back the calling terminal:
This subclass is indented under subclass 29.01. Subject matter wherein a directory number of call equipment at originating site is dialed back, or identity (i.e., caller ID) of the call equipment at originating site is transmitted back from a device under test.

29.07 For a fault caused by an off-hook status:
This subclass is indented under subclass 29.01. Subject matter having a device detecting a telecommunication equipment seizing an office line.

(1) Note. For example, detecting a handset not returning to the switch latch after conversation.

29.08 For a fault caused by new added service or equipment (e.g., software compatible):
This subclass is indented under subclass 29.01. Subject matter wherein a problem occurred or previous configured condition changed from modification or addition of function or device into an existing telecommunications network.

29.09 With historical operating information database:
This subclass is indented under subclass 29.01. Subject matter diagnosing and segmenting a fault by comparing measured parameter with stored parameter in a storage memory.

29.1 Visual output (e.g., printing, displaying):
This subclass is indented under subclass 29.01. Subject matter wherein test result is presented in visible form.

29.11 Having telephone maintenance termination unit (e.g., MTU)
This subclass is indented under subclass 29.01. Subject matter includes a diagnostic circuit device placed at subscriber s terminal of a telephone line for analyzing fault and maintaining the line.

30 Loop impedance (e.g., resistance, capacitance):
This subclass is indented under subclass 27. Subject matter for measuring the electrical impedance along and across a subscriber line or terminal.

SEE OR SEARCH CLASS:
324, Electricity: Measuring and Testing, subclasses 600+ for electrical impedance measurement.

31 Of line signalling generator (e.g., dial, tone code generator):
This subclass is indented under subclass 27. Subject matter for testing or measuring a voice frequency signalling generator or an impulsing signal producing arrangement, in a terminal.

32.01 Monitoring:
This subclass is indented under subclass 1.01. Subject matter including observing, watching or checking the telephone system or device for a special purpose.

32.02 Trunk or long line:
This subclass is indented under subclass 32.01. Subject matter wherein a characteristic of an interexchange telephone conductor is being monitored.

32.03 AIN link:
This subclass is indented under subclass 32.02. Subject matter wherein an advanced intelligent network is being monitored.

(1) Note. An AIN includes generally three basic elements: a) signal control points (SCPs) or computerized database, b) signal switching points (SSPs) or digital

telephone switches, and c) signal transfer points (STPs) or packet switches that shuttle messages between SSPs and SCPs. In an AIN, one or more databases are queried using signaling system 7 (SS7) to determine how a call should be handled.

32.04 Subscriber line:
This subclass is indented under subclass 32.01. Subject matter includes monitoring of a telephone line connecting the local telephone central office to the subscribers telephone instrument or system.

32.05 Call tracing:
This subclass is indented under subclass 32.01. Subject matter includes finding evidence of a telephone call.

33 Alarm or emergency (e.g., cut line):
This subclass is indented under subclass 32. Subject matter where the indicated condition is of damage, or imminent hazard to, telephone equipment.

35 Listening-in or eavesdropping type:
This subclass is indented under subclass 32.01. Subject matter for making a telephone conversation audible to a person without the conversing parties being notified.

SEE OR SEARCH THIS CLASS, SUBCLASS:
85, for audio recording of a telephone conversation

36 FREE CALLING FROM PAYSTATION:
This subclass is indented under the class definition. Subject matter including a terminal, normally requiring payment for usage, which has provision for limited usage without payment.

(1) Note. This subclass includes both emergency and nonemergency free calling from a paystation, for example "0", "800" and "911" calls.

SEE OR SEARCH THIS CLASS, SUBCLASS:
45+, for emergency calling not including free calling from a paystation.
143, for a paystation.

37 EMERGENCY OR ALARM COMMUNICATIONS (E.G., WATCHMAN'S CIRCUIT):
This subclass is indented under the class definition. Subject matter for summoning response to a hazardous situation over a telephone line.

(1) Note. The term "hazardous situation" refers to a condition or occurrence posing imminent danger to life, health, or property.

(2) Note. The subject matter in this and it's indented subclasses included both systems solely for emergency use an details of adjunct to other systems to specifically provide for emergency situations. Further, an arrangement incidentally (e.g., an automatic dialer) be used for an emergency situation will be classified with such arrangement.

SEE OR SEARCH CLASS:
340, Communications: Electrical, subclasses 287+ for a signal box alarm arrangement, particularly subclass 288 for alarm transmission over a power line.

38 Personal monitoring (e.g., for the ill or infirm):
This subclass is indented under subclass 37. Subject matter wherein the hazardous situation is a condition of, or occurrence related to the well-being of an individual.

SEE OR SEARCH THIS CLASS, SUBCLASS:
52, for a telephone instrument particularly designed for a handicapped user.

39 Responsive to sensed nonsystem condition:
This subclass is indented under subclass 37. Subject matter which responds automatically to a condition, external to the telephone system.

SEE OR SEARCH THIS CLASS, SUBCLASS:
106+, for remote condition indication, other than an emergency or alarm condition, over a telephone line.

SEE OR SEARCH CLASS:
340, Communications: Electrical, subclasses 500+ for a condition responsive alarm system not including telephone apparatus.

40 Automatic dialing:
This subclass is indented under subclass 39. Subject matter which generates a predetermined call address signal for establishing a connection to a given telephone station.

SEE OR SEARCH THIS CLASS, SUBCLASS:
51, for automatic dialing in transmission of a recorded audio alarm message.

41 Transmission of recorded audio message:
This subclass is indented under subclass 39. Subject matter which sends a previously stored sound message signal over a telephone line in response to an emergency condition.

SEE OR SEARCH THIS CLASS, SUBCLASS:
51, for transmission of recorded audio message in emergency or alarm communications that is not automatically condition responsive.

42 Plural conditions:
This subclass is indented under subclass 39. Subject matter wherein more than one emergency or alarm condition is detected (e.g., fire, intrusion, health hazard).

43 Fire:
This subclass is indented under subclass 39. Subject matter wherein the detected condition is flame, heat or smoke.

44 Intrusion:
This subclass is indented under subclass 39. Subject matter wherein the detected condition is the entry of a living being into a given space.

SEE OR SEARCH CLASS:
340, Communications: Electrical, subclasses 541+ for an intrusion alarm not limited to telephone equipment.

45 Central office responsive to emergency call or alarm (e.g., "911", operator position display):
This subclass is indented under subclass 37. Subject matter wherein a central office has equipment to make a connection or provide a display for an emergency situation.

SEE OR SEARCH THIS CLASS, SUBCLASS:
36, for free calling from a paystation.

46 Called line or station condition responsive (e.g., recall if busy):
This subclass is indented under subclass 37. Subject matter where a condition of a called line or station controls further operation.

SEE OR SEARCH THIS CLASS, SUBCLASS:
33, for a telephone equipment alarm condition.
209, for this subject matter, in a nonalarm system.

47 Plural alarms over single line:
This subclass is indented under subclass 37. Subject matter wherein a plurality of alert signals are sent over one telephone line.

SEE OR SEARCH THIS CLASS, SUBCLASS:
42, for a condition responsive plural alarm signals.

48 Announcement or alarm received at terminal station (e.g., "butt-in", alarm):
This subclass is indented under subclass 37. Subject matter which enables a central station (a) to interrupt normal telephone communication to make an announcement to, or (b) to actuate an alarm at, a terminal station.

49 Central station with plural substations:
This subclass is indented under subclass 37. Subject matter having a single central alarm station connected to a plurality of terminal stations.

50 By pulse or digital signal:
This subclass is indented under subclass 37. Subject matter wherein the alarm signal is transmitted over a telephone line as a pulse or a digital signal.

SEE OR SEARCH THIS CLASS, SUBCLASS:
93.01+, transmission of a digital message signal over a telephone line.

SEE OR SEARCH CLASS:
375, Pulse or Digital Communications, appropriate subclasses for nontelephone digital communication.

51 With automatic dialing or transmission of recorded audio message:
This subclass is indented under subclass 37. Subject matter to either (a) generate a predetermined call address signal for establishing a connection to a given telephone station, or (b) send a previously stored sound message signal over a telephone line response to an emergency condition.

SEE OR SEARCH THIS CLASS, SUBCLASS:
69, for a call originating arrangement which transmits, a previously recorded audio message, not limited to an emergency condition.

52 INCLUDING AID FOR HANDICAPPED USER (E.G., VISUAL, TACTILE, HEARING AID COUPLING):
This subclass is indented under the class definition. Subject matter particularly designed for use by a physically impaired individual.

(1) Note. Devices specifically for coupling a hearing aid to a telephone (e.g., magnetic pickup, microphone holder) are classified herein.

SEE OR SEARCH THIS CLASS, SUBCLASS:
395, for a terminal having an amplifying arrangement.

SEE OR SEARCH CLASS:
340, Communications: Electrical, subclass 825.19 for communication or control for the handicapped.

55.1 HAVING NEAR FIELD LINK (E.G., CAPACITIVE, INDUCTIVE):
This subclass is indented under the class definition. Subject matter having a transceiver, a base station, and a limited range system (i.e., field strength=k/d where k is a constant and d=distance between the transceiver and base station antennas) whereby signal transfer is inductive or capacitive, rather than electromagnetic.

SEE OR SEARCH CLASS:
246, Railway Switches and Signals, subclass 8 for similar subject matter used in train dispatching.
343, Communications: Radio Wave Antennas, subclasses 700+ for an antenna used for baseband communication.
381, Electrical Audio Signal Processing Systems and Devices, subclass 79 for a one-way near field voice system.
455, Telecommunications, subclass 41.1 for a modulated carrier type near field communications systems.

56.1 HAVING LIGHT WAVE OR ULTRASONIC LINK FOR SPEECH OR PAGING SIGNAL:
This subclass is indented under the class definition. Subject matter wherein a telephone circuit connection is made by a transmitted electromagnetic wave group capable of propagating at the velocity of light (about 186,281 miles per second), or which has sonic vibrations above that of audible sound (16,000 Hz).

(1) Note. For classification herein there must be some connection to a telephone landline, for example, where a connection is made through a telephone operator or exchange.

(2) Note. Optical telephones are classified herein. For subcombinations involving optical communication see the search notes below.

SEE OR SEARCH CLASS:

340, Communications: Electrical, subclass 311.2 for a nonselective paging arrangement.

385, Optical Waveguides, appropriate subclasses for optical conducting elements, per se.

398, Optical Communications, various subclasses for systems and subsystems using an optical carrier.

56.2 Including fiber optic link within telephone network:

This subclass is indented under subclass 56.1. Subject matter wherein the electromagnetic wave is a light wave which propagates within a light transmitting waveguide in a telephone network.

SEE OR SEARCH CLASS:

385, Optical Waveguides, appropriate subclasses for optical conducting elements, per se.

56.3 Including infra-red link with landline telephone network:

This subclass is indented under subclass 56.1. Subject matter wherein the electromagnetic wave is in a range of radiation wavelengths invisible to the human eye lying between 750 nanometers and about 1 millimeter.

67.1 AUDIO MESSAGE STORAGE, RETRIEVAL, OR SYNTHESIS:

This subclass is indented under the class definition. System, process, or instrument for the two-way electrical transmission of intelligible audio information further comprising structure for the retention, recovery, or formation of an audio message signal.

(1) Note. Such storage or retrieval must include a telephone system component at least nominally claimed. Mere designation of the apparatus as a "telephone answering device" is, of itself, insufficient for classification in this or indented subclasses.

68 Dynamic audio signal recording or reproduction:

This subclass is indented under subclass 67.1. Subject matter which utilizes relative motion with respect to a record medium to perform the audio message storage or retrieval.

SEE OR SEARCH CLASS:

360, Dynamic Magnetic Information Storage or Retrieval, appropriate subclasses for a magnetic tape recorder.

369, Dynamic Information Storage or Retrieval, appropriate subclasses for a phonograph.

69 Call originating:

This subclass is indented under subclass 67.1. Subject matter including generating station-designating signals for initiation of telephonic communication with a designated station and subsequently transmitting a reproduced announcement hereto or recording a message therefrom.

(1) Note. The communication established is for connection to the recorder or reproducer.

(2) Note. The subject matter herein may include sequential selection of designated stations.

SEE OR SEARCH THIS CLASS, SUBCLASS:

40, and 51, for similar subject matter to transmit fire, burglar, or police calls or alarms over the telephone system.

355+, for an automatic telephone dialing device.

70 Call intercept or answering:

This subclass is indented under subclass 68. Subject matter including establishing of telephonic communication between a component connected to the recorder or reproducer and a distinct calling station connected to the telephone system in response to a calling signal initiated from the calling station.

(1) Note. The component is often the station being called.

(2) Note. The recorder or reproducer is usually actuated in response to the telephonic communication.

(3) Note. Such subject matter often includes both a reproducer for transmitting an announcement upon initial actuation and subsequently actuated recorder for generating a record of an incoming message.

71 Consecutive use of recorded phrases or words to form message:
This subclass is indented under subclass 70. Subject matter selectively supplying phrases or words in real time sequence to develop a complete announcement for transmission through the telephone system.

(1) Note. Typical of systems herein are time announcing systems in which different words are reproduced in a desired order so that the time is verbalized. For example: "The time is" -- "twelve" -- "fifty" -- "four", in which each quoted phrase has been reproduced from the storage medium.

(2) Note. Time announcing systems not limited to a telephone system are classified in Class 369, subclass 23.

SEE OR SEARCH CLASS:
368, Horology: Time Measuring Systems or Devices, subclass 63 for time announcing systems having details of the time measuring system.
369, Dynamic Information Storage or Retrieval, subclass 23 for time announcing systems not limited to telephone equipment.
704, Data Processing: Speech Signal Processing, Linguistics, Language Translation, and Audio Compression/ Decompression, subclasses 258+ for speech synthesis based on sequential sounds or bits.

72 Sequential or repeated announcement during single call initiated cycle:
This subclass is indented under subclass 70. Subject matter wherein the announcement is restarted or changed so as to form a series or repeated or changed announcements.

(1) Note. A "series" means at least one repetition or modification of an initial announcement.

73 Plural record carrier channels:
This subclass is indented under subclass 70. Subject matter wherein a single record carrier in the recorder or reproducer has a plurality of distinct record tracks thereon.

(1) Note. The term "record carrier" is the tangible object upon which the recorded signal is stored.

(2) Note. The plural tracks may be transversely displaced from each other.

(3) Note. The plural record tracks are often used for recording distinct receive messages.

SEE OR SEARCH THIS CLASS, SUBCLASS:
72, for remote control over a telephone system.

SEE OR SEARCH CLASS:
369, Dynamic Information Storage or Retrieval, subclasses 24.01 through 42.01 for remote control of a recording or reproducing device other than by a telephone system.

74 Remote control over telephone line:
This subclass is indented under subclass 70. Subject matter which operates the recorder or reproducer for other than its normal call responsive operation by a specified signal transmitted over the telephone system.

SEE OR SEARCH THIS CLASS, SUBCLASS:
102+, for remote control over a telephone system.

SEE OR SEARCH CLASS:
369, Dynamic Information Storage or Retrieval, subclasses 24.01 through 42.01 for remote control of a recording or reproducing device other than by a telephone system.

75 Remote dictation:
This subclass is indented under subclass 74. Subject matter for correction of the recorded message subsequent to recording and prior to reproduction of the final recorded incoming message.

(1) Note. Mere naming of a device as for "dictation" absent particular structure therefore is insufficient to provide classification in this subclass.

SEE OR SEARCH CLASS:
369, Dynamic Information Storage or Retrieval, subclasses 25.01 through 29.02 for dictation devices.

76 Announcement selection or replacement:
This subclass is indented under subclass 74. Subject matter wherein the operation includes choosing or changing a message to be transmitted by the reproducer to the telephone system in response to an incoming call.

(1) Note. A selection system may be used for a stock quotation. Such a system not limited to a telephone system is classified in Class 340, Communications: Electrical, subclasses 825.26+.

77 Control by generated tone:
This subclass is indented under subclass 74. Subject matter wherein the specified signal has an audio frequency component.

(1) Note. Included herein is control by push button telephone devices.

78 Acoustic coupling:
This subclass is indented under subclass 70. subject matter wherein the connection between the telephone system component and the reproducer or recorder is effected by a sound wave produced and detected by a complementary pair of transducers.

(1) Note. Such subject matter often involves a pair of such acoustic links in opposite directions.

SEE OR SEARCH THIS CLASS, SUBCLASS:
444, for an acoustic telephone system coupler.

79 With specified call initiated cycle control circuitry:
This subclass is indented under subclass 70. Subject matter including circuitry to control the actuation or deactuation of the recorder or reproducer in response to a telephone system condition related to an incoming call.

(1) Note. For classification herein, either details of the circuitry or response to a particular condition other than call receipt is required. Mere nominal recitation of circuitry responsive to call receipt is not classifiable herein, as such response is necessarily inherent in a call answering or intercepting device.

(2) Note. The "call initiated cycle" is a sequence of reproducing and recording mode of the recording and reproducing device.

80 Voice signal presence responsive:
This subclass is indented under subclass 79. Subject matter wherein the cycle control circuitry is responsive to the continuation, cessation, or absence of an incoming audio signal.

SEE OR SEARCH THIS CLASS, SUBCLASS:
81, for similar subject matter responsive to any other line condition.
420, for voice control of a telephone.

SEE OR SEARCH CLASS:
369, Dynamic Information Storage or Retrieval, subclasses 47.36 through 47.55 for mechanism control by control signal.

81 Call termination responsive (e.g., hang-up):
This subclass is indented under subclass 79. Subject matter wherein the cycle control circuitry is responsive to a line condition representative of the cessation of telephonic communications (e.g., open circuit, dial tone presence).

(1) Note. Such cessation may be effected by the caller hanging up or being disconnected.

82 Having specified call initiation (e.g., ringing) responsive circuitry:
This subclass is indented under subclass 79. Subject matter including a detail of circuitry responsive to a system or component condition related to call alert signalling or start of receipt of call.

83 Structural detail of storage medium drive:
This subclass is indented under subclass 79. Subject matter including a specific mechanical feature of a mechanism for causing relative emotion of the record medium.

84 At switching facility (e.g., central office, switchboard):
This subclass is indented under subclass 70. Subject matter wherein the component connected to the recorder or reproducer is located at a switching station to which a plurality of telephone circuits are connected.

SEE OR SEARCH THIS CLASS, SUBCLASS:
89.4+, for voice message storage or retrieval at a centralized location.

85 Recording of telephone signal during normal operation:
This subclass is indented under subclass 68. Subject matter wherein the record generated is of an audible signal in a telephone system, which signal exists independently of the recording device.

(1) Note. Normal operation includes, for example, two-way voice communication.

86 Inductive pickup:
This subclass is indented under subclass 85. Subject matter wherein the signal from the telephone system is coupled for record generating by two electrical devices having an interacting magnetic field.

SEE OR SEARCH THIS CLASS, SUBCLASS:
433, for an inductive telephone pickup.

87 Reproduced signal distributed over telephone line:
This subclass is indented under subclass 68. Subject matter wherein a reproduced information bearing audio signal is coupled by the telephone system to a remote station for conversion into sound.

(1) Note. This subclass includes use of a telephone system as a reproduced signal program distribution system.

SEE OR SEARCH THIS CLASS, SUBCLASS:
101, for audio program distribution over a telephone line, not limited to a reproduced signal.

SEE OR SEARCH CLASS:
381, Electrical Audio Signal Processing Systems and Devices, subclasses 77+ for one-way audio signal program distribution, not limited to a telephone system.

88.01 Voice activation or recognition:
This subclass is indented under subclass 67.1. Audio message storage, retrieval, or synthesis system wherein the system is responsive to the presence or absence of a spoken word.

SEE OR SEARCH THIS CLASS, SUBCLASS:
88.15, for a pager device activated by an audio message signal.

88.02 Voice verification (e.g., voice authorization, voiceprint, etc.):
This subclass is indented under subclass 88.01. Voice activation or recognition wherein access to the system is gained when the received spoken word matches a stored authorization signal.

SEE OR SEARCH CLASS:
704, Data Processing: Speech Signal Processing, Linguistics, Language Translation, and Audio Compression/Decompression, subclasses 231+ for speech signal processing and recognition using artificial intelligence.

88.03 Voice dialing:
This subclass is indented under subclass 88.01. Voice activation or recognition wherein a call address signal is initiated in response to a spoken word.

88.04 Voice controlled message management:
This subclass is indented under subclass 88.01. Voice activation or recognition wherein the audio message signal is manipulated or routed in response to a spoken word.

SEE OR SEARCH THIS CLASS, SUBCLASS:
88.22, for a process for organizing or controlling the receipt or delivery of a voice message.

88.05 Multilingual system or operation:
This subclass is indented under subclass 67.1. Audio message storage, retrieval, or synthesis system wherein the system is capable of manipulating or generating an audio message signal in more than one linguistical format.

SEE OR SEARCH CLASS:
704, Data Processing: Speech Signal Processing, Linguistics, Language Translation, and Audio Compression/Decompression, subclass 8 for a means or step to adapt to, process, or support plural languages in systems or in software, or to support the conventions or peculiarities of various national languages.

88.06 Language selection:
This subclass is indented under subclass 88.05. Multilingual system or operation wherein the system provides options enabling a user to select the linguistic format for the manipulation, storage, retrieval, or generation of an audio message signal.

88.07 Digital Signal Processing (DSP):
This subclass is indented under subclass 67.1. Audio message storage, retrieval, or synthesis system further comprising an operation in which an analog audio message signal is manipulated or processed in a digital format.

SEE OR SEARCH CLASS:
712, Electrical Computers and Digital Processing Systems: Processing Architectures and Instruction Processing (e.g., Processors), subclasses 34 through 35 for an auxiliary processor configured to perform high speed data manipulations.

88.08 Message signal analysis:
This subclass is indented under subclass 67.1. Audio message storage, retrieval, or synthesis system wherein the audio message signal is examined.

88.09 Statistical analysis (e.g., time, date, length of message, etc.):
This subclass is indented under subclass 88.08. Message signal analysis further comprising a means to collect, organize, or interpret specific quantitative audio message signal data.

SEE OR SEARCH THIS CLASS, SUBCLASS:
111+, for a means to determine the length, number, frequency, or cost of telephone usage combined with telephone equipment.

88.1 Including data compression:
This subclass is indented under subclass 88.08. Message signal analysis further comprising a method for reducing the size of the audio message signal by eliminating unnecessary information, such as blank or redundant data for efficient storage, transmission, or organization.

SEE OR SEARCH CLASS:
341, Coded Data Generation or Conversion, subclass 60 for converting to or from codes comprising more than one shorter data words so that they can be handled by a machine component designed for longer data words.
708, Electrical Computers: Arithmetic Processing and Calculating, subclass 203 for representing a number or group of numbers by a smaller number of digits than that possessed originally or the inverse operation.

709, Electrical Computers and Digital Processing Systems: Multiple Computer or Process Coordinating, subclass 247 for multicomputer data transferring having a means to reduce the transfer payload volume or to recover the data from a compressed payload.

710, Electrical Computers and Digital Data Processing Systems: Input/Output, subclass 68 for data compression or expansion for improving transfer efficiency between peripheral devices.

88.11 Display of message related information:
This subclass is indented under subclass 67.1. Audio message storage, retrieval, or synthesis system having a means to view data or information relating to the audio message signal in a visual format.

SEE OR SEARCH THIS CLASS, SUBCLASS:

88.12, for an audio message storage, retrieval, or synthesis system having a visual or audio message notification.

SEE OR SEARCH CLASS:

345, Computer Graphics Processing and Selective Visual Display Systems, appropriate subclasses for a process or apparatus for selective electrical control of two or more light-generating or light-controlling display elements.

88.12 Indication or notification of message:
This subclass is indented under subclass 67.1. Audio message storage, retrieval, or synthesis system further comprising an audio or visual signal alerting the user to the presence of a recorded or stored audio message signal.

SEE OR SEARCH THIS CLASS, SUBCLASS:

88.11, for an audio message storage, retrieval, or synthesis system having a means to view data or information relating to an audio message signal.

SEE OR SEARCH CLASS:

340, Communications: Electrical, subclasses 500+ for a conditional response indicating system.

88.13 Multimedia system (e.g., voice output combined with fax, video, text, etc.):
This subclass is indented under subclass 67.1. Audio message storage, retrieval, or synthesis system further comprising a means to accept or transmit an audio message signal in a secondary format.

88.14 Presentation format conversion:
This subclass is indented under subclass 88.13. Multimedia system having a means to convert the audio message signal data to a user specified format.

88.15 Pager activation:
This subclass is indented under subclass 88.13. Multimedia system wherein a pager device is activated in response to an audio message signal.

SEE OR SEARCH THIS CLASS, SUBCLASS:

88.01, for a voice activated audio message storage, retrieval, or synthesis system.

SEE OR SEARCH CLASS:

340, Communications: Electrical, subclasses 7.2 through 7.63 for a selective communication system with a paging means and 311.2 for a nonselective paging system.

88.16 Voice message synthesis:
This subclass is indented under subclass 67.1. Audio message storage, retrieval, or synthesis system further comprising a means to formulate a system-generated spoken message.

SEE OR SEARCH CLASS:

704, Data Processing: Speech Signal Processing, Linguistics, Language Translation, and Audio Compression/Decompression, subclasses 258+ for a system wherein component parts of a speech signal are combined to produce a synthetic speech output.

88.17 Interaction with an external nontelephone network (e.g., Internet):
This subclass is indented under subclass 67.1. Audio message storage, retrieval, or synthesis system wherein the telephone system is capable of transmitting and receiving audio mes-

sage signal information over a secondary network.

SEE OR SEARCH THIS CLASS, SUBCLASS:
90.01+, for a telephone line or system in combination with a diverse electrical system or signaling.

SEE OR SEARCH CLASS:
709, Electrical Computers and Digital Processing Systems: Multiple Computer or Process Coordinating, appropriate subclasses for multicomputer data transferring.

88.18 Interacting voice message systems:
This subclass is indented under subclass 67.1. Audio message storage, retrieval, or synthesis system wherein a voice message signal is processed by plural intercommunicating messaging.

88.19 Call source identification:
This subclass is indented under subclass 67.1. Audio message storage, retrieval, or synthesis system wherein a means is provided to disclose information regarding an originating call signal.

SEE OR SEARCH THIS CLASS, SUBCLASS:
88.11, for the display of message related information.
142, for calling number display or recording at called substation.

88.2 Automatic Number Identification (ANI):
This subclass is indented under subclass 88.19. Call source identification wherein the disclosed information is an originating telephone number.

Note. A positive recitation of an Automatic Number Identification (ANI) is required for classification in this subclass.

88.21 Caller identification received at substation:
This subclass is indented under subclass 88.19. Call source identification wherein the disclosed information relating to the incoming call is forwarded to a substation.

88.22 Message management:
This subclass is indented under subclass 67.1. Audio message storage, retrieval, or synthesis system further including a process for organizing, directing, distributing, or switching an incoming or outgoing audio message signal.

88.23 Controlled by subscriber or caller:
This subclass is indented under subclass 88.22. Call management system wherein the organization, distribution, or switching of an incoming or outgoing audio message signal is completed in response to an input from the message recipient or originator.

88.24 By generated tone:
This subclass is indented under subclass 88.23. Subscriber or caller controlled audio signal management system wherein the controlling input is a system generated signal having a specified acceptable pitch.

88.25 Message storage in centralized location (e.g., central office, PBX, etc.):
This subclass is indented under subclass 88.23. Subscriber or caller controlled audio message signal management system wherein the audio message signal is held in a centralized memory location.

88.26 Recording voice message from nonsubscriber caller:
This subclass is indented under subclass 88.25. Centralized stored message wherein the stored audio message signal is generated by a system nonsubscriber.

88.27 Separate storage for voice and control information:
This subclass is indented under subclass 88.22. Call management system wherein message information and system instructional information are stored in discrete memory locations.

88.28 Solid state memory storage:
This subclass is indented under subclass 88.22. Call management system wherein the memory allocation is solid state.

SEE OR SEARCH CLASS:
365, Static Information Storage and Retrieval, appropriate subclasses for an apparatus or corresponding process

for the static storage and retrieval of information.

90.01 TELEPHONE LINE OR SYSTEM COMBINED WITH DIVERSE ELECTRICAL SYSTEM OR SIGNALLING (E.G., COMPOSITE):

This subclass is indented under the class definition. Subject matter wherein a nontelephone signal is transmitted over a conductor of telephone signals, *or* a telephone signal is transmitted over nontelephone electrical circuitry.

SEE OR SEARCH THIS CLASS, SUBCLASS:

66, for a telephone carrier over a power line.

110, for a composite telephone set.

SEE OR SEARCH CLASS:

340, Communications: Electrical, subclasses 538+ for signalling over a diverse electrical line.

370, Multiplex Communications, appropriate subclasses for simultaneous transmission of a telephone signal and another electrical communications signal, or multiplexing plural telephone signals, over a common channel.

90.02 Using Internet:

This subclass is indented under subclass 90.01. Subject matter wherein the transmission involves TCP/IP (Transmission Control Protocol/Internetwork Protocol).

91.01 Credit authorization:

This subclass is indented under subclass 90.01. Subject matter wherein the nontelephone signal is used to permit or deny a charge to an individual account over a telephone line.

SEE OR SEARCH THIS CLASS, SUBCLASS:

144, for a credit card operated pay station.

SEE OR SEARCH CLASS:

235, Registers, subclasses 380+ for a credit card operated register having significant card reading structure.

340, Communications: Electrical, subclasses 5.4 through 5.42 for credit authorization by intelligence comparison not limited to use of telephone equipment.

705, Data Processing: Financial, Business Practice, Management, or Cost/Price Determination, appropriate subclasses for business oriented applications for computers.

91.02 At switching station:

This subclass is indented under subclass 91.01. Subject matter including a switching facility having structure or circuitry for credit transaction processing.

92.01 Polling:

This subclass is indented under subclass 90.01. Subject matter wherein plural controlled devices transmit a personal or personal choice status signal in response to an interrogation signal.

(1) Note. The personal or personal choice signal may be successively transmitted.

SEE OR SEARCH CLASS:

348, Television, subclasses 14.01 through 14.16 for two-way voice and video communications.

455, Telecommunications, subclass 2.01 for radio audience survey and use of telephone equipment.

725, Interactive Video Distribution Systems, subclass 24 for interactive opinion polling in a video distribution system.

92.02 Televoting:

This subclass is indented under subclass 92.01. Subject matter wherein the personal or personal choice status signal is used to cast a vote.

SEE OR SEARCH CLASS:

705, Data Processing: Financial, Business Practice, Management, or Cost/Price Determination, subclass 12 for voting.

92.03 Having central station equipment:

This subclass is indented under subclass 92.01. Subject matter including a central station with specific structure or circuitry for status signal processing.

92.04 Having subscriber station equipment:
This subclass is indented under subclass 92.01. Subject matter including a user terminal with specific structure or circuitry for generating or transmitting the status signal.

93.01 Having transmission of a digital message signal over a telephone line:
This subclass is indented under subclass 90.01. Subject matter for transfer of message information by either a multi-level pulse signal or a data signal consisting of a series of ones and zeros, over a line specifically described as a telephone line.

SEE OR SEARCH CLASS:
370, Multiplex Communications, appropriate subclasses for simultaneous voice and data communications.
375, Pulse or Digital Communications, subclass 222 for modems or data sets, per se.
709, Electrical Computers and Digital Data Processing Systems: Multiple Computer or Process Coordinating, appropriate subclasses for data transferring among multiple computer and digital processing systems.
710, Electrical Computers and Digital Data Processing Systems: Input/Output, subclasses 1+ for transferring data from one or more peripherals to one or more computers or digital data processing systems for the latter to process, store, or further transfer or for transferring data from the computers or digital data processing systems to the peripherals.

93.02 Access restricting:
This subclass is indented under subclass 93.01. Subject matter which permits or denies the rights to use remote digital computing or communication equipment.

SEE OR SEARCH CLASS:
707, Data Processing: Database and File Management, Data Structures, Or Document Processing, subclass 9 for privileged access to a database or file in a computer environment.
710, Electrical Computers and Digital Data Processing Systems: Input/Output, subclasses 36+ for digital data processing system Input/Out access regulating and subclasses 107+ for bus access regulating in a digital data processing system.
713, Electrical Computers and Digital Processing Systems: Support, subclasses 182 through 186 for system access control based on cryptographic user identification.

93.03 Personal identification:
This subclass is indented under subclass 93.02. Subject matter whereby access is granted by matching user characteristics (e.g., voiceprint, fingerprint, signature) of the person desiring access.

SEE OR SEARCH CLASS:
382, Image Analysis, subclasses 115+ for personnel identification.

93.04 Two or more calls:
This subclass is indented under subclass 93.02. Subject matter whereby gaining access requires multiple calls.

93.05 Terminal interface circuitry:
This subclass is indented under subclass 93.01. Subject matter having a specific electronic arrangement interrelating a device or equipment to the telephone line.

SEE OR SEARCH THIS CLASS, SUBCLASS:
399, for connecting a telephone communications line to a central switching office or a subscriber station.
442, for connecting a device to the line by direct connection through the terminal.

93.06 Digital:
This subclass is indented under subclass 93.05. Subject matter wherein the interface circuitry is connected to a telephone line in which the information is encoded as a series of ones and zeros.

93.07 To plural lines or networks:
This subclass is indented under subclass 93.05. Subject matter wherein the interface circuitry is for connecting to at least two telephone lines or groups of stations.

93.08 Transmission scheme (e.g., compression/ decompression, transmission rate):
This subclass is indented under subclass 93.01. Subject matter including a particular detail of a methodology in which the message signal is conveyed.

SEE OR SEARCH THIS CLASS, SUBCLASS:
93.31, for modulated signal transmission scheme.
100.17, for image data transmission scheme.

SEE OR SEARCH CLASS:
348, Television, subclasses 14.12 through 14.15 for video signal transmission scheme.

93.09 Switching between different terminal types (e.g., voice/data switch):
This subclass is indented under subclass 93.01. Subject matter including an arrangement for selecting between diverse communication modes.

SEE OR SEARCH THIS CLASS, SUBCLASS:
100.15+, for switching to other communication modes in which the communication modes include a visual-graphic copy reproduction mode (e.g., facsimile mode).

93.11 Among at least three terminal types:
This subclass is indented under subclass 93.09. Subject matter wherein the arrangement includes switching among at least three different modes.

93.12 Sales, ordering, or banking system:
This subclass is indented under subclass 93.01. Subject matter wherein the transmitted digital message signal is used for financial transactions.

SEE OR SEARCH CLASS:
705, Data Processing: Financial, Business Practice, Management, or Cost/Price Determination, appropriate subclasses for business oriented applications for computers.

93.13 Amusement (e.g., game, lottery):
This subclass is indented under subclass 93.01. Subject matter wherein the digital message signal is for conducting a recreational activity.

SEE OR SEARCH CLASS:
455, Telecommunications, subclass 3.06 for entertainment systems.
463, Amusement Devices: Games, subclass 41 for games with a telephonic communication link.

93.14 Having switching station:
This subclass is indented under subclass 93.01. Subject matter including equipment which performs the functions of establishing and releasing connections and includes structure or circuitry for digital message signal processing.

93.15 Having format conversion:
This subclass is indented under subclass 93.14. Subject matter wherein an electronic structure is particularly adapted for transforming the digital message signal from one form into another form (e.g., text-to-voice, voice-to-text, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:
100.13, for image format conversion.

93.16 Diverse networks (e.g., PSTN, ISDN):
This subclass is indented under subclass 93.14. Subject matter including at least two different types of telephone systems.

(1) Note. PSTN stands for Public Switched Telephone Network, and ISDN stands for Integrated Services Digital Network.

93.17 Having station display:
This subclass is indented under subclass 93.01. Subject matter including a structure particularly adapted for conversion of a digital information signal into a visual message signal.

SEE OR SEARCH THIS CLASS, SUBCLASS:
28, for testing of such an instrument.
142, 376, and 386, for subject matter drawn to perceptible display of supervisory control signals.

SEE OR SEARCH CLASS:
375, Pulse or Digital Communications, subclasses 219+ for a digital signal transceiver.

93.18 Having tone code recognition for generating alphanumeric characters:
This subclass is indented under subclass 93.17. Subject matter including an arrangement for character or symbol pattern recognition to show letters of the alphabet or numerals.

SEE OR SEARCH THIS CLASS, SUBCLASS:
93.27, for generating alphanumeric information by tone codes.

SEE OR SEARCH CLASS:
345, Computer Graphics Processing and Selective Visual Display Systems, subclasses 25+ for alphanumeric display and character generator.

93.19 Having pressure or position sensitive surface (e.g., touch-screen, light pen):
This subclass is indented under subclass 93.17. Subject matter wherein the terminal display includes input means responsive to force or location along the display face.

SEE OR SEARCH CLASS:
178, Telegraphy, subclasses 18 and 87 for stylus and tablet.
345, Computer Graphics Processing and Selective Visual Display Systems, subclasses 173+ for touch panels, subclass 179 for stylus, and subclasses 180+ for light pen.

93.21 Having conferencing:
This subclass is indented under subclass 93.17. Subject matter which enables three or more data terminals on distinct subscriber lines to be included in a single call connection.

SEE OR SEARCH THIS CLASS, SUBCLASS:
202, for telephone conferencing.

SEE OR SEARCH CLASS:
348, Television, subclasses 14.08 through 14.1 for video conferencing.
370, Multiplex Communications, subclasses 260+ for special services with conferencing.

93.22 At pay station:
This subclass is indented under subclass 93.17. Subject matter wherein the structure includes a public telephone from which calls can be paid for by means of currency, credit, or debit.

SEE OR SEARCH THIS CLASS, SUBCLASS:
91.01+, for credit authorization.
143+, for check operated control (e.g., pay station).

93.23 Having user information display (e.g., telephone number, name, address, etc.):
This subclass is indented under subclass 93.17. Subject matter wherein the visual message signal is personal data.

SEE OR SEARCH THIS CLASS, SUBCLASS:
142, for calling number display.
354, for called number display.

93.24 Having electronic mail:
This subclass is indented under subclass 93.17. Subject matter wherein the information signal is assigned to a memory location for storage and retrieved by a station having access to the memory location (e.g., text mail).

SEE OR SEARCH THIS CLASS, SUBCLASS:
89.2+, for subscriber or caller control of central office audio message storage or retrieval.
100.08, for image electronic mailbox system.

SEE OR SEARCH CLASS:
358, Facsimile and Static Presentation Processing, subclass 402 for electronic mailbox.

93.25 Having remote database (e.g., videotex system):
This subclass is indented under subclass 93.17. Subject matter including a database having structure or circuitry for supplying information in electronic form from the database to subscriber terminals.

SEE OR SEARCH THIS CLASS, SUBCLASS:
100.11, for image information retrieval.

SEE OR SEARCH CLASS:
358, Facsimile and Static Presentation Processing, subclass 403 for document filing and retrieval system.
455, Telecommunications, subclasses 3.03 and 3.04 for remote control of distribution.
725, Interactive Video Distribution Systems, appropriate subclasses, especially subclasses 86 through 104 for user-requested video program system, subclasses 105-134 for video distribution with upstream communication, and subclasses 135-142 for one-way local video distribution system with local interaction.

93.26 By voice frequency signal (e.g., tone code):
This subclass is indented under subclass 93.01. Subject matter wherein the pulse or data signal is specifically described as converted into one or more tones lying within the audible frequency spectrum.

SEE OR SEARCH CLASS:
375, Pulse or Digital Communications, subclasses 219+ for modems and digital transceivers, per se.

93.27 Alphanumeric:
This subclass is indented under subclass 93.26. Subject matter including a structure particularly adapted for recognition of tone codes generated via dual-tone, multi-frequency signals into letters or numbers.

SEE OR SEARCH THIS CLASS, SUBCLASS:
93.18, for display of alphanumeric characters generated using tone code recognition.

93.28 Modulated audio tone:
This subclass is indented under subclass 93.26. Subject matter wherein a pulse or data signal causes a variation in the frequency, phase, or amplitude of an audible tone.

SEE OR SEARCH CLASS:
375, Pulse or Digital Communications, subclass 222 for modems.

93.29 Reconfigurable:
This subclass is indented under subclass 93.28. Subject matter wherein communication operating parameters can be reprogrammed to conform with different communication standards or perform different communication modes.

93.31 Protocol:
This subclass is indented under subclass 93.28. Subject matter including particular details of transmission scheme.

SEE OR SEARCH THIS CLASS, SUBCLASS:
93.08, for transmission scheme, not limited to use of modem.
100.17, for image data transmission scheme.

SEE OR SEARCH CLASS:
348, Television, subclasses 14.12 through 14.15 for video signal transmission scheme.

93.32 Initial setup:
This subclass is indented under subclass 93.31. Subject matter including a particular start-up handshaking sequence.

93.33 Having adjustable speed:
This subclass is indented under subclass 93.31. Subject matter wherein the transmission protocol includes different data transmission rates.

93.34 Having recognition and selection:
This subclass is indented under subclass 93.31. Subject matter including determination of one of a plurality of modulator-demodulator types and for connecting to a compatible type.

93.35 Having call-waiting:
This subclass is indented under subclass 93.28. Subject matter for signalling a first station in communication with a second station that a

third station desires communication with the first station.

SEE OR SEARCH THIS CLASS, SUBCLASS:
215, for call waiting with telephone equipment.

SEE OR SEARCH CLASS:
370, Multiplex Communications, subclasses 259+ for special services.
455, Telecommunications, subclasses 414.1 through 417 for special services in a radiotelephone system.

93.36 Line powered:
This subclass is indented under subclass 93.28. Subject matter including particular circuitry for deriving power from the telephone line to data communication equipment (DCE).

SEE OR SEARCH THIS CLASS, SUBCLASS:
102.04, for remote control of power source.

93.37 Having acoustic link:
This subclass is indented under subclass 93.26. Subject matter wherein a digital signalling device is connected to a telephone line by a sound wave passing between a complementary pair of electroacoustic transducers.

SEE OR SEARCH THIS CLASS, SUBCLASS:
78, for an acoustic link between a telephone answering device and a telephone line.
444, for a telephone acoustic coupler, per se.

100.01 To produce visual-graphic copy (e.g., facsimile):
This subclass is indented under subclass 90.01. Subject matter where the nontelephone signal is a visual or graphic representation of a document for producing a visually readable reproduction at a receiving station.

SEE OR SEARCH CLASS:
358, Facsimile and Static Presentation Processing, subclasses 500 through 540 for natural color facsimile, in general: and subclasses 400-304 for facsimile.

100.02 Having detachable device (e.g., detachable storage medium, scanner):
This subclass is indented under subclass 100.01. Subject matter having an arrangement wherein an element can be separated from a main unit.

SEE OR SEARCH THIS CLASS, SUBCLASS:
357, for insertable call signal generation circuitry (e.g., card).

SEE OR SEARCH CLASS:
358, Facsimile and Static Presentation Processing, subclass 473 for hand-held reader.

100.03 Usage system:
This subclass is indented under subclass 100.01. Subject matter wherein data related to each transmission operation is recorded or generated.

100.04 Communication charge calculation:
This subclass is indented under subclass 100.01. Subject matter wherein the cost of the transmission is tabulated.

SEE OR SEARCH THIS CLASS, SUBCLASS:
111+, for usage measurement.

100.05 Monitoring:
This subclass is indented under subclass 100.01. Subject matter wherein a condition of a visual-graphic copy reproduction is sensed or determined.

SEE OR SEARCH THIS CLASS, SUBCLASS:
1+, for diagnostic testing, malfunction indication, or electrical condition measurement.

SEE OR SEARCH CLASS:
358, Facsimile and Static Presentation Processing, subclasses 406 and 441 for facsimile calibrating and alarm.

100.06 Communication status notification:
This subclass is indented under subclass 100.01. Subject matter wherein information relating to a transmission/reception or line state is indicated.

100.07 Using mark sheet:
This subclass is indented under subclass 100.01. Subject matter performing operations based on information read from a marked form.

SEE OR SEARCH CLASS:
235, Registers, subclasses 375+ for systems controlled by data bearing records.
358, Facsimile and Static Presentation Processing, subclass 468 for facsimile control.

100.08 Electronic mailbox:
This subclass is indented under subclass 100.01. Subject matter wherein the transmitted message is assigned to a memory location for storage and retrieved by a station having access to the memory location.

SEE OR SEARCH THIS CLASS, SUBCLASS:
89.2+, for subscriber or caller control of central office audio message storage or retrieval.
93.24, for electronic mail messaging system, not limited to use of facsimile equipment.

SEE OR SEARCH CLASS:
358, Facsimile and Static Presentation Processing, subclass 402 for electronic mailbox.

100.09 Relay system:
This subclass is indented under subclass 100.01. Subject matter wherein the message is transmitted to some intermediate point, and at a later time, further retransmitted to a remote destination.

SEE OR SEARCH CLASS:
358, Facsimile and Static Presentation Processing, subclass 407 for facsimile relay system.
455, Telecommunications, subclasses 7+ for signal repeaters that may regenerate the repeated signal and which are used in radio systems.

100.11 From a library:
This subclass is indented under subclass 100.01. Subject matter wherein the visual or graphic information accessed is from a collection of such information.

SEE OR SEARCH THIS CLASS, SUBCLASS:
93.25, for remote database, not limited to use of facsimile equipment.

SEE OR SEARCH CLASS:
358, Facsimile and Static Presentation Processing, subclass 403 for document filing and retrieval system.

100.12 Connection to plural networks or lines:
This subclass is indented under subclass 100.01. Subject matter including connection to at least two telephone lines or networks.

SEE OR SEARCH THIS CLASS, SUBCLASS:
93.07, for plural networks or lines, not limited to use of facsimile equipment.

100.13 Format conversion:
This subclass is indented under subclass 100.01. Subject matter having a specific structure for transforming the nontelephone signal to another form (e.g., image-to-voice, image-to-text, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:
93.15, for format conversion at switching station.

100.14 Call signal generation (e.g., auto-dial):
This subclass is indented under subclass 100.01. Subject matter wherein a called station address signal is transmitted.

SEE OR SEARCH THIS CLASS, SUBCLASS:
355+, for repertory or abbreviated call signal generation.

SEE OR SEARCH CLASS:

358, Facsimile and Static Presentation Processing, subclass 440 for telephone number or address of designator.

455, Telecommunications, subclass 564 for radiotelephone equipment with auto-dialing or repertory dialing.

100.15 Having switching to other communication modes:

This subclass is indented under subclass 100.01. Subject matter including an arrangement enabling connection between different communication types.

SEE OR SEARCH THIS CLASS, SUBCLASS:

93.09+, for switching between different communication modes, not limited to use of facsimile equipment.

100.16 Voice mode:

This subclass is indented under subclass 100.15. Subject matter wherein the different communication types include an intelligible human sound mode.

SEE OR SEARCH THIS CLASS, SUBCLASS:

67.1+, for audio message storage, retrieval, or synthesis.

100.17 Transmission scheme:

This subclass is indented under subclass 100.01. Subject matter including a particular detail of the transmission protocol.

SEE OR SEARCH THIS CLASS, SUBCLASS:

93.08, for transmission scheme, not limited to use of facsimile equipment.

93.31, for modulated signal transmission scheme.

SEE OR SEARCH CLASS:

348, Television, subclasses 14.12 through 14.15 for video signal transmission scheme.

101.01 Audio program distribution:

This subclass is indented under subclass 90.01. Subject matter where an audio program is transmitted to subscribers over a telephone system.

SEE OR SEARCH THIS CLASS, SUBCLASS:

87, for program distribution of dynamically retrieved audio signal (e.g., from a storage medium).

SEE OR SEARCH CLASS:

381, Electrical Audio Signal Processing Systems and Devices, subclasses 77+ for one-way audio signal program distribution.

455, Telecommunications, subclasses 3.01 through 3.06 for radio program distribution, other than by telephone equipment.

725, Interactive Video Distribution Systems, for appropriate subclasses.

102.01 Remote control:

This subclass is indented under subclass 90.01. Subject matter wherein the signal is used to operate a distant device over a telephone line.

SEE OR SEARCH THIS CLASS, SUBCLASS:

74+, for remote control of a telephone answering device.

SEE OR SEARCH CLASS:

340, Communications: Electrical, subclasses 825+ for remote control system not specified as using a telephone line.

102.02 Communication device:

This subclass is indented under subclass 102.01. Subject matter wherein the device has the primary function of receiving or transmitting information.

102.03 Entertainment appliance (e.g., TV, VCR, radio, etc.):

This subclass is indented under subclass 102.02. Subject matter wherein the device converts media signals into humanly perceivable signals, typically sight or sound, or records the media signals for later playback.

SEE OR SEARCH CLASS:
348, Television, subclass 734 for remote control device not specified as using a telephone line.
455, Telecommunications, subclasses 352+ for remote control of a radio receiver.

102.04 Power source:
This subclass is indented under subclass 102.02. Subject matter wherein the control is directed toward applying electric energy to the communication equipment.

SEE OR SEARCH THIS CLASS, SUBCLASS:
93.36, for power supply of modem.

102.05 Of heating, ventilation, air conditioner (e.g., HVAC):
This subclass is indented under subclass 102.01. Subject matter wherein the device controls a climate or circulates air.

102.06 Of physical entrance or exit lock:
This subclass is indented under subclass 102.01. Subject matter wherein the control restricts movement of a person by permitting or preventing ingress or egress through a door or other similar structural closure.

SEE OR SEARCH THIS CLASS, SUBCLASS:
167+, for an intercom system.

SEE OR SEARCH CLASS:
70, Locks, appropriate subclasses for a lock.
235, Registers, subclass 382 for coded record controlled access control.
340, Communications: Electrical, subclasses 5.2 through 5.74 for an electrical access control arrangement responsive to intelligence comparison.

102.07 Having indication:
This subclass is indented under subclass 102.01. Subject matter wherein a condition or state of the controlled device is reported in humanly perceivable form.

106.01 Remote indication over telephone line (e.g., telemetry):
This subclass is indented under subclass 90.01. Subject matter for providing a signal representing a sensed condition at a distant station via the telephone line.

SEE OR SEARCH THIS CLASS, SUBCLASS:
39+, for similar subject matter which is responsive to an emergency or alarm condition.

SEE OR SEARCH CLASS:
340, Communications: Electrical, subclasses 500+ for sensed condition attainment signalling and subclasses 870.01+ for telemetering system.

106.02 Patient monitoring:
This subclass is indented under subclass 106.01. Subject matter wherein the sensed condition includes medical data of an individual.

SEE OR SEARCH CLASS:
128, Surgery, subclass 904 for telephone telemetry.

106.03 Meter reading:
This subclass is indented under subclass 106.01. Subject matter where the sensed condition is a measurement of a quantitative indicating device.

SEE OR SEARCH CLASS:
340, Communications: Electrical, subclasses 870.02+ for telemetering of a meter indication.

106.04 Having power supply circuitry:
This subclass is indented under subclass 106.03. Subject matter including particular electrical devices for connecting electrical energy to the meter.

106.05 Having ringing suppression:
This subclass is indented under subclass 106.03. Subject matter wherein the signal is exchanged between a central station and the subscriber's telephone without causing the telephone bell to sound.

SEE OR SEARCH THIS CLASS, SUBCLASS:
106.09, for ringing suppression, not limited to use of meter reading equipment.

106.06 Having time window:
This subclass is indented under subclass 106.03. Subject matter wherein the sensed condition is transmitted to a central station at an appointed time period.

106.07 Having interrogation signal:
This subclass is indented under subclass 106.03. Subject matter wherein the sensed condition is transmitted to a central station in response to a request signal initiated by the central station.

SEE OR SEARCH THIS CLASS, SUBCLASS:
106.11, for interrogation signal, not limited to use of meter reading equipment.

106.08 Having line status detection:
This subclass is indented under subclass 106.03. Subject matter including an arrangement for sensing an electrical state of a subscriber circuit.

SEE OR SEARCH THIS CLASS, SUBCLASS:
377, for line or loop condition detection.

106.09 Ringing suppression:
This subclass is indented under subclass 106.01. Subject matter wherein the signal is exchanged between a central station and the subscriber's telephone without causing the telephone bell to sound.

SEE OR SEARCH THIS CLASS, SUBCLASS:
106.05, for ringing suppression of meter reading equipment.

106.11 Interrogation signal:
This subclass is indented under subclass 106.01. Subject matter wherein the signal is transmitted to a central station in response to a request signal initiated by the central station.

SEE OR SEARCH THIS CLASS, SUBCLASS:
106.07, for interrogation signal of meter reading equipment.

108.01 Telegraphy:
This subclass is indented under subclass 90.01. Subject matter for transmitting a telephone signal over a telegraph circuit.

SEE OR SEARCH THIS CLASS, SUBCLASS:
93+, for transmission of a digital message signal over telephone equipment.

SEE OR SEARCH CLASS:
178, Telegraphy, subclasses 79+ for transmitters and subclasses 118+ for receivers.
370, Multiplex Communications, subclass 214 for simultaneous telegraphy and telephony.

108.02 Over telephone line:
This subclass is indented under subclass 108.01. Subject matter for transmitting a telegraph signal over a telephone line.

110.01 COMPOSITE SUBSTATION OR TERMINAL (E.G., HAVING CALCULATOR, RADIO):
This subclass is indented under the class definition. Subject matter in which a telephone instrument also has structure or circuitry for performing a diverse independent (i.e., non-telephone) function.

(1) Note. There may be a relationship between the telephone and diverse function, as in diverse audio muting.

SEE OR SEARCH THIS CLASS, SUBCLASS:
90+, for a composite telephone further including transmission of diverse signals or over a diverse line.

SEE OR SEARCH CLASS:
455, Telecommunications, subclasses 344+ for a receiver combined with diverse art device.

708, Electrical Computers: Arithmetic Processing and Calculating, subclass 109 for a digital calculating computer combined with a telephone or other communication device.

111 WITH USAGE MEASUREMENT (E.G., CALL OR TRAFFIC REGISTER):
This subclass is indented under the class definition. Subject matter which determines the length, number, frequency, or cost of telephone usage and is combined with telephone equipment.

(1) Note. The telephone usage determining equipment, per se, is classifiable elsewhere.

(2) Note. Such equipment often includes a register for counting calls, or determining time of usage.

SEE OR SEARCH THIS CLASS, SUBCLASS:
13, for testing of usage measurement equipment.

SEE OR SEARCH CLASS:
235, Registers, subclass 91 for a mechanical register operated by a telephone.
368, Horology: Time Measuring Systems or Devices, subclass 4 for a horological device controlled by a nominally recited telephone.
377, Electrical Pulse Counters, Pulse Dividers, or Shift Registers: Circuits and Systems, appropriate subclasses for an electrical counter or register, per se.

112.01 Call traffic recording by computer or control processor:
This subclass is indented under subclass 111. Subject matter including a computer or control processor for counting and registering the number of telephone calls.

112.02 Redundant processor or backup processor:
This subclass is indented under subclass 112.01. Subject matter wherein a primary processor or computer implements the functionality of telephone usage and if the primary processor fails, a secondary processor or computer is activated to take over its functionality.

112.03 Estimating blocking probability:
This subclass is indented under subclass 112.01. Subject matter wherein an estimation is performed to determine the possibility of a network being congested due to incoming call traffic to avoid being unable to service calls.

112.04 Threshold or limiting control (e.g., gapping control):
This subclass is indented under subclass 112.01. Subject matter wherein a load capacity of a network component is pre-established or established dynamically by a network to avoid congestion.

112.05 Optimization network configuration:
This subclass is indented under subclass 112.01. Subject matter wherein a network manager implements a plurality of options to service incoming call traffic by using different network components to avoid congestion.

112.06 Generalized statistics about telephone network usage:
This subclass is indented under subclass 112.01. Subject matter which gathers data to determine how network components are being utilized.

112.07 Carrier usage data:
This subclass is indented under subclass 112.06. Subject matter which determines a number of incoming calls being serviced by a carrier or the frequency by which a carrier is being used.

112.08 Trunk or path usage data:
This subclass is indented under subclass 112.06. Subject matter which determinates the frequency of using a communication line to service incoming calls.

112.09 Specialized exchange:
This subclass is indented under subclass 112.06. Subject matter which collects data or information about usage of 1-800, 1-900 and other virtual numbers.

112.1 Traffic rate for overload:
This subclass is indented under subclass 112.06. Subject matter wherein data or information is gathered over a period of time to

determine the congestion or overload rate of a network.

114.01 Call charge metering or monitoring:
This subclass is indented under subclass 111. Subject matter which determines the usage cost for a particular telephone set or the cost to a subscriber.

114.02 Least cost:
This subclass is indented under subclass 114.01. Subject matter wherein a service provider with the best competitive price or the cheapest cost among a plurality of providers is selected to service a subscriber.

114.03 Billing computing software or program:
This subclass is indented under subclass 114.01. Subject matter wherein a service provider utilizes a computer software or program in determining the cost of a telephone service provided to a subscriber.

114.04 Charge error detection:
This subclass is indented under subclass 114.01. Subject matter wherein charging apparatus is monitored to detect any error associated with determining telephone cost for any given subscriber.

114.05 Special service fees (e.g., customized feature):
This subclass is indented under subclass 114.01. Subject matter wherein a subscriber is charged for customized features in addition to a standardized telephone bill.

114.06 Variable rate:
This subclass is indented under subclass 114.01. Subject matter which charges a subscriber for telephone services as a function of factors affecting a network.

114.07 Bandwidth:
This subclass is indented under subclass 114.06. Subject matter wherein a subscriber is charged based on availability of bandwidth allocation.

114.08 Traffic:
This subclass is indented under subclass 114.06. Subject matter wherein a subscriber is charged based on pending call traffic data.

114.09 Time controlled:
This subclass is indented under subclass 114.06. Subject matter wherein a subscriber is charged based on the time of the day, or a specific day or month.

114.1 Incentive billing:
This subclass is indented under subclass 114.01. Subject matter wherein a subscriber is offered a special charge rate to encourage usage of network services.

114.11 Gaming:
This subclass is indented under subclass 114.1. Subject matter wherein a subscriber engaged in a telephone call can be offered opportunities to win a reward.

114.12 Discount or bargaining:
This subclass is indented under subclass 114.1. Subject matter wherein a subscriber is offered a cost lower than the standard cost based on telephone usage or plan subscribed to.

114.13 Advertisement:
This subclass is indented under subclass 114.1. Subject matter wherein a service provider provides information detailing rewards or offers for telephone usage.

114.14 Fraud detection or control:
This subclass is indented under subclass 114.01. Subject matter wherein fraudulent usage of a telephone or a subscribers account is determined and monitored.

114.15 Calling card:
This subclass is indented under subclass 114.01. Subject matter wherein a subscriber is enable to make a call by billing a card account number provided by a subscriber.

114.16 Recharging or replenishing an account or calling card:
This subclass is indented under subclass 114.15. Subject matter wherein a subscriber can re-activate a calling card or an account by adding more money to the account or card.

114.17 Monitoring account or card usage balance:
This subclass is indented under subclass 114.15. Subject matter wherein an account is monitored based on telephone usage.

114.18 Having complementary item (e.g., novelty):
This subclass is indented under subclass 114.15. Subject matter wherein items other than a card or in conjunction with a card with calling indicia can be used in making telephone calls.

114.19 Credit card:
This subclass is indented under subclass 114.15. Subject matter wherein a card, other than a calling card, used in paying for other services can be used in making telephone calls after verification.

114.2 Pre-paid calling account or card:
This subclass is indented under subclass 114.15. Subject matter wherein a subscriber has a pre-established account for telephone usage.

114.21 Redirect billing:
This subclass is indented under subclass 114.01. Subject matter wherein a party other than a calling party can be billed for telephone usage.

114.22 Split billing or cost sharing:
This subclass is indented under subclass 114.21. Subject matter wherein a plurality of subscribers can arrange to pay for a part of telephone usage cost.

114.23 Third party billing:
This subclass is indented under subclass 114.21. Subject matter wherein a party other than the calling or called party assumes responsibility for telephone cost.

114.24 1-800 billing:
This subclass is indented under subclass 114.21. Subject matter wherein a service provider pays for telephone usage cost when a subscribers calls to inquire about or order a provided service.

114.25 1-900 billing:
This subclass is indented under subclass 114.21. Subject matter wherein a subscriber pays for telephone cost associated with inquiring about a service being offered by a service provided or when ordering a service.

114.26 Based on unique account code:
This subclass is indented under subclass 114.21. Subject matter wherein a subscribers with a plurality of accounts can have telephone usage billed to a specific account based on a triggered code.

114.27 Portable number billing:
This subclass is indented under subclass 114.01. Subject matter wherein a subscriber is billed for telephone usage associated with an assigned unique directory number which can be used in several geographic location.

114.28 Advanced intelligent billing network (e.g., a billing service control processor):
This subclass is indented under subclass 114.01. Subject matter wherein a switch queries a centralized service control point database for billing information.

114.29 Using more than one advanced intelligent elements (e.g., accessing multiple AIN databases):
This subclass is indented under subclass 114.28. Subject matter wherein a plurality of service control point databases may be queried for billing information or a service management system (SMS) may be queried by a service control point for billing information.

115.01 Interexchange billing operation:
This subclass is indented under subclass 114.01. Subject matter wherein the charge determination is made at one exchange and then transmitted to another related to the calling station.

(1) Note. Included herein is the Centralized Automatic Message Accounting (CAMA) where the accounting for several central exchanges is handled at only one office.

SEE OR SEARCH THIS CLASS, SUBCLASS:
219 through 241, for interexchange switching or signaling.

115.02 Long distance billing:
This subclass is indented under subclass 115.01. Subject matter wherein a subscriber is billed for calls completed by an interexchange carrier.

115.03 Interfacing with foreign exchange:
This subclass is indented under subclass 115.01. Subject matter wherein interexchange carriers located in different countries co-operate to complete a call between a calling party and a called party.

116 Hardcopy record generating:
This subclass is indented under subclass 115. Subject matter for producing a permanent record of the call charge or basis therefor.

117 Of station on polystation or party line:
This subclass is indented under subclass 114. Subject matter which determines a call charge of a terminal on a party line

SEE OR SEARCH THIS CLASS, SUBCLASS:
177+, for a party line telephone system.

118 Identification of station:
This subclass is indented under subclass 117. Subject matter which determines to which station on a party line a call is charged.

SEE OR SEARCH THIS CLASS, SUBCLASS:
183, for party line station identification.

119 Hardcopy record generating (e.g., ticket printing):
This subclass is indented under subclass 114. Subject matter which produces a permanent record showing a numerical quantity indicating the call charge or basis therefor.

SEE OR SEARCH THIS CLASS, SUBCLASS:
116, for generating a hardcopy record at an exchange other than that to which the calling station is connecting.

120 With line identification or class of service determination:
This subclass is indented under subclass 119. Subject matter which ascertains the identity, or service entitlement, of a calling line.

121.01 At local exchange carrier (e.g., central switching office):
This subclass is indented under subclass 114.01. Subject matter wherein the call charge metering or monitoring is performed at a toll call network switching office to which a call is connected and passed through.

(1) Note. Example of a toll call network switching office herein is the long distance telephone service provider.

121.02 Discount charge rate or billing plan:
This subclass is indented under subclass 121.01. Subject matter wherein the call is priced at a preselected lower rate.

121.03 Multiple billing account:
This subclass is indented under subclass 121.01. Subject matter wherein a subscriber is having more than on charging account, and the call charge is selectively credited an account from a plurality of accounts.

(1) Note. For example, charging a call to the subscriber s credit card, calling card, or residential telephone account.

121.04 Detail of call history and rates database:
This subclass is indented under subclass 121.01. Subject matter including a database center for storing chronological record of calls to or from a telephone number, validating call information, or providing charge rates or account balance.

121.05 Call record modification:
This subclass is indented under subclass 121.04. Subject matter including adding, deleting, or changing information about a call in message fields of a billing.

121.06 Having network terminating point receiving registration from subscriber terminal:
This subclass is indented under subclass 121.01. Subject matter comprising at least one network identification unit (NIU) associated

with an unique network identification (ID) so that a subscriber s communications device can couple thereto for transmitting subscriber s parameters as an user s profile to the telecommunications network before the first call is made.

122 With display:
This subclass is indented under subclass 121. Subject matter which produces an indication of the call charge or basis therefor.

123 Paystation (e.g., escrow control):
This subclass is indented under subclass 121. Subject matter for measuring the cost of a call from a paystation.

SEE OR SEARCH THIS CLASS, SUBCLASS:
143+, for a paystation arrangement.

124 Pulse counting or accumulating (e.g., "message metering"):
This subclass is indented under subclass 121. Subject matter wherein the charge determination is made by accumulation of call connection timing pulses.

125 Local or zone:
This subclass is indented under subclass 124. Subject matter wherein the charge determination is made of calls within the local calling area.

126 Assembling billing record (e.g., automatic message account (AMA), call detail record (CDR), etc.):
This subclass is indented under subclass 124. Subject matter in which records data or captures events of the toll call occurred in the telecommunications network are necessary to prepare an itemized bill for a subscriber.

127.01 Having line identification associated with call billing (e.g., automatic number identification (ANI)):
This subclass is indented under subclass 126. Subject matter including telephone message accounting equipment to recognize telephone numbers of dialing stations.

127.02 Fraud control or billing restriction:
This subclass is indented under subclass 127.01. Subject matter including detection, identification of toll call cheating, or preventing a toll call connection to a particular area number that is not authorized in the billing contract.

127.03 Billing code or trigger code:
This subclass is indented under subclass 127.01. Subject matter wherein a dialing station provides dialed character(s) associated with a called directory number which enable the local exchange carrier to recognize and automatically charge a designated account.

127.04 Pricing a call made from different account (e.g., calling card, credit card):
This subclass is indented under subclass 127.01. Subject matter wherein various discount rates are applied to a toll call based on the type of card being used to make a call.

127.05 Billing option selection:
This subclass is indented under subclass 127.01. Subject matter wherein a caller as well as called party have an option to charge a toll call to a designated account during the call setup, during the conversation, or at the termination of the toll call.

(1) Note. The designated account may be a credit card account, bank account, prepaid account, etc.

127.06 Having terminal identification:
This subclass is indented under subclass 127.01. Subject matter including automatic call charging to a designated account based on the call terminal identity (e.g., calling, called, third party terminal, etc.).

128 Time of day controlled:
This subclass is indented under subclass 124. Subject matter to count or accumulate timing pulses at different rates controlled in accordance with the time of day.

SEE OR SEARCH CLASS:
368, Horology: Time Measuring Systems and Devices, subclasses 4 and 13 for time measurement controlled by, or combined with a telephone.

129 Manually set (e.g., key and lock):
This subclass is indented under subclass 121. Subject matter having a hand operated call charge metering device.

130 At subscriber station:
This subclass is indented under subclass 114. Subject matter wherein the determination is made at the location of the telephone set being monitored.

131 Time controlled:
This subclass is indented under subclass 130. Subject matter which modifies the call charge determination in accordance with time or elapsed duration.

132 Paystation (e.g., escrow control):
This subclass is indented under subclass 131. Subject matter for measuring the cost of a call from a paystation.

SEE OR SEARCH THIS CLASS, SUBCLASS:
143+, for a paystation arrangement.

133 Call traffic recording or monitoring:
This subclass is indented under subclass 111. Subject matter for making a determination of the total number of calls, or the number of calls per unit time.

SEE OR SEARCH THIS CLASS, SUBCLASS:
34, for measuring the response time of telephone equipment.

134 At central station:
This subclass is indented under subclass 133. Subject matter wherein the determination is made at a switching station spaced remotely from the user terminal.

135 With hardcopy record generation (e.g., ticket printing):
This subclass is indented under subclass 134. Subject matter which produces a permanent record showing the number of calls utilizing the particular monitored telephone system element.

136 With display:
This subclass is indented under subclass 134. Subject matter for producing a visual indication of the number of calls.

137 Trunk usage (e.g., peg count):
This subclass is indented under subclass 134. Subject matter which ascertains the number of calls on a shared trunk line.

138 All trunks busy metering:
This subclass is indented under subclass 137. Subject matter which determines the duration during which all trunks monitored are in a busy condition.

139 Counting the number of completed connections:
This subclass is indented under subclass 134. Subject matter for incrementing a totalling device by one unit in response to a successful call attempt.

140 At subscriber:
This subclass is indented under subclass 133. Subject matter wherein the determination is made at the location of a telephone terminal set.

141 Mechanical register:
This subclass is indented under subclass 140. Subject matter wherein the traffic information is sorted in a mechanical register.

142.01 RECEPTION OF CALLING INFORMATION AT SUBSTATION IN WIRELINE COMMUNICATIONS SYSTEM:
This subclass is indented under the class definition. Subject matter including a receiving, decoding, extracting, determining, routing, connecting, and controlling function to provide calling information related to an incoming call to be displayed at destination terminal.

(1) Note. This reception generally involves authentication or authorization (e.g., blocking or screening a call based on predetermined caller ID information).

(2) The purpose of this reception is for routing, retrieving information from a database, displaying, call waiting, time or

location indicating, and controlling of an incoming call.

SEE OR SEARCH THIS CLASS, SUBCLASS:

93.17 through 93.25, for this subject matter in the telephone system in combination with diverse electrical system (e.g., a computer system).

161, for this subject matter in a key telephone system.

183, for this subject matter in a polystation line system (i.e., party line).

211.02 through 212.01, for this subject matter in call diversion (e.g., call forwarding or routing).

245 through 249, for this subject matter in a centralized switching system (e.g., an interexchange or central office).

142.02 Blocking caller ID transmission:
This subclass is indented under subclass 142.01. Subject matter wherein the calling information is prevented to be transmitted over a telephone line or trunk.

(1) Note. For example, blocking the transmission of a telephone number or ANI (automatic number identification)).

142.03 Using a trigger code:
This subclass is indented under subclass 142.02. Subject matter wherein a calling party is required to enter a code associated with other caller identification for authentication or authorization.

(1) Note. For example, trigger code is a password.

142.04 Extracting call ID from transmitted signal:
This subclass is indented under subclass 142.01. Subject matter wherein a device or a circuitry located within a premise is used to decode caller information from an incoming call.

142.05 Authentication or authorization:
This subclass is indented under subclass 142.05. Subject matter wherein calling information is verified with information in a database to obtain permission to connect to a destination terminal.

142.06 Matching or retrieving stored caller ID information from a database:
This subclass is indented under subclass 142.05. Subject matter wherein an activity of call to be continued based on retrieved information or instruction from a memory storage at the destination terminal.

(1) Note. For example, matching a function, an instruction, a profile or data stored in the database.

142.07 Routing an incoming call on multiple lines to a particular appliance (e.g., facsimile, computer, or telephone):
This subclass is indented under subclass 142.01. Subject matter wherein an incoming call based on characteristics of the received signal is directed to various types of destination terminals.

142.08 Call waiting associated with caller ID information:
This subclass is indented under subclass 142.01. Subject matter wherein a third party incoming call information is displayed or indicated to the called party.

142.09 Non-assigned telephone number indication:
This subclass is indented under subclass 142.01. Subject matter wherein displayed caller ID information is not the subscribed telephone number of the caller (e.g., a nick-name).

142.1 Caller location indication (e.g., city, state, etc.):
This subclass is indented under subclass 142.01. Subject matter wherein the displayed caller ID information including names of the place where the caller initiated the call.

142.11 Caller local time indication:
This subclass is indented under subclass 142.01. Subject matter wherein the displayed caller ID information including a clock hour at the location where the caller initiated the call.

142.12 Including master-slave modules, parent-child terminals, or controller-adjunct units:
This subclass is indented under subclass 142.01. Subject matter wherein a substation comprising a control module operative as a master module connecting to subscriber tele-

phone line within a premises in order to control other dependable modules connected thereto.

142.13 Adaptive module coupled to telephone line or telephone device:
This subclass is indented under subclass 142.01. Subject matter comprising a coupling device to carry out a certain telephone function.

142.14 Format conversion:
This subclass is indented under subclass 142.13. Subject matter wherein the form of how the information is presented is changed to comply with the form of presentation used in the destination device.

142.15 Connecting to an external information processing terminal (e.g., computer):
This subclass is indented under subclass 142.01. Subject matter wherein an incoming call is processed by an external electronic data processor before displaying to a called party.

142.16 Having broadband premise equipment (i.e., TV):
This subclass is indented under subclass 142.01. Subject matter wherein calling information is displayed on a television type display unit.

142.17 Having display unit:
This subclass is indented under subclass 142.01. Subject matter comprising visual indication of caller information to called party.

142.18 Including DTMF signal:
This subclass is indented under subclass 142.01. Subject matter comprising dual tone multifrequency signaling for push button or touch tone dialing.

143 WITH CHECK OPERATED CONTROL (E.G., PAYSTATION):
This subclass is indented under the class definition. Subject matter wherein a telephone is operated by an authorized payment and includes telephone circuitry.

SEE OR SEARCH THIS CLASS, SUBCLASS:
36, for a paystation having provision for free calling.
123, for paystation charge metering at a central office.
132, for paystation charge metering at the terminal.

SEE OR SEARCH CLASS:
194, Check-Actuated Control Mechanisms, appropriate subclasses for a check controlled telephone mechanism, per se, or for a check controlled device of general utility.

144.01 Other than coin:
This subclass is indented under subclass 143. Subject matter wherein the telephone pay station accepts paper currency or a credit card.

144.02 Collect calling from pay phone:
This subclass is indented under subclass 144.01. Subject matter wherein a called party pays for telephone charges.

144.03 Fraud detection in payphone:
This subclass is indented under subclass 144.01. Subject matter to use a special circuitry embedded in the paystation to monitor and determine fraudulent usage.

144.04 Card reader:
This subclass is indented under subclass 144.01. Subject matter wherein a subscriber can insert or swipe a card in a paystation apparatus in order to make a call.

144.05 Payphone service associated or integrated with other communication device (e.g., computer or fax, etc.):
This subclass is indented under subclass 144.01. Subject matter wherein other communication devices are attached to or used with a paystation to effect communication.

144.06 Special circuitry for processing accounting data:
This subclass is indented under subclass 144.01. Subject matter wherein telephone usage cost is calculated by using a specialized accounting mechanism.

144.07 Information message notification at paystation:
This subclass is indented under subclass 144.01. Subject matter wherein a paystation outputs information to a user.

144.08 Visual display:
This subclass is indented under subclass 144.07. Subject matter wherein a service provider provides information on a display attached or integrated with a paystation.

145 Fraud or interference prevention:
This subclass is indented under subclass 143. Subject matter for mitigation of inaccurate or false indication of payment.

146 Coin signalling or control:
This subclass is indented under subclass 143. Subject matter having some detail of transmitting a signal, representative of the presence and denomination of a coin to, o0r controlling the disposition of a coin from, the central office.

147 Coin box audit or totalizer:
This subclass is indented under subclass 146. Subject matter where the amount or value of the coins in the coin box of the pay station is signalled.

148 Denomination:
This subclass is indented under subclass 146. Subject matter which determines the value of a deposited coin.

149 Post-pay coin collection:
This subclass is indented under subclass 146. Subject matter which accepts deposit of the coin after the connection is made between the pay station and a called subscriber.

(1) Note. Two-way audio connection is often not established until deposit of the required payment.

SEE OR SEARCH THIS CLASS, SUBCLASS:
123, for a pay station in which metered services (e.g., long distance toll charges) are paid in advance.

150 Coin disposition (i.e., return or collection):
This subclass is indented under subclass 146. Subject matter which sends a deposited coin into one of a plurality of coin handling paths e.g., selectively collecting or refunding coin).

SEE OR SEARCH THIS CLASS, SUBCLASS:
123, for similar subject matter having escrow control.

SEE OR SEARCH CLASS:
194, Check-Actuated Control Mechanisms, appropriate subclasses for a coin return mechanism not combined with telephone circuitry.

151 Upon connection to called station:
This subclass is indented under subclass 150. Subject matter wherein coin disposition is directly responsive to the successful call connection to a called party.

152 Magnet, electromagnet, or relay controlled from central office:
This subclass is indented under subclass 150. Subject matter wherein the paystation has a magnetic device controlled by a signal from a central switching station, the magnetic device in turn controlling the disposition of a deposited coin.

153 Paystation (e.g., controlled by refund key):
This subclass is indented under subclass 150. Subject matter wherein coin disposition is controlled by equipment at the paystation.

154 At central office:
This subclass is indented under subclass 143. Subject matter wherein the control function is performed at a switching station spaced remotely from the user terminal.

155 At terminal station (e.g., coin paystation):
This subclass is indented under subclass 143. Subject matter wherein the control is performed within or adjacent to the user terminal.

156 MULTI-LINE OR KEY SUBSTATION SYSTEM WITH SELECTIVE SWITCHING AND CENTRAL SWITCHING OFFICE CONNECTION:
This subclass is indented under the class definition. Subject matter including circuitry for allowing a subscriber terminal to be selectively connected to one of a plurality of lines, at least one of which is a public telephone line.

(1) Note. Each public telephone line is associated with a unique director number.

(2) Note. A PBX is a system connected to one of a plurality of shared usage lines (trunks) as opposed to lines associated with individual directory numbers; however, a key system may be associated with a PBX system.

157 With special service:
This subclass is indented under subclass 156. Subject matter providing for an additional service beyond normal telephone call signalling or connection (i.e., those not normally provided without additional fees).

(1) Note. Such services generally involve three or more stations or two or more call connections.

SEE OR SEARCH THIS CLASS, SUBCLASS:
201+, for centralized switching with special services.

158 Conferencing:
This subclass is indented under subclass 157. Subject matter enabling three or more terminals to be included in a single call connection.

SEE OR SEARCH THIS CLASS, SUBCLASS:
202+, for conferencing not limited to a key telephone system.

159 With intercom system:
This subclass is indented under subclass 156. Subject matter having a line which is not normally connected to the public telephone system.

(1) Note. These lines are often connected between terminals on the key-type system.

SEE OR SEARCH THIS CLASS, SUBCLASS:
167, for an intercom system, per se.

160 With connection of intercom station to subscriber line:
This subclass is indented under subclass 159. Subject matter including connecting an intercom instrument to a public telephone line.

161 With exclusion or priority feature (e.g., lockout or privacy):
This subclass is indented under subclass 156. Subject matter where use of one terminal on a particular line denies or cuts off access of another terminal to the line.

162 Detail of hold circuitry:
This subclass is indented under subclass 156. Subject matter including details of circuitry to allow an established telephone connection be maintained without the transmission or reception of audio signals.

SEE OR SEARCH THIS CLASS, SUBCLASS:
84, for dynamic reproduction of a recorded audio signal combined with line holding.
393, for line holding other than in a key system.

163 Electronic:
This subclass is indented under subclass 162. Subject matter having a discharge or solid state device.

164 Line status indication or call alerting:
This subclass is indented under subclass 156. Subject matter including circuitry to provide a perceptible indication of an incoming call or other status of one or more of the lines connected to a terminal.

165 Switching or supervision feature (e.g., common control, digital):
This subclass is indented under subclass 156. Subject matter which provides for connection control or signalling within a telephone key system.

166 Detail of line circuit or line card:
This subclass is indented under subclass 156. Subject matter including a subscriber loop or line circuit or an interchangeable support therefor.

(1) Note. Included herein are circuit boards having features of the subscriber loop or line.

167.01 PRIVATE (E.G., HOUSE OR INTERCOM) OR SINGLE LINE SYSTEM:
This subclass is indented under the class definition. Subject matter having (a) a plurality of stations none of which is connected to the public telephone system, and (b) two subsets connected by a single line.

167.02 At collective house:
This subclass is indented under subclass 167.01. Subject matter including intercom system for use in a building having a plurality of apartments, offices or the like.

167.03 At booth (e.g., at theater, gas station, etc.):
This subclass is indented under subclass 167.01. Subject matter including intercom system for use in a vending or show place which comprises a plurality of vending or show unit.

167.04 Having intercom switch:
This subclass is indented under subclass 167.03. Subject matter comprising a switching device for selectively connecting one of a plurality of intercom extensions to service control station or to other one of the intercom extensions.

167.05 Doorbell system:
This subclass is indented under subclass 167.01. Subject matter having circuitry which produces audible or other non-individualized signal for informing the present of an individual at a particular location.

167.06 Having access code:
This subclass is indented under subclass 167.05. Subject matter including the use of authorized code (e.g., PIN) for preventing unauthorized individual or unwanted call.

167.07 Having remote controlling station (e.g., gate guard or attendant):
This subclass is indented under subclass 167.05. Subject matter having another site to monitor the communication between the calling or caller sites.

167.08 Call addressing or announcing:
This subclass is indented under subclass 167.05. Subject matter in which the originating station generates a signal representing the called substation which signal actuates equipment to cause the desired connection.

167.11 Having connection to telephone line:
This subclass is indented under subclass 167.05. Subject matter comprising an intermediate system that connects call signals having different frequencies used among the private communication system and public service area.

167.12 Having display:
This subclass is indented under subclass 167.05. Subject matter comprising a terminal for displaying image of an individual at a particular location.

167.13 Having telephone adaptor system:
This subclass is indented under subclass 167.01. Subject matter including a modular circuitry which provides compatibility between the intercom and telephone systems.

167.14 Two-way voice channel:
This subclass is indented under subclass 167.01. Subject matter comprising bidirectional voice communication.

167.15 Having transducer circuitry:
This subclass is indented under subclass 167.01. Subject matter comprising a device which operates both as a speaker and as a microphone.

168 Lockout:
This subclass is indented under subclass 167. Subject matter which blocks access to the system by stations other than those involved in a specific communication.

169 Central power source:
This subclass is indented under subclass 168. Subject matter having a single energy source for the entire system.

170 With paging:
This subclass is indented under subclass 167. Subject matter which produces a perceptible call notification signal intended for a specific individual.

(1) Note. This subclass includes an audible or other individualized signal for summoning an individual to a particular location.

(2) Note. The subject matter in this subclass excludes ringing or other nonindividualized call alerting signals.

171 Having plural stations with selective calling (e.g., master):
This subclass is indented under subclass 167. Subject matter having three or more station at least two of which have provision to direct a call to any other station.

172 With call addressing:
This subclass is indented under subclass 171. Subject matter in which an originating station generates a signal representing the called station which signal actuates equipment to cause the desired connection.

173 With call addressing:
This subclass is indented under subclass 167. Subject matter in which the originating station generates a signal representing the called station which signal actuates equipment to cause the desired connection.

174 Including body or apparel supported terminal (e.g., headgear):
This subclass is indented under subclass 167. Subject matter in which a system has a voice terminal peculiarly adapted to be retained by a body portion or an article of clothing.

SEE OR SEARCH THIS CLASS, SUBCLASS:
430, for a body supported terminal.

175 For underwater use (e.g., in diver's suit):
This subclass is indented under subclass 174. Subject matter in which terminal is specifically adapted for operation by a submerged user.

SEE OR SEARCH CLASS:
367, Communications, Electrical: Acoustic Wave Systems and Devices, subclass 132 for an underwater speech communication system using acoustical waves in water as a portion of the transmission link.

176 With central power source:
This subclass is indented under subclass 167. Subject matter having a single electrical energy source for the entire system.

177 POLYSTATION LINE SYSTEM (I.E., PARTY LINE):
This subclass is indented under the class definition. Subject matter wherein the terminals of plural subscribers having different call addresses are connected to the central switching office by a single line.

SEE OR SEARCH CLASS:
178, Telegraphy, subclass 2 for party line telegraph systems.
340, Communications: Electrical, subclasses 825.38+ for selective party line signalling.

178 Revertive call:
This subclass is indented under subclass 177. Subject matter which enables calling another party on the same line.

179 Call alerting (e.g., ringing):
This subclass is indented under subclass 177. Subject matter which directs a call alerting signal to a party line subscriber terminal.

SEE OR SEARCH THIS CLASS, SUBCLASS:
252+, for call alerting.

180 Full selective or tuned (e.g., harmonic):
This subclass is indented under subclass 179. Subject matter which uniquely directs the ringing signal to a particular subscriber terminal.

(1) Note. The unique direction often uses frequency selection of the ringing signal.

181 Semi-selective (e.g., line side, polarized):
This subclass is indented under subclass 179. Subject matter wherein the ringing signal is directed to a subset of the terminals connected to the line.

(1) Note. The signal direction often uses control of the polarity of, or the side to which, the signal is directed.

182 Automatic or unattended:
This subclass is indented under subclass 177. Subject matter including a switching exchange for performing call connection solely in response to a call address signal.

183 Station identification:
This subclass is indented under subclass 182. Subject matter which further ascertains the identity of a calling station.

184 Lockout:
This subclass is indented under subclass 182. Subject matter for blocking access to a line already in use.

185 Portable or mobile:
This subclass is indented under subclass 177. Subject matter wherein a terminal is either mounted in a vehicle, or is of such size and configuration so as to be carried by an individual.

SEE OR SEARCH THIS CLASS, SUBCLASS:
55.1, for similar subject matter having a near field link.
56.1+, for similar subject matter having a radio or an electromagnetic field link.

186 Central power source:
This subclass is indented under subclass 177. Subject matter having a common electrical energizing supply for the stations connected to a line.

187 Connected to central office:
This subclass is indented under subclass 177. Subject matter wherein a polystation line is connected to a central switching office.

188 CALL OR TERMINAL ACCESS ALARM OR CONTROL:
This subclass is indented under the class definition. Subject matter for restricting the calls that may be made from a particular station, or generating an alerting signal in response to a call or call attempt in violation of a call restriction.

189 Fraud or improper use mitigating or indication (e.g., "blue box", "black box"):
This subclass is indented under subclass 188. Subject matter to defeat or indicate an attempt to override the call range restriction without a proper authorization or control function.

190 Time out:
This subclass is indented under subclass 188. Subject matter which in response to a specified equipment status for a specified duration either changes the status, or generates an alerting signal.

(1) Note. This subclass would include disconnection of a terminal after a set time.

191 At switching center:
This subclass is indented under subclass 190. Subject matter wherein a status control or an alerting function is performed at a switching center remote from the terminal.

192 Of call duration (e.g., conversation timer):
This subclass is indented under subclass 191. Subject matter wherein a status control or an alerting function is performed when the duration of elapsed time during a call exceeds a predetermined length.

193 Of specific equipment:
This subclass is indented under subclass 191. Subject matter wherein the status of particular telephone system equipment is determined for the status control or alerting function.

194 Lockout or double use signalling:
This subclass is indented under subclass 188. Subject matter which locks access to, or indicates an attempt to access, the system by a station other than one previously in use.

SEE OR SEARCH THIS CLASS, SUBCLASS:
160, for this subject matter in a key telephone system.
168, for this subject matter in a private system.
184, for this subject matter in a party line system.

195 In automatic system:
This subclass is indented under subclass 194. Subject matter wherein the access prevention or attempt determination is made in an automatic switching system.

196 At switching center:
This subclass is indented under subclass 188. Subject matter wherein the call restriction function or generation of the alerting signal is performed at a switching station remote from a user terminal.

197 Central office:
This subclass is indented under subclass 196. Subject matter wherein the switching center is a central office.

198 PBX:
This subclass is indented under subclass 196. Subject matter wherein the switching center is a private branch exchange.

199 At substation:
This subclass is indented under subclass 188. Subject matter wherein the call or terminal restriction or alerting function is performed at a subscriber terminal.

200 Restrictive dialing circuit:
This subclass is indented under subclass 199. Subject matter wherein the call restriction limits the call address signals which may be generated.

201.01 SPECIAL SERVICES:
This subclass is indented under the class definition. Subject matter including a switching, connection, or control function additional to those necessary to establish and maintain a single call connection between two stations.

(1) Note. These services generally involve service logic (e.g., a computer program) or apparatus that implement a plurality of method steps. Often, these services involve three or more stations or two or more call connections.

(2) Note. Examples of such special services are locating, conferencing, call back, call blocking, call forwarding or transfer, call waiting, abbreviated dialing and audible paging.

SEE OR SEARCH THIS CLASS, SUBCLASS:
157 through 158, for this subject matter in a key telephone system.

SEE OR SEARCH CLASS:
370, Multiplex Communications, subclasses 259 through 271 for such special services combined with multiplex switching.
455, Telecommunications, subclasses 414 through 417 for such special services in a radiotelephone system.

201.02 Service profile (e.g., calling service):
This subclass is indented under subclass 201.01. Subject matter wherein service logic (e.g., a computer program) is designed or existing service logic is obtained, provided or modified to implement a special service.

201.03 Creation of service (e.g., using object oriented programming, primitive, function):
This subclass is indented under subclass 201.02. Subject matter wherein a specific technique or apparatus is used to develop service logic.

201.04 Display arrangement:
This subclass is indented under subclass 201.02. Subject matter wherein a specific technique or apparatus is used to display information regarding service logic or available special services.

201.05 Distribution of service (e.g., downloading, uploading):
This subclass is indented under subclass 201.02. Subject matter wherein a specific technique or apparatus is used to facilitate transmission of newly designed or existing service logic to one or more users or devices.

201.06 Locating using diverse technology (e.g., using infrared badge, sensor, card reader):
This subclass is indented under subclass 201.01. Subject matter wherein a specific technique or apparatus based upon a non-telephonic technology is used to determine a location.

201.07 Called party:
This subclass is indented under subclass 201.06. Subject matter wherein a specific technique or apparatus is used to determine the location of a party for whom a caller desires to be connected to based upon the last known or detected station address of the party.

201.08 Calling party:
This subclass is indented under subclass 201.06. Subject matter wherein a specific technique or apparatus is used to determine the last known or detected station address of a party placing or having previously placed a call.

SEE OR SEARCH THIS CLASS, SUBCLASS:

88.19 through 88.21, for this subject matter wherein calling information is audibly conveyed.

93.03, for this subject matter wherein the identity of a caller is used to determine whether access should be granted.

120, for this subject matter wherein the identity, or service entitlement of a calling line is ascertained to produce a permanent record showing a numerical quantity indicating a call charge or basis therefor.

127.01, for this subject matter wherein telephone message accounting equipment identifies the telephone number of a dialing station.

142.01 through 142.18, for this subject matter wherein the conveyed calling information is displayed.

245 through 249, for this subject matter wherein a central switching office determines which telephone component is used in a particular call.

201.09 Object:
This subclass is indented under subclass 201.06. Subject matter wherein a specific technique or apparatus is used to determine the last known or detected station address close to where an inanimate entity can be found.

201.1 Detecting presence or absence of party or object:
This subclass is indented under subclass 201.06. Subject matter wherein a specific technique or apparatus is used to sense the existence or non-existence of a party or object at a particular station address.

201.11 Anonymous party (e.g., protection of called or calling party s identity, privacy):
This subclass is indented under subclass 201.01. Subject matter wherein the calling address or identity of a called or calling party is kept confidential without impeding (i.e. blocking) a connection to a station.

201.12 Provisioning:
This subclass is indented under subclass 201.01. Subject matter wherein a specific technique or apparatus is used to provide beforehand a basic or additional service to a subscriber s station in response to receiving a service request.

202.01 Conferencing:
This subclass is indented under subclass 201.01. Subject matter which enables three or more terminals on distinct subscriber lines to be included in a single call connection when the call is initiated.

SEE OR SEARCH THIS CLASS, SUBCLASS:

158, for conferencing involving a key-type substation system.

203.01 Operator control:
This subclass is indented under subclass 202.01. Subject matter wherein the conferencing connection is performed by an attendant at a central switching office.

204.01 Subscriber control:
This subclass is indented under subclass 202.01. Subject matter wherein the conferencing connection is established or modified by central office switching equipment in response to signalling from a subscriber terminal.

205.01 Conferencing initiation by single calling station:
This subclass is indented under subclass 204.01. Subject matter wherein a signalling function is performed at the calling terminal to originate the conference call.

206.01 At substation:
This subclass is indented under subclass 202.01. Subject matter wherein the conference call line coupling or switching is performed at a subscriber station.

(1) Note. Included herein are plural line conferencing and audio conferencing.

SEE OR SEARCH THIS CLASS, SUBCLASS:
158, for a key telephone system having a conferencing circuit.

207.01 Three-way calling:
This subclass is indented under subclass 201.01. Subject matter wherein a third station is called by one of two stations participating in an existing call, and the third station is connected (bridged) to the existing call.

207.02 Service trigger (activation or deactivation):
This subclass is indented under subclass 201.01. Subject matter wherein a service is enabled or disabled in response to an event.

207.03 Time (e.g., time of day, expiration of time period, time zone, date):
This subclass is indented under subclass 207.02. Subject matter wherein the implementation of a service is controlled as a function of time.

207.04 Line or loop condition:
This subclass is indented under subclass 207.02. Subject matter wherein the implementation of a service is controlled in response to detecting a predetermined condition on a communication path (e.g., an in-band signal).

207.05 Busy signal (e.g., off-hook):
This subclass is indented under subclass 207.04. Subject matter wherein the implementation of a service is controlled in response to receiving an indication that a called party is unavailable.

207.06 Transition from off-hook to on-hook (e.g., busy to idle, hook flash):
This subclass is indented under subclass 207.04. Subject matter wherein the implementation of a service is controlled in response to receiving an indication that a party has completed a call (hung-up, no longer busy) or momentarily depressed a hookswitch of the party s telecommunications device.

207.07 Transition from on-hook to off-hook (e.g., idle to busy):
This subclass is indented under subclass 207.04. Subject matter wherein the implementation of a service is controlled in response to receiving an indication that the party has initiated a call, such as by lifting a handset off the hookswitch of the party s telecommunications device.

207.08 No answer (e.g., ringing signal, on hook, idle):
This subclass is indented under subclass 207.04. Subject matter wherein the implementation of a service is controlled in response to receiving an indication that a called party is not at a called location.

207.09 Number of rings:
This subclass is indented under subclass 207.08. Subject matter wherein the implementation of a service is controlled in response to counting a predetermined number of rings without receiving an answer from a called party.

207.1 Expiration of predetermined time period:
This subclass is indented under subclass 207.08. Subject matter wherein the implementation of a service is controlled in response to a predetermined period of time having elapsed.

207.11 Service access code:
This subclass is indented under subclass 207.02. Subject matter wherein the implementation of a service is controlled in response to receiving a predetermined combination of symbols (e.g., numbers, letters, *, #) associated with the service.

207.12 Party location:
This subclass is indented under subclass 207.02. Subject matter wherein the implementation of a service is controlled as a function of a geographic area where a calling party or called party is located.

207.13 Party identification or validation (e.g., personal identification number (PIN)):
This subclass is indented under subclass 207.02. Subject matter wherein the implementation of a service is controlled as a function of verification of who a calling party or called party is.

207.14 Dialed number identification service (DNIS):
This subclass is indented under subclass 207.02. Subject matter wherein the implementation of a service is controlled as a function of what station address was called (dialed).

207.15 Automatic number identification or calling number identification (ANI or CLID):
This subclass is indented under subclass 207.02. Subject matter wherein the implementation of a service is controlled as a function of what station address a call was placed from.

207.16 Ringing signal (e.g., having a predetermined cadence or distinctive ring):
This subclass is indented under subclass 207.02. Subject matter wherein the implementation of a service is controlled in response to receiving a predefined ringing pattern.

208.01 Priority override (e.g., butt-in):
This subclass is indented under subclass 201.01. Subject matter allowing a designated type of call to interrupt another telephone conversation.

SEE OR SEARCH THIS CLASS, SUBCLASS:
215.01, for call interruption or signalling therefor by any additional incoming call.
218.01, for call interruption performed by an operator.

209.01 Repetitive call attempts (e.g., camp-on-busy, retry):
This subclass is indented under subclass 201.01. Subject matter which includes producing successive repeated call attempts.

210.01 Reserved call (e.g., return call, call back, scheduled call, reestablished call):
This subclass is indented under subclass 201.01. Subject matter wherein a requested call is automatically initiated at a predetermined time after the previous receipt or disconnection of a call from a caller.

SEE OR SEARCH THIS CLASS, SUBCLASS:
202 through 206, for this subject matter wherein conference calls are scheduled.
209, for this subject matter wherein successive repeated call attempts to the same party are made by a caller, or a call is established in response to the availability of a previously busy party.

210.02 Call blocking:
This subclass is indented under subclass 201.01. Subject matter wherein a call is prohibited from being placed to a called party.

210.03 Call from anonymous caller:
This subclass is indented under subclass 210.02. Subject matter wherein a call from a calling party who intentionally blocks or fails to disclose the calling party s identity prior to connection to a called party, is prohibited from being placed through to the called party.

211.01 Call diversion (e.g., call capture):
This subclass is indented under subclass 201.01. Subject matter for directing a call connection from an addressed telephone station to another.

(1) Note. The changed connection may be either the calling or the called station.

211.02 Call forwarding:
This subclass is indented under subclass 211.01. Subject matter for rerouting an incoming call from an intended addressed station to another desired station without completion of the call connection to the addressed station.

211.03 Sequential ringing:
This subclass is indented under subclass 211.02. Subject matter for placing in sequence a call to a plurality of predetermined addressed stations one at a time, and ringing each station for either a predetermined period of time or number of rings, until one of the stations answers the call.

211.04 Simultaneous ringing:
This subclass is indented under subclass 211.02. Subject matter for placing a call to a plurality of addressed stations at the same time and ringing those stations until one of the stations answers the call.

211.05 Smart card:
This subclass is indented under subclass 211.02. Subject matter wherein a removably inserted portable memory is inserted into a memory reader to define (program) how a call should be routed or forwarded.

212.01 Call transfer:
This subclass is indented under subclass 211.01. Subject matter for changing a completed call connection to an addressed station to another station after completion of a call connection to the addressed station.

213.01 Intercept (e.g., dead or changed number):
This subclass is indented under subclass 211.01. Subject matter wherein a call made to one of a specified group of addresses is directed to a predetermined location.

214.01 Secretarial or answering service:
This subclass is indented under subclass 211.01. Subject matter for call completion to an alternative station upon a designated condition.

(1) Note. The designated condition may include: time, no answer for specified interval, or request.

215.01 Call waiting:
This subclass is indented under subclass 201.01. Subject matter for signalling a first station in communication with a second station that a third station desires communication with the first station.

(1) Note. The first station can usually communicate alternatively with the second and third stations.

216.01 Abbreviated dialing or direct call (e.g., hot line):
This subclass is indented under subclass 201.01. Subject matter responsive to either a service request condition or, to a line signal code of less than the complete call address signal, for completing the call address connection in the same manner as if the full call address signal were received.

(1) Note. The term "service request condition" is generally an off-hook condition.

SEE OR SEARCH THIS CLASS, SUBCLASS:
355.01 through 359, for abbreviated call signal generation.

217.01 Audible paging:
This subclass is indented under subclass 201.01. Subject matter which connects a telephone circuit to a loudspeaker system for summoning an individual.

SEE OR SEARCH CLASS:
340, Communications: Electrical, subclass 311.1 for a paging system.
381, Electrical Audio Signal Processing Systems and Devices, subclass 75 for a megaphone and subclass 82 for a public address system.

218.01 Automatic directory service (e.g., on-line):
This subclass is indented under subclass 201.01. Subject matter for automatically providing a database of telephone numbers so as to provide directory assistance to a caller without the assistance of an operator.

218.02 Performed by operator (e.g., butt-in, busy verification):
This subclass is indented under subclass 201.01. Subject matter wherein the special service is performed by an attendant at a central or branch switching station.

SEE OR SEARCH THIS CLASS, SUBCLASS:
48, for telephone alarm butt-in equipment.

219 PLURAL EXCHANGE NETWORK OR INTERCONNECTION:
This subclass is indented under the class definition. Subject matter including a system having more than one exchange (e.g, switching office), or a circuit connection therebetween.

(1) Note. A branch exchange (e.g., PBX, PABX, etc.) is considered to be a separate switching office for purposes of this and its indented subclasses.

SEE OR SEARCH THIS CLASS, SUBCLASS:
242, for single exchange and generic centralized switching.

220.01 With interexchange network routing:
This subclass is indented under subclass 219. Subject matter for selecting one of plural paths for a call switched between two or more exchanges.

221.01 Alternate routing:
This subclass is indented under subclass 220.01. Subject matter for selecting a different path in response to an event.

SEE OR SEARCH THIS CLASS, SUBCLASS:
273 through 274, for alternate routing within a single exchange.

221.02 Service provider selection (e.g., local or long distance, primary and alternate carriers):
This subclass is indented under subclass 221.01. Subject matter wherein an alternate service provider is selected if a primary service provider is not available or does not meet a predetermined criteria.

221.03 Failure (e.g., disaster, overload, blockage):
This subclass is indented under subclass 221.01. Subject matter wherein a failure or call congestion exceeding a predetermined threshold is detected on a communications link.

221.04 Restoration (e.g., backup, recovery):
This subclass is indented under subclass 221.03. Subject matter wherein a problem on a previously bypassed communications link is corrected, thus permitting normal use of the communications link to resume.

221.05 Based upon historical data:
This subclass is indented under subclass 220.01. Subject matter wherein a call is routed based upon a previous call pattern or prior station activity with respect to an initiated or received call, or call attempt.

221.06 Algorithm (e.g., software, computer program):
This subclass is indented under subclass 220.01. Subject matter wherein a computer program is used to define and respond to a predetermined condition to route a call.

221.07 Parameter optimization or enhancement (e.g., capacity or bandwidth):
This subclass is indented under subclass 221.06. Subject matter wherein a call is routed in an intelligent and efficient manner to minimize possible congestion problems.

(1) Note. For example, routing is adjusted based on time of day.

221.08 Advanced intelligent network (AIN):
This subclass is indented under subclass 220.01. Subject matter wherein one or more databases are queried using signaling system 7 (SS7) to determine how a call should be handled.

221.09 Service control point (SCP, ISCP, external database):
This subclass is indented under subclass 221.08. Subject matter wherein a remote database within an AIN is specifically configured or has a special feature to carry out a particular process.

221.1 Signal transfer point (STP, ISTP):
This subclass is indented under subclass 221.08. Subject matter wherein a packet switch within an AIN that routes an SS7 signaling message is specifically configured or has a special feature to carry out a particular process.

221.11 Adjunct or intelligent peripheral (IP):
This subclass is indented under subclass 221.08. Subject matter wherein an auxiliary device is specifically configured or has a special feature to carry out a particular process.

(1) Note. For example, a device that provides a voice announcement or voice recognition.

221.12 Service switching point (SSP):
This subclass is indented under subclass 221.08. Subject matter wherein a digital telephone switch using SS7 signaling is specifically configured or has a special feature to carry out a particular process.

221.13 Local number portability (LNP):
This subclass is indented under subclass 220.01. Subject matter wherein a subscriber is assigned to or selects one of a plurality of competitive service providers such that the subscriber can change from one service provider to another without changing the subscriber s station address.

221.14 Routing parameter (e.g., area code, address, service provider identifier):
This subclass is indented under subclass 219. Subject matter wherein a special address configuration is used to identity a service provider or the location of a station.

221.15 Connection call model (e.g., virtual network, displayed models):
This subclass is indented under subclass 219. Subject matter wherein a computer program is used to simulate or display connections of an actual network.

222 Toll center:
This subclass is indented under subclass 219. Subject matter including a switching center for switching toll calls from other exchanges.

223 With operator assistance:
This subclass is indented under subclass 222. Subject matter where the toll center has an operator to assist in completion of toll calls.

224 Tandem switching center:
This subclass is indented under subclass 219. Subject matter having a switching center or office located intermediate between an originating and receiving switching office for switching the trunks connected to such offices.

225 Multi-PBX interconnection:
This subclass is indented under subclass 219. Subject matter which connects a plurality of private branch exchanges by shared trunks therebetween.

226 Having a manual exchange:
This subclass is indented under subclass 219. Subject matter wherein at least one of the plural exchanges has manual call connection.

227 With an automatic exchange:
This subclass is indented under subclass 226. Subject matter further including an exchange which switches calls in response to a call address signal.

228 Having signalling to operator:
This subclass is indented under subclass 227. Subject matter which causes an indication at an operator position at a remote switching office.

229 Interexchange signalling:
This subclass is indented under subclass 219. Subject matter including transmission of control or supervisory signals between exchanges.

230 Signalling path distinct from trunk (e.g., CCIS):
This subclass is indented under subclass 229. Subject matter wherein the control or supervisory signals for a group of trunks are multiplexed and transmitted over a single separate communication channel.

231 Central office-to-PBX signalling:
This subclass is indented under subclass 231. Subject matter including transmission of control or supervisory signals from a central office to a private branch exchange.

232 PBX trunk groups:
This subclass is indented under subclass 231. Subject matter including a plurality of shared trunk lines connecting the central office and the private branch exchange.

233 Direct inward dialing:
This subclass is indented under subclass 231. Subject matter wherein a call address designating a terminal connected to a private branch exchange will control connection to such a terminal.

234 PBX to central office signalling (e.g., direct outward dialing):
This subclass is indented under subclass 229. Subject matter which transmits control or supervisory signal from a private branch exchange to a central switching exchange.

235 Voice frequency signalling over trunk:
This subclass is indented under subclass 229. Subject matter wherein control or supervisory signals are transmitted as tones within the audible frequency range.

236 D.C. signalling over trunk:
This subclass is indented under subclass 229. Subject matter wherein the control or supervisory signal is represented by the presence or polarity of the current or voltage in a particular circuit.

237 Pulse or digital signalling:
This subclass is indented under subclass 236. Subject matter wherein the control or supervisory signals are represented by the time pattern of abrupt variations in a specified signal.

238 Having signalling repeater:
This subclass is indented under subclass 237. Subject matter including amplification of interexchange pulse or digital signals.

SEE OR SEARCH THIS CLASS, SUBCLASS:
341+, for a telephone pulse signalling repeaters, per se.

239 Using register-sender:
This subclass is indented under subclass 237. Subject matter including storage and subsequent retransmission of pulse or digital interexchange signalling information.

SEE OR SEARCH THIS CLASS, SUBCLASS:
288+, for a centralized switching register-sender.

240 Interexchange trunk circuit:
This subclass is indented under subclass 229. Subject matter including trunk circuit switching.

SEE OR SEARCH THIS CLASS, SUBCLASS:
333, for subscriber line and trunk switching.

241 Glare or simultaneous seizure mitigation:
This subclass is indented under subclass 240. Subject matter for prevention of call blocking caused by seizing of a trunk at both ends thereof.

242 CENTRALIZED SWITCHING SYSTEM:
This subclass is indented under the class definition. Subject matter which selectively connects two telephone subscriber lines for communication.

(1) Note. This subclass includes a single telephone office and generic telephone switching.

SEE OR SEARCH THIS CLASS, SUBCLASS:
219+, for a plural exchange network.

SEE OR SEARCH CLASS:
711, Electrical Computers and Digital Processing Systems: Memory, subclasses 1+ for addressing combined with specific memory configurations (e.g., extended, expanded, dynamic, etc.) in a digital data processing system, subclasses 100+ for generalized address forming in a digital data processing system, and subclasses 200+ for generalized storage accessing and control in a digital data processing system.

243 Class of service determination or transmission:
This subclass is indented under subclass 242. Subject matter to identify or supply a designation related to different types or levels of service applicable to calling station.

244 In common control system:
This subclass is indented under subclass 243. Subject matter which supplies a type of service designation in stored number switching equipment.

245 Identification:
This subclass is indented under subclass 242. Subject matter at a central switching office for determining which telephone system component is used in a particular call.

246 Of line or trunk:
This subclass is indented under subclass 245. Subject matter wherein the identified component is a telephone signal conductor unique to a terminal station or concentrator.

247 With display:
This subclass is indented under subclass 246. Subject matter for providing a visual indication of the line or trunk used.

SEE OR SEARCH THIS CLASS, SUBCLASS:
142, for a calling number display at a called substation.

248 Using matrix:
This subclass is indented under subclass 246. Subject matter including an array of elements to determine the line or trunk identity.

SEE OR SEARCH CLASS:
340, Communications: Electrical, subclasses 2.2 through 2.31 for a channel selecting matrix and subclasses 14.1-14.69 for a decoder matrix.

249 For nuisance call mitigation:
This subclass is indented under subclass 246. Subject matter for identifying a calling station which is a source of undesired, annoying, or abusive calls.

250 Four-wire switching:
This subclass is indented under subclass 242. Subject matter for connecting two lines, each of which has a physically separate pair for each direction of transmission.

251 With generating of call associated substation signal:
This subclass is indented under subclass 242. Subject matter which generates and transmits a signal to a substation which indicates the presence of, or result of, a call attempt.

SEE OR SEARCH THIS CLASS, SUBCLASS:
315+, for signalling to an operator at a switching facility.
372+, for line signalling received at substation.
418, for call signal generating, per se.

252 For alerting signal at called station (e.g., ringing):
This subclass is indented under subclass 251. Subject matter where the signal is a humanly perceptible signal at the called terminal.

253 Electronic:
This subclass is indented under subclass 252. Subject matter having an electric circuit element utilizing an electron discharge device or semiconductor component.

254 Associated with connector:
This subclass is indented under subclass 252. Subject matter wherein the call signal generating device is associated with a particular final stage selecting device.

255 With interrupter:
This subclass is indented under subclass 252. Subject matter having timing equipment which periodically blocks the alerting signal.

256 Having automatic or through ringing:
This subclass is indented under subclass 251. Subject matter which generates a call alerting signal in response to a connection being made to a line by the operator, or which enables an operator to by-pass another operator position for subscriber signalling.

257 For calling station (e.g., status or progress tones):
This subclass is indented under subclass 251. Subject matter where a line condition responsive or call associated signal is transmitted back to the calling terminal.

(1) Note. Included herein are tones indicating the condition or result of a call attempt.

258 Switching controlled in response to called station addressing signal:
This subclass is indented under subclass 242. Subject matter including ccontrol of line interconnection in response to a call address signal.

(1) Note. The call address signal is a selectively signal which specifies the identity of the particular line or terminal with which communication is desired.

SEE OR SEARCH THIS CLASS, SUBCLASS:
18+, for testing of automatic switching arrangement by use of a call address signal.
111+, for usage measurement.
173+, for an intercom with call addressing.
201+, for identification of a station address.

SEE OR SEARCH CLASS:
335, Electricity: Magnetically Operated Switches, Magnets, and Electromagnets, subclasses 105+ for an automatic telephone switch, per se.
340, Communications: Electrical, subclasses 825+ for a signal controlled switching system, not limited to telephone switching.

259 Including deflected electron beam switching device or mechanical or optical switching control (e.g., fluidic):
This subclass is indented under subclass 258. Subject matter in which a supervisory or control signal controls the operation of (a) electron beam deflecting equipment, (b) a light modifying element, or (c) a mechanical force or flow modifying element, so as to cause a change in a detected pattern of the deflected to modified quantity, which in turn controls a call connection.

(1) Note. The supervisory or control signal is often a call address signal.

(2) Note. Such control often utilizes optical, fluidic, or mechanical logic.

260 With operator position or completion of call (e.g., dial "0", semi-automatic):
This subclass is indented under subclass 258. Subject matter where intervention by a human operator is necessary in order to complete at least some telephone calls.

(1) Note. There must be a called station addressing signal (e.g., dial pulses) included in order to classified here.

(2) Note. Some examples of semi-automatic systems are: Operator dialed calls and calls dialed at a terminal which cause a visible indication of the called station's number at a manual operator's position.

SEE OR SEARCH THIS CLASS, SUBCLASS:
308, through 332, for centralized switching systems having human operators without a called station signal.

261 Operator controlled register-sender:
This subclass is indented under subclass 260. Subject matter wherein a register-sender is located at an operator attended switchboard for manual actuation.

SEE OR SEARCH THIS CLASS, SUBCLASS:
239, for a plural exchange network with a register-sender.
288, for common control central switching with a register-sender.

262 Call extension by operator:
This subclass is indented under subclass 260. Subject matter where the operator dials the called station address.

263 With call indicator or announcer:
This subclass is indented under subclass 262. Subject matter having means to provide the operator with a visual or sound indication of a desired called station address.

264 A to B operator:
This subclass is indented under subclass 262. Subject matter in which a call is extended from an operator answering the calling station to another operator who completes the connection to the called station.

265.01 Call distribution to operator:
This subclass is indented under subclass 242. Subject matter for selecting and connecting a calling terminal to an operator.

265.02 Automatic call distributor (ACD) system:
This subclass is indented under subclass 265.01. Subject matter wherein, based on a computer implemented application, incoming calls are automatically assigned to agents in a call center.

265.03 Reporting status (e.g., supervisory reporting):
This subclass is indented under subclass 265.02. Subject matter wherein agent call center data is conveyed to a supervisor (e.g., such as via a terminal display).

265.04 Log-on or log-off of agent:
This subclass is indented under subclass 265.03. Subject matter wherein an agent inputs information into a call center computer indicating the agent s identity and whether the agent is available (by logging-on) or is not available (by logging-off) to answer calls received by the call center.

265.05 Agent assignment (e.g., allocation of agent s time to a specific task):
This subclass is indented under subclass 265.03. Subject matter wherein an agent is assigned to a call or other task based upon a particular criteria.

265.06 Monitoring agent performance (e.g., quality of agent s performance):
This subclass is indented under subclass 265.03. Subject matter wherein surveillance of the actions of an agent are used to judge how well the agent is carrying out required tasks for a call center.

265.07 Speech of agent or customer (e.g., talk time):
This subclass is indented under subclass 265.06. Subject matter wherein a call center conversation is monitored or recorded to determine the quality of customer service provided by an agent.

265.08 Average call length:
This subclass is indented under subclass 265.06. Subject matter wherein the length of a plurality of calls are measured from the time they are answered until their termination to determine or estimate how long an agent, a group of agents or an entire call center takes to handle a typical call.

265.09 Having a multimedia feature (e.g., connected to Internet, E-mail, etc.):
This subclass is indented under subclass 265.02. Subject matter wherein diverse media technology is used to facilitate call handling or other tasks in an agent call center.

265.1 Predictive (e.g., anticipating next available agent):
This subclass is indented under subclass 265.02. Subject matter wherein a call parameter in an agent call center is monitored and an algorithm is implemented to anticipate how the call should be handled.

265.11 Routing to available agent:
This subclass is indented under subclass 265.02. Subject matter wherein a call is routed based upon agent availability.

265.12 Based on agent s skill (e.g., language spoken by agent):
This subclass is indented under subclass 265.11. Subject matter wherein a call is routed based upon the knowledge of an agent.

265.13 Based on type of call:
This subclass is indented under subclass 265.11. Subject matter wherein a call is routed to an agent based upon a characteristic of the call.

(1) Note. For example, the location from which the call originated or the number a caller dialed.

265.14 Based on time (e.g., longest waiting agent):
This subclass is indented under subclass 265.11. Subject matter wherein a call is routed as a function of time.

266.01 Call or agent queuing:
This subclass is indented under subclass 265.02. Subject matter which processes a plurality of simultaneous call attempts to a lesser number of agents by holding each of the calls in excess of the number of agents until an agent becomes available.

266.02 Based on type of call:
This subclass is indented under subclass 266.01. Subject matter wherein a call is assigned to a particular agent based upon a predefined characteristic of the call.

266.03 Based on time (e.g., age of queued call, time of day, date):
This subclass is indented under subclass 266.01. Subject matter wherein a call is assigned as a function of time.

266.04 Overflow (e.g., queue-to-queue, ACD-to-ACD):
This subclass is indented under subclass 266.01. Subject matter wherein a call is moved from one queue to another, or one ACD to another such that it is handled more efficiently (e.g., lowers caller wait time).

266.05 Split:
This subclass is indented under subclass 266.01. Subject matter wherein a call is assigned to a particular queue or call center and answered by a specific group of agents based upon the characteristics of the call.

266.06 Estimating or reporting waiting time:
This subclass is indented under subclass 266.01. Subject matter wherein the time a call is calculated to remain in queue is conveyed to a caller or supervisor.

266.07 Call campaign (e.g., script, application, inbound/outbound balancing):
This subclass is indented under subclass 265.02. Subject matter wherein an application specifies a specific algorithm for handling incoming and outgoing calls in a call center.

266.08 Predictive algorithm:
This subclass is indented under subclass 266.07. Subject matter wherein a calculation based on a call center parameter such as a schedule of agent, skill of agent, capacity of a queue, etc., is used by a computer implemented program to maximize and enhance agent call center performance in handling incoming and outgoing calls.

266.09 Home agent:
This subclass is indented under subclass 265.02. Subject matter wherein a remotely located agent connected to an agent call center via a network (e.g., a PSTN) is forwarded a call received by the call center.

266.1 Call record:
This subclass is indented under subclass 265.02. Subject matter wherein a specific record is used to control or track a call in one or more agent call centers.

267 Operator's console:
This subclass is indented under subclass 260. Subject matter having details of the equipment used by the operator.

268 Having shared or common switching control:
This subclass is indented under subclass 258. Subject matter having a device which stores the call address signal and equipment for controlling switching in response to the stored signal.

(1) Note. This and indented subclasses include equipment for code conversion of the call address signal.

269 Distributed control:
This subclass is indented under subclass 268. Subject matter including plural switching stages and having several address signal storage means each providing control based on switching stage, level, or function.

270 In-stage or interstage scanning (e.g., link scanning):
This subclass is indented under subclass 268. Subject matter which sequentially provides connection between a plurality of link between or within plural switching stages.

271 Having multistage switching:
This subclass is indented under subclass 268. Subject matter wherein the switching is performed by plural interconnected and interactive switching stage.

272 Path selection or routing:
This subclass is indented under subclass 271. Subject matter which determines a path configuration through plural switching stage.

SEE OR SEARCH CLASS:
340, Communications: Electrical, subclasses 2.21 through 2.24 for channel selection through a plural stage-switching matrix.

273 Alternate routing:
This subclass is indented under subclass 272. Subject matter which modifies the path configuration in response to a blockage of a previous chosen configuration.

SEE OR SEARCH THIS CLASS, SUBCLASS:
221, for alternate routing in interexchange network routing.

SEE OR SEARCH CLASS:
340, Communications: Electrical, subclass 2.23 for alternate routing channel selecting switching not limited to telephone equipment.

274 With busy or idle test:
This subclass is indented under subclass 273. Subject matter which determine whether or not a component desired for use is already in use.

SEE OR SEARCH THIS CLASS, SUBCLASS:
277, 297 and 381, for busy or idle testing of a telephone system component other than in alternate routing multistage common control.

275 Including marking circuit:
This subclass is indented under subclass 272. Subject matter which includes placing a potential on a lead or contact of a path selecting multistage switching device and a hunting circuit for making a connection to the lead or contact in response to the potential thereon.

276 End-to-end marking (e.g., self-seeking):
This subclass is indented under subclass 275. Subject matter which includes placing a marking potential at both ends of the switching path.

277 With busy or idle test:
This subclass is indented under subclass 272. Subject matter which determines whether a line or a switching element is in use.

SEE OR SEARCH THIS CLASS, SUBCLASS:
274, for busy or idle testing of a telephone system component in alternate routing multistage common control equipment.
297, 337 and 381, for busy or idle testing of a telephone system component other than in multistage common control equipment.

278 Interstage junctor or "trunk":
This subclass is indented under subclass 271. Subject matter including a circuit connecting the stages of multistage switching equipment.

279 Control reliability (e.g., redundancy):
This subclass is indented under subclass 268. Subject matter with switching control in accordance with the reliability of the control components.

SEE OR SEARCH CLASS:
714, Error Detection/Correction and Fault Detection/Recovery, subclasses 820+ for redundancy in a signal transmission facility or channel not limited to telephone equipment.

280 Including registering or storing device for call address signal:
This subclass is indented under subclass 268. Subject matter which includes a specific detail of a call address signal storage device.

SEE OR SEARCH CLASS:
377, Electrical Pulse Counters, Pulse Dividers, or Shift Registers; Circuit and Systems, appropriate subclasses for a register circuit, per se.
711, Electrical Computers and Digital Processing Systems: Memory, subclasses 1+ for addressing combined with specific memory configurations (e.g., extended, expanded, dynamic, etc.) and subclasses 101+ for storage accessing and control of specific

memory compositions in a digital data processing system.

281 Conversion between dial pulse and voice frequency signal:
This subclass is indented under subclass 280. Subject matter which changes the call address signal between a pattern of abrupt variation in a DC signal such as pulses and corresponding tone frequencies and variations thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:
339, for signal conversion in a telephone repeater.

282 Voice frequency receiver:
This subclass is indented under subclass 280. Subject matter which is selectively responsive to audio frequency signalling tones.

283 Dual tone multifrequency (DTMF) receiver:
This subclass is indented under subclass 282. Subject matter in which the voice frequency receiver is responsive to the simultaneous occurrence of designated frequency pairs.

284 With processor:
This subclass is indented under subclass 280. Subject matter which controls switching functions in accordance with instructions stored in memory.

SEE OR SEARCH CLASS:
709, Electrical Computers and Digital Data Processing Systems: Multiple Computer or Process Coordinating, appropriate subclasses for data transferring among multiple computer and digital processing systems.
710, Electrical Computers and Digital Data Processing Systems: Input/Output, subclasses 316 and 317 for intrasystem switching control.

285 With magnetic memory:
This subclass is indented under subclass 280. Subject matter having a magnetizable element for signal storage.

286 Signal processing (e.g., dial pulse analysis):
This subclass is indented under subclass 280. Subject matter wherein the call signal storage device or associated circuitry modifies the call address signal.

287 Electronic:
This subclass is indented under subclass 280. Subject matter in which the call address storage device includes an electron discharge device or a semiconductor component.

288 Register-sender:
This subclass is indented under subclass 280. Subject matter including storage and subsequent transmission of received call address signal.

SEE OR SEARCH THIS CLASS, SUBCLASS:
239, for plural exchange signalling using a register-sender.

289 Translator:
This subclass is indented under subclass 268. Subject matter which changes an electrical signal appearing in one code representation of the same information.

SEE OR SEARCH CLASS:
341, Coded Data Generation or Conversion, appropriate subclasses for code converting devices.

290 With time division of control or supervisory signals:
This subclass is indented under subclass 268. Subject matter including a communication channel for control or monitoring signals corresponding to one of a plurality of distinct speech channels and in which access to the communication channel is divided into discrete time intervals, each of such intervals corresponding to one of the speech channels and which are switched so rapidly as to give the effect of simultaneous transmission of all of the control or indicating signals.

(1) Note. Placement in this subclass is limited to those systems in which only the control or supervisory signals are multiplex. Systems in which the voice signals

are also multiplexed are found in Class 370.

SEE OR SEARCH CLASS:
370, Multiplex Communications, appropriate subclasses for multiplexing of message signals.

291 With detail of crosspoint switching structure (e.g., crossbar):
This subclass is indented under subclass 268. Subject matter particularly describing a feature of selection equipment for an element of a switching array.

SEE OR SEARCH THIS CLASS, SUBCLASS:
306, for crosspoint switch detail in other than common control equipment.

SEE OR SEARCH CLASS:
335, Electricity: Magnetically Operated Switches, Magnets, and Electromagnets, subclass 112 for a telephone crossbar switch, per se.
340, Communications: Electrical, subclasses 14.1 through 14.69 for details of switching decoder arrays or matrices, not elsewhere classifiable.

292 Electronic crosspoint (e.g., solid-state):
This subclass is indented under subclass 291. Subject matter wherein the switching element includes an electron discharge device or a semiconductor component.

SEE OR SEARCH THIS CLASS, SUBCLASS:
287, for common control switching with registering or storing a call address signal and having an electronic component.

293 Having line finder:
This subclass is indented under subclass 258. Subject matter for locating and connecting a calling line to switching apparatus.

SEE OR SEARCH THIS CLASS, SUBCLASS:
377+, for an off-hook detector, per se.

294 Including electronic element (e.g., tube or semiconductor):
This subclass is indented under subclass 293. Subject matter including an electron discharge device or semiconductor component.

SEE OR SEARCH THIS CLASS, SUBCLASS:
287, and 292, for electronic elements in other telephone switching systems.

295 Plural:
This subclass is indented under subclass 293. Subject matter including multiple line finders.

296 With repeater:
This subclass is indented under subclass 258. Subject matter having means which receives, amplifies and retransmits a signal.

SEE OR SEARCH THIS CLASS, SUBCLASS:
238, for interexchange signalling having a repeater.
338+, for a telephone repeater, per se.

297 Having specified busy-idle test:
This subclass is indented under subclass 258. Subject matter including equipment to determine whether or not a component desired for use is already in use.

SEE OR SEARCH THIS CLASS, SUBCLASS:
274, 277, 337, and 381, for busy-idle testing in specific equipment.

298 Direct control:
This subclass is indented under subclass 258. Subject matter wherein successive switching devices for making the call connection are directly responsive to the calls address pulse signal transmitted from the calling station.

299 Step-by-step system:
This subclass is indented under subclass 298. Subject matter having a plurality of switching stages working sequentially and independently of the state of subsequent stages.

300 Having plural wiper sets:
This subclass is indented under subclass 299. Subject matter having multiple rotary movable circuit contact elements.

301 Having potential control:
This subclass is indented under subclass 299. Subject matter which establishes or maintains electrical potential at some part of the switching system.

302 Having rotary switch:
This subclass is indented under subclass 299. Subject matter including a movable circuit completing device, which has rotational motion.

303 Coordinate system (e.g., X-Y):
This subclass is indented under subclass 299. Subject matter having a movable circuit completing element, the motion of which has two perpendicular components.

SEE OR SEARCH THIS CLASS, SUBCLASS:
302, for a step-by-step coordinate system where one of the components is angle of rotation.

304 All relay type:
This subclass is indented under subclass 298. Subject matter in which all switching is performed by electromagnetically controlled contact apparatus.

SEE OR SEARCH CLASS:
340, Communications: Electrical, subclasses 14.1 through 14.5 for a relay decoder matrix.
361, Electricity: Electrical Systems and Devices, subclasses 139+ for a relay control circuit.

305 Having motor-driven switch:
This subclass is indented under subclass 298. Subject matter having a switching element driven by a motor.

SEE OR SEARCH THIS CLASS, SUBCLASS:
302, for a similar subject matter in a step-by-step system.

306 With crosspoint switch detail:
This subclass is indented under subclass 258. Subject matter having a detail or a switching element of a rectangular switch array.

SEE OR SEARCH THIS CLASS, SUBCLASS:
291, for common control crosspoint switch detail.

SEE OR SEARCH CLASS:
335, Electricity: Magnetically Operated Switches, Magnets, and Electromagnets, subclass 112 for a telephone crossbar switch, per se.
340, Communications: Electrical, subclasses 14.1 through 14.69 for details of switching decoder arrays or matrices, not elsewhere classifiable.

307 With power supply:
This subclass is indented under subclass 258. Subject matter which provides electric power to at least part of the telephone equipment being used.

SEE OR SEARCH THIS CLASS, SUBCLASS:
322, for a power supply in centralized switching.

308 Switching apparatus for connecting calling line to operator's position:
This subclass is indented under subclass 242. Subject matter which connects a terminal to an operator's position in response to the presence of a call.

309 Call distribution or queuing:
This subclass is indented under subclass 308. Subject matter with circuitry for handling a plurality of calls at the same time to a lesser number of operator's positions.

SEE OR SEARCH THIS CLASS, SUBCLASS:
266, for call queuing to an operator an automatic or semiautomatic system.

310 Divided central (e.g., communication between switchboards):
This subclass is indented under subclass 242. Subject matter in which subscriber lines are grouped upon separate switchboards at a switching exchange.

SEE OR SEARCH THIS CLASS, SUBCLASS:
219+, for interexchange signalling.
264, for call extension from an A operator to a B operator.

311 Having signalling path feature:
This subclass is indented under subclass 310. Subject matter having signalling conductors connecting a plurality of the switchboards for signalling between any two switchboards.

312 Having multiple answering jacks for multiplied line:
This subclass is indented under subclass 242. Subject matter including plural jack connectors for a line on different switchboards of a switching exchange.

(1) Note. The plural line appearances enable a call to be handled by operators at different switchboards.

313 Multiple section switchboard:
This subclass is indented under subclass 242. Subject matter having a switchboard with plural sections, each section having a separate jack connector for each subscriber.

314 Auxiliary (e.g., overflow):
This subclass is indented under subclass 313. Subject matter in which a switchboard has an additional section which is used primarily when the capacity of the other sections is exceeded.

315 With line-signal control:
This subclass is indented under subclass 242. Subject matter having a switchboard with a line condition responsive indicator and controlled in response to an operator's action on the call connection.

SEE OR SEARCH THIS CLASS, SUBCLASS:
350+, for telephone line signalling.

316 Spring-jack cut-off:
This subclass is indented under subclass 315. Subject matter wherein the switchboard has a jack containing resilient contact elements which contact elements are disconnected by insertion of plug into the jack and which insertion stops the operation of the indicating signal.

317 Relay cut-off:
This subclass is indented under subclass 315. Subject matter wherein the line signal operation is stopped by a relay in response to insertion of a plug into a switchboard jack.

318 Central power source:
This subclass is indented under subclass 315. Subject matter including a common, centrally located, power supply for signalling, talking, or both.

SEE OR SEARCH THIS CLASS, SUBCLASS:
322+, for power supplies in centralized switching systems.

319 Single switchboard (e.g, cord circuit):
This subclass is indented under subclass 242. Subject matter including structure or circuitry of a manual line switching apparatus actuated by a single operator.

320 Switchboard circuit:
This subclass is indented under subclass 319. Subject matter including a detail of the switchboard circuitry.

321 Connection to operator's terminal:
This subclass is indented under subclass 320. Subject matter including a detail of a connection between the switchboard and the operator's telephone set.

322 Power supply:
This subclass is indented under subclass 242. Subject matter which supplies electricity to a telephone system component.

323 Power to switching equipment:
This subclass is indented under subclass 322. Subject matter which supplies electricity to the centralized switching equipment.

324 Central power source (e.g., common battery, line current feed):
This subclass is indented under subclass 322. Subject matter where a single power supply provides electricity for a plurality of branches connected to the central switching equipment.

SEE OR SEARCH THIS CLASS, SUBCLASS:
318, for line signal control with a central power source.

325 Structure of equipment:
This subclass is indented under subclass 242. Subject matter directed to the physical configuration of the switching system.

326 Wire or cable distribution:
This subclass is indented under subclass 325. Subject matter including the structure of conductors in central switching equipment.

327 Main or intermediate distribution frame:
This subclass is indented under subclass 326. Subject matter having a structure for holding the wires or cables.

328 Equipment mounting or support:
This subclass is indented under subclass 325. Subject matter which retains the equipment at a given location against the force of gravity.

329 Allowing movement of equipment (e.g., movable, modular):
This subclass is indented under subclass 328. Subject matter permitting relative motion between the mounting or support and the equipment.

330 Housing:
This subclass is indented under subclass 325. Subject matter including a cover for a part of the equipment.

331 Having protective circuit:
This subclass is indented under subclass 242. Subject matter which prevents damage to the circuits of the central switching system from improper conditions.

332 Plug and socket:
This subclass is indented under subclass 242. Subject matter in which part of the equipment is inserted to a cooperating connector in another part of the equipment.

333 CONCENTRATOR OR TRUNK SELECTOR:
This subclass is indented under the class definition. Subject matter for connecting a large number of subscriber lines to a smaller number of shared or trunk lines.

(1) Note. The subscriber lines are only connected alternatively to the shared or trunk lines; for simultaneous transmission see Class 370, Multiplex Communications.

334 Concentrator-distributor pair (e.g., line concentrator):
This subclass is indented under subclass 333. Subject matter having two similar complementary contractors to permit a large number of subscriber lines to be connected and supervised over a small number of trunk lines connecting the two complementary concentrators.

335 Using crossbar or crosspoint switching:
This subclass is indented under subclass 333. Subject matter wherein the connection is performed either by a rectangular switch array or a selective plural stage switch having plural horizontal and vertical contact paths.

SEE OR SEARCH THIS CLASS, SUBCLASS:
291+, for crosspoint switching structure in a common control system.
306, for crosspoint switch detail in a centralized switching system.

336 With magnet, electromagnet, or relay:
This subclass is indented under subclass 333. subject matter wherein the concentrator includes either (a) an electrically excited, or a permanent, source of magnetic polarization, or (b) a magnetically operated switch.

337 With busy-idle test (e.g., idle trunk finder):
This subclass is indented under subclass 333. Subject matter which determines if a trunk is in use and controls the switching in response to a determination of nonuse.

SEE OR SEARCH THIS CLASS, SUBCLASS:
274, 277, 297, and 381, for busy or idle testing.

338 REPEATER (E.G., VOICE FREQUENCY):
This subclass is indented under the class definition. Subject matter which receives and retransmits a signal which is amplified or processed in a telephone system.

(1) Note. This subclass excludes amplifiers in terminal sets, particularly of the hands-free type.

SEE OR SEARCH THIS CLASS, SUBCLASS:
4, for testing of a repeater.
146+, for a coin signal repeater.
238, for a interexchange signalling repeater.
296, for an automatic centralized switching system with a repeater.
420, for a hands-free terminal.
432, for terminal having an amplifier.

SEE OR SEARCH CLASS:
330, Amplifiers, appropriate subclasses for an amplifier.
381, Electrical Audio Signal Processing Systems and Devices, appropriate subclasses for an amplifier in an electrical audio system.

339 With signal conversion (e.g., dial to DTMF, analog to PCM):
This subclass is indented under subclass 338. Subject matter which coverts a signal from variations in one parameter to variations of another.

(1) Note. an example such variations conversion is from that of abrupt variations in a DC signal such as pulses to variations of tone frequency.

SEE OR SEARCH THIS CLASS, SUBCLASS:
281, for signal conversion in a common control system.
353, for control line signalling.

340 Having line length compensation or equalization:
This subclass is indented under subclass 338. Subject matter including structure to either modify an electrical parameter in a complementary relationship with a distance-related effect on a telephone signal, or to cause the signal transmitted through the line to be independent of frequency.

SEE OR SEARCH THIS CLASS, SUBCLASS:
394, for line equalization at a telephone substation.
398, for telephone line equalization.

341 Pulse or tone repeater (e.g., electromechanical relay):
This subclass is indented under subclass 338. Subject matter for amplifying or restoring a pulse or tone signal.

(1) Note. Included in this subclass are electromagnetic relays.

SEE OR SEARCH THIS CLASS, SUBCLASS:
238, for interexchange signalling repeaters.
296, for similar subject matter combined with a centralized switching facility.

SEE OR SEARCH CLASS:
361, Electricity: Electrical Systems and Devices, subclasses 160+ for relay control circuits.
375, Pulse or Digital Communications, subclasses 211+ for a pulse repeater.

342 Electronic (e.g., logic circuitry):
This subclass is indented under subclass 341. Subject matter having a signal processing component utilizing an electron discharge device or semi-conductor component.

343 Controlled by a pilot or reference signal:
This subclass is indented under subclass 338. Subject matter wherein the repeater is controlled by a signal having a predetermined characteristic (e.g., frequency, amplitude).

344 Component processes bidirectional signals:
This subclass is indented under subclass 338. Subject matter including a component handling signals travelling in either direction over a telephone line.

SEE OR SEARCH CLASS:
370, Multiplex Communications, subclasses 276+ for a duplex repeater.

345 Including two-to-four wire conversion or hybrid circuit:
This subclass is indented under subclass 344. Subject matter including a component for coupling two physically separate line pairs each conducting a signal in opposite directions to a single two-wire line carrying signals in opposite directions.

SEE OR SEARCH THIS CLASS, SUBCLASS:
391+, and 402, for other hybrid circuits in telephone equipment.

346 With frequency discriminator or negative impedance element:
This subclass is indented under subclass 338. Subject matter which (a) selectively passes particular signal frequencies, or (b) has elements which have negative impedance.

347 With gain or attenuation control:
This subclass is indented under subclass 338. Subject matter having circuitry to maintain or modify any increase or decrease in the magnitude of the signal.

348 Transmission of power to distant repeater:
This subclass is indented under subclass 338. Subject matter where a repeater receives energizing power over the telephone line.

349 Having voice frequency transformer:
This subclass is indented under subclass 338. Subject matter under having a transformer specifically intended for use in the audio frequency range.

350 SUPERVISORY OR CONTROL LINE SIGNALLING:
This subclass is indented under the class definition. Subject matter for transmitting either a selective control signal, or a status indicating signal, over a telephone line.

(1) Note. Included herein are dialing, ringing, and off-hook signals.

SEE OR SEARCH THIS CLASS, SUBCLASS:
251+, for centralized switching combined with call associated signalling.

351 Signalling integrity protection (e.g., voice signal immunity):
This subclass is indented under subclass 350. Subject matter including circuitry to distinguish between the supervisory or control signal and other signals on the line and prevent response to the other signals.

352 Substation originated:
This subclass is indented under subclass 350. Subject matter which transmits a called station address signal over a telephone line from a subscriber terminal.

(1) Note. This subclass also includes a transmitted line signal.

(2) Note. Supervisory signals (e.g., off-hook) are excluded from this and indented subclasses are classified in subclasses 377+.

SEE OR SEARCH THIS CLASS, SUBCLASS:
31, for diagnostic testing of a line signal generator.
90+, for selective signalling over a telephone line for control of a diverse are device.

SEE OR SEARCH CLASS:
340, Communications: Electrical, subclasses 825+ for selective signalling not limited to a telephone system; subclasses 345+ for a code transmitting device.
362, Illumination, subclass 24 for an illuminated telephone dial.

353 Conversion of signal form:
This subclass is indented under subclass 352. Subject matter which converts a signal from variations in one parameter to variations of another.

(1) Note. Examples of such parameters are amplitude, frequency, or phase of the control signal.

SEE OR SEARCH THIS CLASS, SUBCLASS:
339, for a repeater having signal conversion.

SEE OR SEARCH CLASS:
341, Coded Data Generation or Conversion, appropriate subclasses for code converters.

354 With called number display:
This subclass is indented under subclass 352. Subject matter which produces a visual indication of the called station address.

355.01 Repertory or abbreviated call signal generation:
This subclass is indented under subclass 352. Subject matter wherein a complete call address signal is produced in response to actuation of a single key or in response to a generated code of less than the complete address signal.

SEE OR SEARCH THIS CLASS, SUBCLASS:
88.03, for voice dialing
216, for abbreviated calling performed at a central switching office.

355.02 Call address signal stored in terminal:
This subclass is indented under subclass 355.01. Subject matter wherein the call address signal is stored for access or modification in a subscriber station apparatus.

355.03 Including terminal other than telephone:
This subclass is indented under subclass 355.02. Subject matter wherein the subscriber station includes connection with apparatus in addition to a telephone.

(1) Note. For example, computer terminal or other locally connected apparatus.

355.04 Call address signal stored in network:
This subclass is indented under subclass 355.01. Subject matter wherein the call address signal is stored at a central office, private branch exchange, interexchange network, or key system with access thereto via a terminal.

355.05 Modification of call address signal for abbreviated dialing:
This subclass is indented under subclass 355.01. Subject matter including editing, deleting, or associating the call address signal.

355.06 Modification by other than key input:
This subclass is indented under subclass 355.05. Subject matter wherein the modification includes a process provided by other than key input (e.g., handwriting, bar code, voice, data transfers, etc.).

355.07 Including modification of indicia associated with a call address:
This subclass is indented under subclass 355.05. Subject matter wherein the modification includes manipulation of data used for subscriber correlation (e.g., names, addresses, or other associated information).

355.08 Including prefix in the call address signal:
This subclass is indented under subclass 355.01. Subject matter wherein the generated call address signal comprises an additional code affixed to the beginning of the destination call address signal (e.g., area code, country code, access code, identification code, or other codes needed to complete a call).

355.09 Selection of registered call address signal:
This subclass is indented under subclass 355.01. Subject matter including manipulation of an input device for retrieval of at least one desired stored call address signal.

(1) Note. Example of input device includes key input, touch screen, bar coder, handwriting recognition, audio command, etc.

355.1 Selection of multiple call address signals:
This subclass is indented under subclass 355.09. Subject matter with selection of more than one call address signal for dialing simultaneously or one after the other.

356.01 Including dynamic memory:
This subclass is indented under subclass 355.01. Subject matter including storage or retrieval of dialing information by relative motion between transducer and a relatively movable storage medium (e.g., tape, discs, drum, etc.) a property of which is altered in accordance with the stored information.

SEE OR SEARCH THIS CLASS, SUBCLASS:
68, for a dynamic audio signal memory combined with a telephone system component.

SEE OR SEARCH CLASS:
369, Dynamic Information Storage or Retrieval, appropriate subclasses for dynamic recording reproduction.

357.01 Insertable control element or circuitry (e.g., card):
This subclass is indented under subclass 355.01. Subject matter comprising circuit element or other object which controls the generation of the call signal and is readily removable from the signal generator.

357.02 Personal computer memory card (e.g., PCMCIA card):
This subclass is indented under subclass 357.01. Subject matter wherein the removable object or element consists of a standardized memory card attachable to a bus.

357.03 Acoustical generation:
This subclass is indented under subclass 355.01. Subject matter wherein a call address signal is provided by generating acoustic signals into a microphone of a terminal.

357.04 Circuitry of call signal generator:
This subclass is indented under subclass 355.01. Subject matter including interconnection of electronic components which generate a dial train of at least one dialing signal.

357.05 Including solid state memory storage:
This subclass is indented under subclass 355.01. Subject matter wherein storage for the call address signal is provided by an electronic static storage device.

358 By motor driven dial rotating device:
This subclass is indented under subclass 355. Subject matter wherein the abbreviated call signal controls an electromechanical device which actuates a rotary dial pulse generator.

SEE OR SEARCH THIS CLASS, SUBCLASS:
363, for an electromechanical dial rotating device.

359 Pulse signal generating (e.g., dialing):
This subclass is indented under subclass 355. Subject matter which produces a call address signal in the form of several sequential groups of pulses.

SEE OR SEARCH THIS CLASS, SUBCLASS:
362+, for pulse signal call address generators.

360 Voice frequency band signalling (e.g., reed devices):
This subclass is indented under subclass 352. Subject matter wherein of tones within the audible sound spectrum and which have distinct frequencies to perform selective control.

(1) Note. The voice frequency tones are often combination of frequencies.

(2) Note. This subclass also includes read devices.

SEE OR SEARCH THIS CLASS, SUBCLASS:
235, for voice frequency signalling between exchanges.
282+, for a voice frequency call address signal receiver.
341+, for tone repeaters.
386, for voice frequency line signalling reception.

SEE OR SEARCH CLASS:
341, Coded Data Generation or Conversion, appropriate subclasses for code converters.
375, Pulse or Digital Communications, subclasses 272+ and 303+ for voice frequency digital communications and transmitters.

361 Electronic (e.g., tone generator):
This subclass is indented under subclass 360. Subject matter wherein the signalling tones are produced by an electron discharge device or a semiconductor component.

362 Pulse signal generator (e.g., rotary dial):
This subclass is indented under subclass 352. Subject matter wherein the selective control signal is composed of abrupt variations imposed upon a signal.

SEE OR SEARCH CLASS:
341, Coded Data Generation or Conversion, subclasses 30 and 184+ for a numerical pulse code transmitter.
375, Pulse or Digital Communications, appropriate subclasses for digital pulse communications.

363 Control of motor driven dial rotating device:
This subclass is indented under subclass 362. Subject matter which includes an electromechanical apparatus for actuating a rotary dial.

SEE OR SEARCH THIS CLASS, SUBCLASS:
358, for repertory or abbreviated dialing using a motor driven dial rotating device.

364 With nonrotary actuator (e.g., key or slide type):
This subclass is indented under subclass 362. Subject matter having a pulse producer actuated by a mechanism having linear motion.

(1) Note. Included herein are actuators of the slide or push button type.

365 Specified switching contact (e.g., contact spring):
This subclass is indented under subclass 362. Subject matter including structure of the electrical switching element.

(1) Note. Included herein are contact spring arrangements.

366 With detail of dial return mechanism (e.g., driving spring, speed governor):
This subclass is indented under subclass 362. Subject matter including structure of the mechanical arrangement for returning the dial to its original position.

(1) Note. Included are driving spring arrangements.

367 Finger wheel or mechanical adjunct (e.g., finger stop):
This subclass is indented under subclass 362. Subject matter including structure of the rotary finger engaging element.

(1) Note. A subcombination limited in extent to a finger wheel, per se, is also classified herein.

SEE OR SEARCH THIS CLASS, SUBCLASS:
456, for a dialing tool.

368 Plural-switch number input device (e.g., keypad):
This subclass is indented under subclass 352. Subject matter including a manually actuated device having several switches for determining the content of the selective control signal.

SEE OR SEARCH CLASS:
341, Coded Data Generation or Conversion, subclasses 20+ and 173+ for code transmitters.

369 Detail of mounting of switch pad or dial:
This subclass is indented under subclass 352. Subject matter including a support of a manual actuator for the address signal.

370 In handset:
This subclass is indented under subclass 369. Subject matter wherein the actuator and mounting are located in a unitary housing containing both a microphone and earphone.

371 Magneto signalling:
This subclass is indented under subclass 352. Subject matter contains a manually actuated generator for providing a line signal.

(1) Note. These are generally the older hand crank telephone.

(2) Note. The line signal is considered an address signal for purposes of subclass 352.

372 Signal reception at substation:
This subclass is indented under subclass 350. subject matter wherein a control or line signal is received at a subscriber terminal.

SEE OR SEARCH THIS CLASS, SUBCLASS:
386, for systems where the signals are received at a point not specifically designated to be a subscriber terminal.

373.01 Incoming call alerting:
This subclass is indented under subclass 372. Subject matter where the control or supervisory signal is generated in response to a call directed to the subscriber terminal.

373.02 Distinctive or selective alerting:
This subclass is indented under subclass 373.01. Subject matter where the control or supervisory signal generates a distinctive or selective alert signal.

373.03 Registration of alerting signal in association with incoming signal:
This subclass is indented under subclass 373.02. Subject matter where an association process is performed so that the incoming signal is associated with a distinctive alert or particular local appliance.

373.04 Recording audio for use as the alerting signal:
This subclass is indented under subclass 373.03. Subject matter wherein a recording process is used to store an alert signal for a terminal.

373.05 Directing incoming call to local appliance:
This subclass is indented under subclass 373.02. Subject matter where decoding of the incoming signal results in directing of an incoming call to particular local apparatus.

374.01 Including musical sound generation:
This subclass is indented under subclass 373.01. Subject matter wherein the alerting signal composes of a succession of tones or sounds with rhythm, melody or harmony.

374.02 Including audible message generation:
This subclass is indented under subclass 373.01. Subject matter where the alerting signal comprises a voice message (e.g., a synthesized spoken message).

374.03 Alerting by other than sight or sound (e.g., vibration):
This subclass is indented under subclass 373.01. Subject matter where the alert comprises alternate sensory stimulus.

375.01 Having electronic call sounder (e.g., tone "ringer"):
This subclass is indented under subclass 373.01. Subject matter where the alerting signal is generated by an electronic device producing tones.

376.01 Visual indication of incoming call (e.g., LED or light bulb):
This subclass is indented under subclass 373.01. Subject matter where the alert comprises a visual stimulus.

376.02 Silencing ring signal:
This subclass is indented under subclass 372. Subject matter for silencing an incoming ring signal for at least one ring cycle.

377 Using line or loop condition detection (e.g., line circuit):
This subclass is indented under subclass 350. Subject matter in which the supervisory or control signal is generated in response to an electrical state of a subscriber circuit.

378 With current controlling electromagnetic core device (e.g., Hall-effect device):
This subclass is indented under subclass 377. Subject matter having a magnetizable element within a coiled conductor for current control.

379 With optical link between line and switching system:
This subclass is indented under subclass 377. Subject matter including a communication link between a subscriber's line and a central switching system which uses light waves.

SEE OR SEARCH CLASS:
359, Optical: Systems and Elements, subclasses 109+ for optical communications.

380 By bridge circuit:
This subclass is indented under subclass 377. Subject matter including a network arranged so that, when an electromotive force is present across one branch, the response of a suitable detecting device in another branch may be zeroed by suitable adjustment of the electrical consistents of still other branches.

381 Busy test or make busy:
This subclass is indented under subclass 377. Subject matter for determining whether or not a loop or line connected to a terminal is in use, or to simulate such an in-use condition on a line.

SEE OR SEARCH THIS CLASS, SUBCLASS:
274, 277 and 337, for various busy testing circuits.

382 For ring trip or polarity reversal detection:
This subclass is indented under subclass 377. Subject matter including detection of a change in the polarity of the potential difference across the line or loop, or of an off-hook condition of the called terminal to cause cessation of the alerting signal.

(1) Note. Off-hook detection often accomplished by distinguishing a voice signal from an A.C. ringing signal.

383 Of plural lines:
This subclass is indented under subclass 377. Subject matter having more than one line or loop.

SEE OR SEARCH THIS CLASS, SUBCLASS:
156+, for a multiline system with selective switching and central office connection.
264+, for identification of a line in a central office.
333+, for a line concentrator.

384 By scanning:
This subclass is indented under subclass 383. Subject matter where a condition of each of the plural loops or lines is detected by sensing each line in sequence.

385 Relayless:
This subclass is indented under subclass 377. Subject matter wherein line or loop condition signalling is performed by circuitry other than electromagnetically operated contacts.

386 Signal receiver (e.g., tone decoder):
This subclass is indented under subclass 350. Subejct matter for receiving the supervisory or control line signal.

SEE OR SEARCH THIS CLASS, SUBCLASS:
351, for similar subject matter having spurious response protection.
372, for supervisory or control line signalling reception at a subscriber terminal.

SEE OR SEARCH CLASS:
340, Communications: Electrical, subclasses 825.36+ for selective signal indicating.
375, Pulse or Digital Communications, subclasses 316+ for a pulse communication receiver.

387.01 SUBSTATION OR TERMINAL CIRCUITRY:
This subclass is indented under the class definition. Subject matter comprising electrical relationships of circuit elements of a terminal set or a group of such sets connected to a single line circuit.

SEE OR SEARCH THIS CLASS, SUBCLASS:
156 through 166, for a key substation system.
177 through 187, for a polystation line system.
199 through 200, for a call limiting substation system.
419 through 440, for the structure of a terminal.

387.02 Conversion of signal form (e.g., A/D, frequency or phase):
This subclass is indented under subclass 387.01. Subject matter including circuitry to convert a signal to a different form of presentation.

388.01 For loudspeaking terminal:
This subclass is indented under subclass 387.01. Subject matter including a terminal set having an electrical-to -audio signal transducer which produces an audible signal of sufficient intensity to be intelligible to a user not in contact with the telephone terminal.

SEE OR SEARCH THIS CLASS, SUBCLASS:
420.01 through 420.02, for a loudspeaking terminal structure.
432, for a loudspeaking terminal housing.

388.02 Speakerphone with build-in microphone:
This subclass is indented under subclass 388.01. Subject matter including a electrical-to-audio and an audio-to-electrical signal transducer.

388.03 Automatic gain or volume control (AGC or AVC):
This subclass is indented under subclass 388.02. Subject matter including a self acting compensation device which maintains the output level of the speaker constant over a wide range of input signals.

388.04 Voice control of transmission direction:
This subclass is indented under subclass 387.02. Subject matter having circuitry permitting operation of the terminal in only one direction in response to the presence of a voice signal to be transmitted.

SEE OR SEARCH CLASS:
381, Electrical Audio Signal Processing Systems and Devices, subclass 110 for a voice controlled one-way audio system.

388.05 Voice switching by attenuation/amplification:
This subclass is indented under subclass 388.04. Subject matter wherein the transmission direction is perform by reducing or intensifying the volume of the voice signal.

388.06 Comparing signal level of receiving and transmitting circuits:
This subclass is indented under subclass 388.04. Subject matter including the detection of signal strength differences at the input and the output.

388.07 Controlling acoustic feedback:
This subclass is indented under subclass 388.04. Subject matter in which the return path of sound signal is monitored.

390.01 Amplification or attenuation level control:
This subclass is indented under subclass 387.02. Subject matter having a circuit for adjusting or maintaining the level of signal strength.

SEE OR SEARCH THIS CLASS, SUBCLASS:
347, for amplification or attenuation control in a telephone repeater.

SEE OR SEARCH CLASS:
381, Electrical Audio Signal Processing Systems and Devices, subclasses 104 through 109, for amplitude or volume control for an audio system.

390.02 Filtering (FIR, HPF, Widrow-Hoff, or LMS):
This subclass is indented under subclass 390.01. Subject matter including circuitry for selectively allowing the passing through or blocking certain signals or frequencies.

390.03 Automatic gain control:
This subclass is indented under subclass 390.01. Subject matter including a self acting compensation device which maintains an output level constant over a wide range of input signals.

390.04 Hybrid circuit:
This subclass is indented under subclass 390.01. Subject matter including a two-wire to four-wire converter.

391 Sidetone control or hybrid circuit (e.g., induction coil):
This subclass is indented under subclass 387. Subject matter for maintaining that portion of the speech signal which is transmitted from a telephone transmitter and reproduced at adjacent receiver at a desired degree of separation.

SEE OR SEARCH THIS CLASS, SUBCLASS:
402, for similar subject matter at a telephone line interface.

392 Suppression (e.g., anti-sidetone):
This subclass is indented under subclass 391. Subject matter for minimizing the amount of sidetone reproduced by a receiver.

392.01 Noise suppression:
This subclass is indented under subclass 387.01. Subject matter including circuitry for eliminating undesired signals.

393 Hold circuit:
This subclass is indented under subclass 387. Subject matter for maintaining a subscriber loop circuit in an active but noncommunicating mode.

SEE OR SEARCH THIS CLASS, SUBCLASS:
162+, for a key system hold circuit.

394 Impedance matching or line equalizing:
This subclass is indented under subclass 387. Subject matter wherein the terminal includes a circuit to either make the terminal and line impedances equal, or to equalize frequency attenuation characteristic.

SEE OR SEARCH THIS CLASS, SUBCLASS:
398, for telephone line equalization or impedance matching, other than in terminal circuitry.

395 Amplifying (e.g., AGC or AVC):
This subclass is indented under subclass 387.01. Subject matter including circuitry for increasing or adjusting the audio signal amplitude at a terminal.

SEE OR SEARCH CLASS:
330, Amplifiers, appropriate subclasses for an amplifier.
381, Electrical Audio Signal Processing Systems and Devices, subclasses 120+ for audio systems with amplifiers.

395.01 Power control or detection circuit:
This subclass is indented under subclass 387.01. Subject matter including circuitry for detecting or regulating the power supply, voltage or current in the terminal.

396 Visual signalling (e.g., lamp):
This subclass is indented under subclass 387. Subject matter to modify or emit light in response to one or more terminal conditions.

SEE OR SEARCH THIS CLASS, SUBCLASS:
376+, for visual call alerting.

397 Wire distribution:
This subclass is indented under subclass 387. Subject matter including the placement of conductors within the terminal.

SEE OR SEARCH THIS CLASS, SUBCLASS:
326+, for wire or cable distribution at a centralized switching facility.

398 LINE EQUALIZATION OR IMPEDANCE MATCHING:
This subclass is indented under the class definition. Subject matter including a circuit to cause the signal transmitted through the line to be independent of frequency, or providing for adjustment of the impedance thereof to optimize signal transmission to, and reception from, a telephone line.

SEE OR SEARCH THIS CLASS, SUBCLASS:
394, for this subject matter in terminal circuitry.

399.01 SUBSCRIBER LINE OR TRANSMISSION LINE INTERFACE:
This subclass is indented under the class definition. Subject matter including a link for connecting at least one telephone communications line to a central switching office or subscriber station.

399.02 Circuitry to provide a coder and decoder function:
This subclass is indented under subclass 399.01. Subject matter including at least one electronic circuit component which provides a coder or decoder of the BORSCHT functions to a subscriber line.

(1) Note. BORSCHT functions include battery feed, over voltage protection, ringing, supervision, codec, hybrid and testing.

400 For line length compensation:
This subclass is indented under subclass 399. Subject matter including structure to change an electrical parameter in a complementary relationship with a distance-related effect on a telephone signal.

(1) Note. Amplifying of a telephone signal is classified in subclasses 338+.

401 Voltage boosting circuit:
This subclass is indented under subclass 400. Subject matter which increases the magnitude of a voltage source in accordance with the length of a related telephone line.

402 Hybrid circuit:
This subclass is indented under subclass 399. Subject matter including a two-wire to four-wire converter.

SEE OR SEARCH THIS CLASS, SUBCLASS:
3, for testing of a hybrid circuits.
344, for similar subject matter including a telephone repeater.
391+, for a hybrid circuit in a substation of terminal.

SEE OR SEARCH CLASS:
333, Wave Transmission Lines and Networks, subclasses 24+ for a coupling network.

403 With adjustable balance circuit:
This subclass is indented under subclass 402. Subject matter which includes a circuit having an impedance the reactive component of which is substantially equal in magnitude and opposite in sign to that of the two-wire line, the impedance being variable for adjustment purposes.

404 Automatic adjustment:
This subclass is indented under subclass 403. Subject matter which varies the impedance of the balance circuit in accordance with a sensed unbalanced condition.

405 Electronic noninductive:
This subclass is indented under subclass 402. Subject matter which connects the bidirectional two-wire line with two unidirection two-wire lines and operated by means of an element in which signal transmission is controlled by an electron discharge device or a semiconductor component.

406.01 ECHO CANCELLATION OR SUPPRESSION:
This subclass is indented under the class definition. Subject matter including circuitry to prevent undesired reflection, oscillation, feedback, or signal transmission.

SEE OR SEARCH THIS CLASS, SUBCLASS:
3, for testing an echo suppressor.

388.01 through 390.04, for loudspeaker with circuitry for voice control of transmission direction.
391, for side tone control.
392, for side tone suppression in a terminal or substation.

SEE OR SEARCH CLASS:
381, Electrical Audio Signal Processing Systems and devices, subclass 66 for wired one-way audio deverberation (elimination of acoustic echoes in space), subclasses 71.1-71.14 for acoustic sound cancellation such as active noise cancelers using LMS adaptive filtering.
348, Television, subclass 611 for echo suppression in a video image, subclass 614 for ghost elimination.
370, Multiplex Communications, subclasses 278 and 282-292, for transmit/receive interaction control in a wireless and in a general duplex communication system, respectively, particularly subclasses 286-292 for echo cancellation.
455, Telecommunication, subclass 570, for echo cancellation or suppression in a wireless communication environment.

406.02 Combined diverse function:
This subclass is indented under subclass 406.01. Subject matter including functions, hardware, or processing other than echo cancellation or suppression per se.

406.03 Additional signal enhancement (e.g., voice processing or recognition):
This subclass is indented under subclass 406.02. Subject matter including means to improve the quality of the signal.

(1) Note. For example, using speech recognition or voice processing, etc.

SEE OR SEARCH CLASS:
704, Data Processing, Speech Signal Processing, Linguistics, Language Translation, and Audio Compression/Decompression, appropriate subclasses for significant data processing for speech or voice.

406.04 Disable or inhibit function:
This subclass is indented under subclass 406.01. Subject matter including means to stop or prevent the functioning of an echo canceler or circuitry associated with an echo canceler.

406.05 Residual echo cancellation:
This subclass is indented under subclass 406.01. Subject matter including means to cancel echo which remains at the output of a first or primary echo canceler.

SEE OR SEARCH CLASS:
370, Multiplex Communications, subclass 289, for residual echo cancellation in a general multiplexed signal environment.

406.06 Using digital signal processing:
This subclass is indented under subclass 406.01. Subject matter in which signals being processed have been sampled at discrete times and converted into numbers represented in binary form.

406.07 Using attenuator:
This subclass is indented under subclass 406.06. Subject matter in which amplitude is controlled either by hardware or software according to the value of a number represented in binary form.

406.08 Adaptive filtering:
This subclass is indented under subclass 406.06. Subject matter in which a filter having coefficients which change according to an algorithm is used to generate a model of the feedback or echo path in order to generate a counterwave to cancel the echo or feedback.

406.09 Least mean squares (LMS) algorithm:
This subclass is indented under subclass 406.08. Subject matter in which the least mean square algorithm is used in the adaptive filter.

406.1 With training sequence:
This subclass is indented under subclass 406.08. Subject matter in which a sequence of signals, such as a pseudo random sequence, is employed to cause the adaptive filter coefficients to converge to a solution which effectively models the echo or feedback path.

406.11 Convolution processing:
This subclass is indented under subclass 406.06. Subject matter in which useful information is obtained by convolving two signal sequences.

406.12 Frequency domain analysis:
This subclass is indented under subclass 406.06. Subject matter in which processing is performed on subsets or restricted bands of the entire domain of frequencies present in the signal in which echo is to be canceled.

406.13 Fourier analysis:
This subclass is indented under subclass 406.12. Subject matter in which the frequency subsets take the form of complexed number pairs or frequency bins obtained from the DFT (Discrete Fourier Transform) or the FFT (Fast Fourier Transform).

406.14 Sub-band analysis:
This subclass is indented under subclass 406.12. Subject matter in which the frequency subsets are obtained as separate digital signal streams from the outputs of separate digital filters which collectively divide the signal being processed into distinct frequency bands.

406.15 Additional analog processing:
This subclass is indented under subclass 406.06. Subject matter in which significant analog signal processing take place in addition to digital signal processing.

(1) Note. Significant here means analog processing other than the usual amplification, sample-and-hold, etc. used to prepare the signal for analog-to-digital conversion or to prepare it for delivery to an electroacoustic transducer after digital-to-analog conversion.

406.16 Having analog variolosser or attenuator:
This subclass is indented under subclass 406.01. Subject matter in which the echo cancellation or suppression is effected primarily or solely by use of analog amplitude control in one of the primary signal paths.

412 Protective circuit:
This subclass is indented under subclass 399. Subject matter having a circuit which prevents damage to the telephone line.

SEE OR SEARCH CLASS:
361, Electricity: Electrical Systems and Device, subclass 119 for high voltage surge protection of a communication line.

413 Power supply (e.g., battery feed):
This subclass is indented under subclass 399. Subject matter wherein the interface further includes a source of electrical energy.

SEE OR SEARCH THIS CLASS, SUBCLASS:
322+, for a power supply at a central switching office.

413.01 Circuitry to provide ringing current supply:
This subclass is indented under subclass 413. Subject matter including an electronic circuit component which provides the ringing current supply function of the BORSCHT functions to a subscriber line.

413.02 Network interface device (NID):
This subclass is indented under subclass 399.01. Subject matter including details of a network interface box for providing a point of demarcation between incoming and outgoing telephone connection wires at customer premise equipment (CPE).

413.03 Including connection for alternate communication line (e.g., cable):
This subclass is indented under subclass 413.02. Subject matter wherein the demarcation point includes additional accommodation for connection to a link other than the telephone line (e.g., cable).

413.04 Connection block or module:
This subclass is indented under subclass 413.02. Subject matter which includes details of at least one connector internal of a NID.

SEE OR SEARCH CLASS:
439, Electrical Connectors, for electrical connectors per se, not specific to telephony.

414 TRANSMISSION LINE CONDITIONING:
This subclass is indented under the class definition. Subject matter for varying an electrical parameter of a telephone channel.

(1) Note. This subject matter is often included to bring a circuit value of a desired or standard value.

SEE OR SEARCH THIS CLASS, SUBCLASS:
22+, for diagnostic testing of a telephone transmission line.
381, for a make busy arrangement.

SEE OR SEARCH CLASS:
174, Electricity: Conductors and Insulators, appropriate subclasses for a telephone conductor.
333, Wave Transmission Lines and Networks, appropriate subclasses for a load line.

415 Reactance neutralizing:
This subclass is indented under subclass 414. Subject matter for adding a reactive impedance to counteract reactive line impedance.

SEE OR SEARCH THIS CLASS, SUBCLASS:
394, for impedance matching in a telephone substation or terminal.
398, for impedance matching or line equalization.

416 Interference suppression:
This subclass is indented under subclass 414. Subject matter which reduces or eliminates an undesired signal.

SEE OR SEARCH THIS CLASS, SUBCLASS:
3, for testing of an echo suppressor.
400+, for echo cancellation or antisinging in a subscriber line or transmission line interface.

417 Anti-crosstalk:
This subclass is indented under subclass 416. Subject matter to reduce or eliminate a signal from one telephone channel induced in another.

418 CALL SIGNAL GENERATING (E.G., RINGING OR TONE GENERATOR):
This subclass is indented under the class definition. Subject matter which produces an electrical signal which actuates a device producing a perceptible signal indicative of the status or presence of a desired call connection.

SEE OR SEARCH THIS CLASS, SUBCLASS:
31, for testing of a line signalling generator.
65, for a single channel telephone carrier system including call signalling.
164, for call alerting in a multiline or key substation.
179+, for call alerting in a polystation line system.
201+, for a special service.
251+, for call signal generation in a centralized switching system.
352+, for substation originated call signal generation.
373+, for reception of a call alerting signal.

SEE OR SEARCH CLASS:
340, Communications: Electrical, subclasses 384.1+ for an audible indication.

419 TERMINAL:
This subclass is indented under the class definition. Subject matter including an audio reproducer and microphone.

(1) Note. This and indented subclasses also include subcombinations and components peculiar to such devices and not elsewhere classified.

SEE OR SEARCH THIS CLASS, SUBCLASS:
110.01, for a composite terminal.
156+, for key system.
167+, for an intercom system station.
352+, for call address or other line signalling structure at a terminal.
441+, for accessory or auxiliary equipment usable with the subject matter of this subclass.

SEE OR SEARCH CLASS:

362, Illumination, subclass 88 for an illuminated telephone instrument.

381, Electrical Audio Signal Processing Systems and Devices, subclasses 150+ for a microphone or speaker, per se.

420.01 Having loudspeaker conversation capability (e.g. hands-free type or speakerphone):
This subclass is indented under subclass 419. Subject matter which permits conversation with a user without physical contact with the terminal.

SEE OR SEARCH THIS CLASS, SUBCLASS:

388 through 390, for circuitry particularly designed for a loudspeaking terminal.

420.02 Hands-free loudspeaker feature:
This subclass is indented under subclass 420.01. Subject matter having an audio reproducer mounting assembly.

420.03 Hands-free microphone feature:
This subclass is indented under subclass 420.01. Subject matter having an audio to electrical converting device mounting assembly.

420.04 Hands-free accessory or attachment:
This subclass is indented under subclass 420.01. Subject matter including additional communication elements

(1) Note. For example, an additional set of microphone or speaker.

421 Having muting:
This subclass is indented under subclass 419. Subject matter where a transducer in the terminal is prevented from being operational.

422 Switch or switch actuator structure:
This subclass is indented under subclass 419. Subject matter comprising a mechanical or electrical device which completes, breaks, or changes the path of an electrical current.

SEE OR SEARCH CLASS:

200, Electricity: Circuit Makers and Breakers, appropriate subclasses for a switch, per se.

423 Line selection:
This subclass is indented under subclass 422. Subject matter where the switch connects one of a plurality of lines to a component of the system.

SEE OR SEARCH THIS CLASS, SUBCLASS:

156+, for substation circuitry including plural lines used with line selecting terminals.

424 Receiver or handset position responsive (e.g., hookswitch):
This subclass is indented under subclass 422. Subject matter which opens or closes the switch contacts in response to a change of relative position between the part of the terminal containing the audio reproducer and the rest of the terminal.

425 With mechanism for latching hookswitch or plunger against motion:
This subclass is indented under subclass 424. Subject matter which includes structure to prevent a hook or plunger operated switch from being operated by the handset or receiver.

426 Movable holder for receiver or handset:
This subclass is indented under subclass 424. Subject matter having a switch actuator which holds the telephone reproducer, the actuator being movable relative to the rest of the terminal.

427 Having plunger and lever linkage:
This subclass is indented under subclass 424. Subject matter where the switch actuator includes a movable rodlike place engaging a rigid piece that pivots about a point to actuate the switch.

428.01 Housing or housing component:
This subclass is indented under subclass 419. Subject matter having a casing enclosing component of a terminal set.

428.02 Handset or headset combined with telephone base:
This subclass is indented under subclass 428.01. Subject matter having a handheld or headgear transceiver communication module.

428.03 Display on telephone base:
This subclass is indented under subclass 428.01. Subject matter having a viewing module.

428.04 Base having detachable accessory:
This subclass is indented under subclass 428.01. Subject matter having an additional device attached on the telephone terminal.

429 Having distinct circuitry support structure (e.g., circuit board):
This subclass is indented under subclass 428. Subject matter including structure separate from the other terminal elements to hold or connect an electrical component of a telephone.

SEE OR SEARCH CLASS:
361, Electricity: Electrical Systems and Devices, subclasses 600+ for a housing or mounting assembly for a plurality of diverse electrical components.

430 Body supported (e.g., headgear):
This subclass is indented under subclass 428. Subject matter including apparatus for frictional abutting engagement between the user's body and a telephone terminal receiver-transmitter device.

(1) Note. These instruments include structure to support both a receiver and a transmitter casing adjacent a user's head by engagement therewith.

SEE OR SEARCH THIS CLASS, SUBCLASS:
449, for handset holders that are attachable to terminal housing.

SEE OR SEARCH CLASS:
381, Electrical Audio Signal Processing Systems and Devices, subclasses 321+ for a stereo headphone, subclass 74 for a headphone circuit, and subclasses 370+ and 385 for a headphone.

431 Separate housings for earphone and microphone (e.g, candlestick type):
This subclass is indented under subclass 428. Subject matter including a transmitter and a receiver in different cases.

(1) Note. The different cases may be separately positioned.

SEE OR SEARCH THIS CLASS, SUBCLASS:
426, for similar subject matter including a hookswitch supported receiver.

432 Loudspeaking set:
This subclass is indented under subclass 428. Subject matter in which a telephone housing radiates reproduced sound to a user located away from the terminal.

SEE OR SEARCH THIS CLASS, SUBCLASS:
420, for a loudspeaking terminal.

433.01 Handset structure:
This subclass is indented under subclass 428.01. Subject matter including a housing that contains both the receiver and the transmitter device.

433.02 Speaker mounting (i.e., speaker phone feature):
This subclass is indented under subclass 433.01. Subject matter including an audio reproducer (receiver) mounting assembly that allows conversation with a user without physical contact with the terminal.

433.03 Microphone mounting:
This subclass is indented under subclass 433.01. Subject matter including an audio to electrical converting device (transmitter) mounting assembly.

433.04 Display on handset:
This subclass is indented under subclass 433.01. Subject matter having a viewing module.

433.05 Connector:
This subclass is indented under subclass 433.01. Subject matter having electrical link either internal, between the main body and a moveable part, or external, to other electrical device.

433.06 Button or switch having specific function:
This subclass is indented under subclass 433.01. Subject matter having a telephone operation in response to a switching device.

433.07 Keypad:
This subclass is indented under subclass 433.06. Subject matter including a small hand-held input keyboard.

433.08 Battery:
This subclass is indented under subclass 433.01. Subject matter having a power supply.

433.09 Card (e.g., SIM or magnetic strip card):
This subclass is indented under subclass 433.01. Subject matter including a flat object bearing information that can be accessed by the communication device and can be readily removed from the communication device.

433.1 Handset having special feature (e.g., wrist watch):
This subclass is indented under subclass 433.01. Subject matter including other accessories mounted within the communication housing.

433.11 Moveable or removeable element (e.g., cover):
This subclass is indented under subclass 433.01. Subject matter having a lid that can be moved from one position to another, or an attachment that can be separated from the handset.

433.12 Slidable mechanism:
This subclass is indented under subclass 433.11. Subject matter having a lid that can be moved over a surface.

433.13 Rotatable mechanism (e.g., hinge):
This subclass is indented under subclass 433.11. Subject matter having a lid that can be turned on an axis.

434 Specified terminal configuration (e.g., novelty type):
This subclass is indented under subclass 428. Subject matter having a specific shape, orientation, simulation or other geometric relation of portions of a telephone terminal housing.

(1) Note. The term simulation is intended to comprehend fanciful characters and caricatures.

SEE OR SEARCH CLASS:
446, Amusement Devices: Toys, subclasses 141+ for a nonoperative toy telephone.
D14, Recording, Communication, or Information Retrieval Equipment, subclasses 140+ for an ornamental design of telephone equipment.

435 Wall set or convertible type:
This subclass is indented under subclass 428. Subject matter wherein the telephone set includes structure to provide support from an adjacent vertical building element or to convert the wall set for use upon a horizontal planar surface.

436 Desk set:
This subclass is indented under subclass 428. Subject matter wherein the terminal is configured so as to provide normal operation with the terminal base resting on a horizontal planar surface.

437 Protective structure:
This subclass is indented under subclass 428. Subject matter wherein a terminal includes apparatus to prevent damage to the terminal or some component thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:
451, for similar subject matter separable from telephone terminal structure.

438 Of cord or connector:
This subclass is indented under subclass 437. Subject matter for protecting a terminal lead wire or connector.

439 Antiseptic:
This subclass is indented under subclass 437. Subject matter for protective germicidal or hygienic structure.

SEE OR SEARCH THIS CLASS, SUBCLASS:
452, for an antiseptic terminal accessory.

440 Casing or enclosure, per se:
This subclass is indented under subclass 428. Subject matter consisting of housing structure surrounding the electromechanical parts of the telephone set.

441 TERMINAL ACCESSORY OR AUXILIARY EQUIPMENT:
This subclass is indented under the class definition. Subject matter used with and not part of a telephone set.

442 With circuit connection to terminal:
This subclass is indented under subclass 441. Subject matter for connecting a device to the line by direct connection through the terminal.

(1) Note. Included herein is a terminal patch cord or connector.

SEE OR SEARCH THIS CLASS, SUBCLASS:
90.01+, for a similar circuit connection for diverse art device.

SEE OR SEARCH CLASS:
439, Electrical Connectors, appropriate subclasses for circuit connectors, per se.

443 Including coupler (e.g., inductive);
This subclass is indented under subclass 441. Subject matter for transferring a signal from a telepone terminal other than by direct circuit connection.

(1) Note. Such transfer may be performed by an inductive or other coupling to the telephone terminal.

SEE OR SEARCH THIS CLASS, SUBCLASS:
55.1, for an inductive or other near field link telephone system.

444 Acoustic:
This subclass is indented under subclass 443. Subject matter where the transfer is performed by direct circuit connection.

SEE OR SEARCH THIS CLASS, SUBCLASS:
78, for this subject matter combined with a telephone answering device.

445 Locking device:
This subclass is indented under subclass 441. Subject matter wherein a fastening apparatus prevents unauthorized usage of a telephone.

SEE OR SEARCH CLASS:
70, Locks, appropriate subclasses for a lock, per se.

446 Telephone receiver support:
This subclass is indented under subclass 441. Subject matter including apparatus for holding a telephone receiver to a telephone set.

(1) Note. A support to hold a telephone reproducer to structure other than at telephone set is classified in Class 381, Electrical Audio Signal Processing Systems and Devices, subclasses 386+.

SEE OR SEARCH THIS CLASS, SUBCLASS:
426, for a terminal having a movable holder or a telephone receiver which operates a switch.

SEE OR SEARCH CLASS:
248, Supports, appropriate subclasses, for a support, per se.

447 Attachable to terminal housing:
This subclass is indented under subclass 441. Subject matter having structure to support the accessory or auxiliary equipment adjacent the terminal housing.

448 Hookswitch operator:
This subclass is indented under subclass 447. Subject matter including apparatus for depressing the actuator of a receiver or handset position responsive switch.

SEE OR SEARCH THIS CLASS, SUBCLASS:
424+, for a hookswitch.

449 Handset holder (e.g., shoulder rest):
This subclass is indented under subclass 447. Subject matter including apparatus for holding a handset on a human body.

450 Clips onto terminal structure:
This subclass is indented under subclass 447. Subject matter including a device that attaches to the telephone terminal structure.

451 Protective structure:
This subclass is indented under subclass 441. Subject matter including apparatus that guards and/or shields the telephone or some part thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:
437+, for a terminal including apparatus to prevent damage to the terminal or a component thereof.

452 Antiseptic, disinfecting, or disposable:
This subclass is indented under subclass 451. Subject matter including structure to prevent cross-infection by telephone users.

(1) Note. Included herein is antiseptic, disinfecting, or disposable structure.

SEE OR SEARCH THIS CLASS, SUBCLASS:
439, for antiseptic terminal structure.

453 Hood or enclosure (e.g., booth):
This subclass is indented under subclass 441. Subject matter including a protective covering for a telephone or a fenced off or confined area for a telephone as in a telephone booth.

SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), appropriate subclasses for structural detail of a telephone booth absent any significant telephone component structure or relationship.

454 Support or stand:
This subclass is indented under subclass 441. Subject matter including structure to retain the telephone apparatus in a desired position.

(1) Note. The structure can serve as a mounting for a push button, a volume control or other items.

SEE OR SEARCH THIS CLASS, SUBCLASS:
446, for structure to support a telephone receiver from another part of the telephone terminal.

SEE OR SEARCH CLASS:
248, Supports, appropriate subclasses for a support, per se.

455 Handset holder:
This subclass is indented under subclass 454. Subject matter including apparatus that supports the telephone handset.

SEE OR SEARCH THIS CLASS, SUBCLASS:
449, for handset holder attachable to a telephone terminal housing.

456 Dialing tool:
This subclass is indented under subclass 441. Subject matter comprising a device having structure for dialing a telephone.

(1) Note. This subclass requires the device to have a limitation particularly designed for cooperation with the manual actuation device and not merely incidentally useful therewith (e.g., a pencil).

457 MISCELLANEOUS:
This subclass is indented under the class definition. Subject matter not provided for in any of the preceding subclasses.

SEE OR SEARCH CLASS:
381, Electrical Audio Processing Systems and Devices, appropriate subclasses for one way-audio circuits and audio transducers, per se.

CROSS-REFERENCE ART COLLECTIONS

900 INTERNET (e.g., Internet phone, web-phone, Internet-based telephony):
Subject matter comprising combination of a telephone system or component and the Internet, wherein telephonic conversations are conducted, controlled, or monitored via the Internet.

901 VIRTUAL NETWORKS OR VIRTUAL PRIVATE NETWORKS:
Subject matter for programmably effecting as needed, or for controlling, telephone networks, as distinguished from "hard-wired" networks. Sometimes called "software-defined" networks.

SEE OR SEARCH CLASS:
370, Multiplex Communications, subclasses 351+ for a pathfinding or routing through a switching network or a packet switching network.

902 AUTO-SWITCH FOR AN INCOMING VOICE, DATA, OR FAX TELEPHONE CALL (E.G., COMP/FAX/TEL):
Subject matter comprising a receiving device for automatically detecting an incoming telephone call on a single line and routing to one of several divergent devices intended for communication of voice or data over that telephone line (e.g., answering machine, fax machine, telephone, computer), or for switching between such devices by remote control of a caller.

SEE OR SEARCH THIS CLASS, SUBCLASS:
93.09+, for the telephone switching between different terminal types.
100.01+, for a fax telephone.

903 PASSWORD:
Subject matter for entering a code through a telephone system to identify an authorized user.

SEE OR SEARCH THIS CLASS, SUBCLASS:
93.03, for a personal identification.

904 AUTO-CALLING:
Subject matter for automated dialing and completion of telephone calls to plural, predetermined destinations.

(1) Note. Such systems may use memory-, repertory- or speed-dialers for addressing of calls, but also perform some additional functions such as automatically retrieving plural stored numbers, or automatically detecting answering devices or persons.

SEE OR SEARCH THIS CLASS, SUBCLASS:
355+, for an auto dialer.

905 FAX MAIL:
Subject matter for storing or transmitting a non-telephone signal (that is, a visual or s:graphic representation of a document for producing a visually readable reproduction at a receiving station) from or to a predetermined facsimile destination via a telephone communication channel, usually within a pre-specified time window.

SEE OR SEARCH THIS CLASS, SUBCLASS:
100.08, for an electronic mailbox.

906 TOUCHTONE MESSAGE TRANSMISSION:
Subject matter comprising a system or device using a standard or modified telephone keypad for transmitting an alphanumeric message over a telephone line or channel.

907 SPEECH RECOGNITION VIA TELEPHONE SYSTEM OR COMPONENT:
Subject matter for recognizing speech or voice by means of a telephone set or system component, for purpose of control, identification or access limitation.

SEE OR SEARCH CLASS:
704, Data Processing: Speech Signal Processing, Linguistics, Language Translation, and Audio Compression/Decompression, subclasses 231+ for speech recognition per se.

908 MULTIMEDIA:
Subject matter comprising a telephone system for transmitting and receiving more than one data type (e.g., text/fax/voice) during a single call session, or for one form of communication to be converted to another (e.g., speech-to-text,

text-to-speech, handwriting-to-text or voice, etc.).

SEE OR SEARCH CLASS:
704, Data Processing: Speech Signal Processing, Linguistics, Language Translation, and Audio Compression/ Decompression, subclass 260 for speech synthesis including an image-to-speech conversion.

909 ALTERNATIVES:
Subject matter comprising more than one way or preference to perform a specific telephone function or operation.

910 BAR CODE OR OPTICAL CHARACTER READER WITH TELEPHONE:
Subject matter combining a bar code or optical character reader with a telephone component and providing for transmission of data read by the reader over a telephone line or channel.

SEE OR SEARCH CLASS:
235, Registers, subclass 462 for a bar code reader.

911 DISTINCTIVE RINGING:
Subject matter for the generation or detection of telephone ringing signals distinguishable from the standard mechanical-bell signals, for selective identification or routing of received calls relative to the caller or called party or equipment.

SEE OR SEARCH THIS CLASS, SUBCLASS:
180, for full selective or tuned (e.g., harmonic).

912 GEOGRAPHICALLY ADAPTIVE:
Subject matter for selective adaptation of aspects of the telephone system or equipment dependent on where a caller, called party, terminal, or call-processing equipment is geographically located.

913 PERSON LOCATOR OR PERSON-SPECIFIC:
Subject matter for tracking the location (i.e., finding) of a telephone-system subscriber, user, or terminal, or for adapting an aspect of the system or terminal to a specific person.

SEE OR SEARCH THIS CLASS, SUBCLASS:
211, for a call forwarding.

914 PROGRAMMABLE TELEPHONE COMPONENT:
Subject matter to enable or facilitate programming of a telephone system component by a subscriber or user, e.g., enabling a user to use a Dual Tone Multifrequency (DTMF) set to remotely program operational features of a telephone switching system or terminal.

915 "SOFT" KEY:
Subject matter wherein the telephone system component is a programmable function key or an adjunct device coupled to the set and intended for effecting transmission of signals over a telephone line or channel, or controlling the transmission thereof.

916 TOUCH SCREEN ASSOCIATED WITH TELEPHONE SET:
Subject matter combining a telephone set with sensors in front of a display screen which respond to the presence, or touch, of an operator for controlling transmission of signals over a telephone line or channel.

SEE OR SEARCH CLASS:
178, Telegraphy, subclasses 18.01+ for a writing digitizer pad.
345, Computer Graphics Processing and Selective Visual Display Systems, subclasses 173+ for a combined touch panel and a selective display.

917 VOICE MENUS:
Subject matter for providing stored-voice message strings that offer telephone users a variety of selectable responses.

SEE OR SEARCH THIS CLASS, SUBCLASS:
67.1+, for a telephone system having audio message storage or retrieval capability.

FOREIGN ART COLLECTIONS

The definitions below correspond to abolished subclasses from which these collections were formed. See the Foreign Art Collection schedule of this class for spe-

cific correspondences. **[Note:** The titles and definitions for *indented* art collections include all the details of the one(s) that are hierarchically superior.]

FOR 100 HAVING NEAR FIELD LINK (E.G., CAPACITIVE, INDUCTIVE):
Foreign art collection having a transceiver, a base station, and a near field or limited range system (i.e., field strength=k/d where d=distance between the transceiver and base station antennas) whereby signal transfer is inductive or capacitive, rather than electromagnetic.

FOR 101 HAVING ELECTROMAGNETIC LINK FOR SPEECH OR PAGING SIGNAL (E.G., LIGHT WAVE LINK):
Foreign art collection wherein a circuit connection is made by a transmitted electromagnetic field or wave group.

FOR 102 Control of selectively responsive paging arrangement over telephone line:
Foreign art collection in which telephone equipment is used to transmit a signal to selectively operate or control equipment to produce a perceptible notification signal over an electromagnetic link.

FOR 112 TELEPHONE LINE OR SYSTEM COMBINED WITH DIVERSE ELECTRICAL SYSTEM OR SIGNALLING (E.G., COMPOSITE):
Foreign art collection wherein a nontelephone signal is transmitted over a conductor of telephone signals, or a telephone signal is transmitted over nontelephone electrical circuitry.

FOR 113 Credit authorization:
Foreign art collection to permit or deny a charge to an individual account by nonvoice signals over a telephone line.

FOR 114 Polling (e.g., audience survey):
Foreign art collection wherein plural controlled devices transmit a personal or personal choice status signal in response to an interrogating signal.

FOR 115 With transmission of a digital message signal over a telephone line:
Foreign art collection for transmission of message information by either a multi-level pulse signal, or a digital data signal, over lines specifically described as telephone lines.

FOR 116 Including switching station:
Foreign art collection including a switching facility having structure or circuitry for digital message signal processing.

FOR 117 Access restricting:
Foreign art collection for restricting telephone access to digital computing or communication equipment.

FOR 118 Including terminal for display of digital information:
Foreign art collection including structure particularly adapted for conversion of a digital information signal into a visual message signal.

FOR 119 By voice frequency signal (e.g., tone code):
Foreign art collection wherein the pulse or digital data signal is specifically described as converted into one or more tones lying within the audible frequency spectrum.

FOR 120 By modulated audio tone:
Foreign art collection wherein a pulse or digital data signal causes a variation in the frequency, phase or amplitude of an audible tone.

FOR 121 Having acoustic link:
Foreign art collection wherein a digital signalling device is connected to a telephone line by a sound wave passing between a complementary pair of electroacoustal transducers.

FOR 122 To produce visual-s:graphic copy reproduction (e.g., facsimile):
Foreign art collection where the nontelephone signal is a visual or s:graphic representation of a static document for producing a visually readable permanent copy at a receiving station.

FOR 123 Audio program distribution:
Foreign art collection where an audio program is transmitted to subscribers over a telephone system.

FOR 124 Remote control:
Foreign art collection having signalling over a telephone line for control of a nontelephone device at a remote location.

FOR 125 Of entrance of exit lock:
Foreign art collection which controls a mechanism for permitting or preventing access through a door or other similar structural closure.

FOR 126 With indication:
Foreign art collection which indicates a condition of the controlled device.

FOR 127 From terminal:
Foreign art collection wherein a device is controlled from a telephone terminal.

FOR 128 Remote indication over telephone line (e.g., telemetry):
Foreign art collection for providing a signal representing a sensed condition at a remote location over the telephone line.

FOR 129 Meter reading:
Foreign art collection where a sensed condition is an indication of a quantitative indicating device.

FOR 130 Telegraphy:
Foreign art collection for transmitting a telephone signal over a telegraph circuit.

FOR 131 Over telephone line:
Foreign art collection for transmitting a telegraph signal over a telephone line.

FOR 132 COMPOSITE SUBSTATION OR TERMINAL (E.G., HAVING CALCULATOR, RADIO):
Foreign art collection in which a telephone instrument also has structure or circuitry for performing a diverse independent (i.e., nontelephone) function.

FOR 133 WITH AUDIO MESSAGE STORAGE OR RETRIEVAL:
Foreign art collections including subject matter combined with structure for retention of an audio massage signal, or for retrieval thereof.

FOR 134 Stored in digital form:
Foreign art collections including subject matter including a feature of digital storage or retrieval of the audio signal.

FOR 135 Subscriber control of central office message storage or retrieval:
Foreign art collections including subject matter wherein the message storage is located at a central switching office and wherein the content of the audio message is controlled from a subscriber terminal.

FOR 136 DIAGNOSTIC TESTING, MALFUNCTION INDICATION, OR ELECTRICAL CONDITION MEASUREMENT (379/1):
Foreign art collection for either (a) evaluating or monitoring the condition of a telephone system or a component thereof in order to determine the presence of a faulty or nonstandard condi or (b) quantitatively determining an electrical parameter of a telephone system or component thereof.

FOR 137 By loopback (379/5):
Foreign art collection including transmitting a known signal from a testing location over a communi path to a second remote location which retransmits the known signal back to the testing location for use in evaluating the transmission path or a device are the remote location.

FOR 138 By analysis of injected tone signal (379/6):
Foreign art collection which includes placing a signal into the system to be tested and comparing the parameters of the output signal from the system over a continuous range with the corresponding parameters of the signal input.

FOR 139 By automatic testing sequence (e.g., programmable, scanning) (379/10):
Foreign art collection which serially performs plural steps included in a central switching arrange evaluation.

FOR 140 Of automatic switching equipment (379/15):
Foreign art collection for testing switching equipment which performs a selective call connection in response to a call address signal.

FOR 141 Fault detection or location (e.g., continuity, leakage) (379/26)::
Foreign art collection to determine the presence or location of a conductor fault in a telephone line conductor.

FOR 142 Of subscriber loop or terminal (379/27):
Foreign art collection for evaluating, measuring, or monitoring a characteristic of a subscriber line or station.

FOR 143 Terminal arrangement to enable remote testing (e.g., testing interface) (379/29):
Foreign art collection which includes an arrangement to facilitate localization of faults in, or local testing of, either a substation or a sub loop.

FOR 144 Indication of nonstandard condition of telephone equipment (379/32):
Foreign art collection for monitoring the condition of telephone equipment and providing a percepti indication of a fault or other improper equipment condition.

FOR 145 SERVICE MONITORING OR OBSERVATION (379/34):
Foreign art collection for monitoring the response of a telephone operator, or the response time of telephone equipment.

FOR 146 Computer or processor control (379/112):
Foreign art collection wherein telephone usage deter is controlled by a digital signal pro calculating device.

FOR 147 Call traffic recording (379/113):
Foreign art collection where a computer or processor counts the number of calls.

FOR 148 Call charge metering or monitoring (379/114):
Foreign art collection for a particular telephone set or the cost to a subscriber.

FOR 149 Interexchange operations (379/115):
Foreign art collection wherein the charge determina is made at one exchange and then transmit to another related to the calling station.

FOR 150 At central office (379/121):
Foreign art collection wherein the determination is made at the central switching office to which the telephone set is connected.

FOR 151 Having line identification (e.g., automatic number identification-"ANI") (379/127):
Foreign art collection in which telephone message accounting equipment identifies the telephone number of the dialing station.

FOR 152 WITH CALLING NUMBER DISPLAY OR RECORDING AT CALLED SUBSTATION (379/142):
Foreign art collection located at the called substation which provides either a visible indication, or a permanent or semi-permanent record, of the telephone number of a calling terminal.

FOR 153 Other than coin (379/144):
Foreign art collection wherein the telephone paystation accepts paper currency or a credit card.

FOR 154 PRIVATE (E.G., HOUSE OR INTERCOM) OR SINGLE LINE SYSTEM (379/167):
Foreign art collection having (a) a plurality of stations none of which is connected to the pub telephone system, (b) two subsets connected by a single line.

FOR 155 SPECIAL SERVICES (379/201):
Foreign art collection including a switching, connection, or control function additional to those necessary to establish and maintain a single call connection between two stations.

FOR 156 Conferencing (379/202):
Foreign art collection which enables three or more terminals on distinct subscriber lines to be included in a single call connection.

FOR 157 Operator control (379/203):
Foreign art collection wherein the conferencing connection is performed by an attendant at a central switching office.

FOR 158 Subscriber control (379/204):
Foreign art collection wherein the conferencing connection is established or modified by central office switching equipment in response to signalling from a subscriber terminal.

FOR 159 Conference initiation by single calling station (379/205):
Foreign art collection wherein a signalling function is performed at the calling terminal to originate the conference call.

FOR 160 At substation (379/206):
Foreign art collection wherein the conference call line coupling or switching is performed at a sub station.

(1) Note. Included herein are plural line conferencing and audio conferencing.

FOR 161 At plural exchanges (379/207):
Foreign art collection providing a modification of normal telephone call signalling or connection between different exchanges.

FOR 162 Priority override (e.g., butt-in) (379/208):
Foreign art collection allowing a designated type of call to interrupt another telephone conversation.

FOR 163 Repetitive call attempts (e.g., camp-on-busy, retry) (379/209):
Foreign art collection which includes producing suc repeated call attempts.

FOR 164 Call diversion (e.g., call capture) (379/210):
Foreign art collection for directing a call connection from an addressed telephone station to another.

FOR 165 Call forwarding (379/211):
Foreign art collection for rerouting an incoming call from an intended addressed station to another desired station without completion of the call connection to the addressed station.

FOR 166 Call transfer (379/212):
Foreign art collection for changing a completed call connection to an addressed station to another station after completion of call connection to the addressed station.

FOR 167 Intercept (e.g., dead or changed number) (379/213):
Foreign art collection wherein a call made to one of a specified group of addresses is directed to a predetermined location.

FOR 168 Secretarial or answering service (379/214):
Foreign art collection for call completion to an alter station upon a designated condition.

(1) Note. The designated condition may include: time, no answer for specified interval, or request.

FOR 169 Call waiting (379/215):
Foreign art collection for signalling a first station in communication with a second station that a third station desires communication with the first station.

(1) Note. The first station can usually com alternatively with the second and third stations.

FOR 170 Abbreviated dialing or direct call (e.g., hot line) (379/216):
Foreign art collection responsive to either a service request condition or, to a line signal code of less than the complete call address signal, for completing the call address connection in the same manner as if the full call address signal were received.

(1) Note. The term "service request condition" is generally an off-hook condition.

FOR 171 Audible paging (379/217):
Foreign art collection which connects a telephone circuit to a loudspeaker system for summoning an individual.

FOR 172 Performed by operator (e.g., butt-in, busy verification) (379/218):
Foreign art collection wherein the special service is performed by an attendant at a central or branch switching station.

FOR 173 With interexchange network routing (379/220):
Foreign art collection for selecting one of plural paths for a call switched between two or more exchanges.

FOR 174 Alternate routing (379/221):
Foreign art collection for selecting a different path in response to a blockage or other failure to con.

FOR 175 Call distribution to operator (379/265):
Foreign art collection for selecting and connecting a calling terminal to an operator.

FOR 176 Call queuing (379/266):
Foreign art collection which processes a plurality of simultaneous call attempts to a lesser number of operators by holding each of the calls in excess of the number of operators until an operator is available.

FOR 177 Repertory or abbreviated call signal generation (379/355):
Foreign art collection which produces a complete call address signal in response to actuation of a single key or in response to a generated code of less than the complete address signal.

FOR 178 With dynamic memory (379/356):
Foreign art collection including storage or retrieval of dialing code information by relative motion between a transducer and a relatively movable storage medium a property of which is altered in accordance with the stored information.

FOR 179 Insertable control element or circuitry (e.g., card) (379/357):
Foreign art collection comprising a circuit element or other object which controls the generation of the call signal, and is readily removable from the signal generator.

FOR 180 Incoming call alerting (e.g., ringing) (379/373):
Foreign art collection where the control or supervisory signal is generated in response to a call directed to a subscriber terminal.

FOR 181 With music or audible message generation (379/374):
Foreign art collection for generating an audible alert signal consisting of music or of a recorded or synthesized spoken message.

FOR 182 With electronic call sounder (e.g., tone "ringer") (379/375):
Foreign art collection where an audible alerting signal is generated at a subscriber terminal by a cir having at least one electronic device.

FOR 183 With visual indication of incoming call (379/376):
Foreign art collection where there is a visible indica at a subscriber terminal which indicates the presence of an incoming telephone call.

FOR 184 SUBSTATION OR TERMINAL CIRCUITRY (379/387):
Foreign art collection comprising electrical rela of circuit elements of a terminal set or a group of such sets connected to a single line circuit.

FOR 185 For loudspeaking terminal (379/388):
Foreign art collection including a terminal set having an electrical-to-audio signal transducer which produces an audible signal of sufficient inten to be intelligible to a user not in contact with the telephone terminal.

FOR 186 With circuitry for voice control of transmission direction (379/389):
Foreign art collection permitting operation of the terminal in only one direction in response to the presence of a voice signal to be transmitted.

FOR 187 With amplification or attenuation level control (379/390):
Foreign art collection having a circuit for adjusting or maintaining the level of signal strength.

FOR 188 SUBSCRIBER LINE OR TRANSMISSION LINE INTERFACE (379/399):
Foreign art collection including a circuit for connecting a telephone communications line to a central switching office or a subscriber sta.

FOR 189 Echo suppression, antisinging, or reverse path blocking (379/406):
Foreign art collection including circuitry to prevent undesired reflection, oscillation, or signal transmission.

FOR 190 Disable or inhibit (379/407):
Foreign art collection wherein the undesirable signal prevention device includes signal blocking.

FOR 191 Control by pilot frequency signal (379/408):
Foreign art collection wherein the undesirable signal is prevented by equipment responsive to a reference frequency signal.

FOR 192 Having variolosser or attenuator (379/409):
Foreign art collection wherein the undesired path signal prevention device reduces the magnitude of the signal.

FOR 193 Echo cancellation (e.g., phase opposition) (379/410):
Foreign art collection which produces a replica of the undesired signal and offsetting the undesired signal by said replica.

FOR 194 Having transversal filter (379/411):
Foreign art collection wherein an echo is cancelled by a multiply tapped delay line with a summing or weighting circuit.

FOR 195 Having loudspeaking conversation capability (e.g., hands-free type or speakerphone) (379/420):
Foreign art collection which permits conversation with a user without physical contact with the terminal.

FOR 196 Housing or housing component (379/428):
Foreign art collection having a casing enclosing components of a terminal set.

FOR 197 Handset structure (379/433):
Foreign art collection including a housing that contains both the receiver and the transmitter devices.

END