NOTES

1. This subclass covers:
   • substation equipment;
   • telephonic communication systems combined with other electrical systems;
   • testing arrangements peculiar to telephonic communication systems.

2. In this subclass, the following terms or expressions are used with the meanings indicated:
   • "subscriber" is a general term for terminal equipment, e.g. fixed, wireless, mobile or cellular phones, or for a user of terminal equipment;
   • "substation" means a subscriber or monitoring equipment which may connect a single subscriber to a line without choice as to subscriber;
   • "satellite" is a type of exchange the operation of which depends upon control signals received from a supervisory exchange;
   • "switching centres" include exchanges and satellites.

WARNINGS

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

   H04M 7/02 covered by H04Q 3/00
   H04M 7/04 covered by H04Q 3/00
   H04M 7/10 covered by H04Q 3/00
   H04M 15/02 covered by H04M 15/888

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

1/00 Substation equipment, e.g. for use by subscribers
   (subscriber services or facilities provided at exchanges H04M 3/00; prepayment telephone coin boxes H04M 17/00; current supply arrangements H04M 19/08)
   1/003 .... {Telephone sets using electrooptical means in the transmission path}
   1/006 .... {Call diverting means}
   1/02 .... Constructional features of telephone sets
   1/0202 .... {Portable telephone sets, e.g. cordless phones, mobile phones or bar type handsets (constructional features of telephone transmitters or receivers, e.g. of speakers or microphones H04M 1/03; mounting of the dialing module H04M 1/23; with protection against RF exposure H04B 1/3838)}
   2001/0204 .... {including a battery compartment}
   1/0206 .... {Portable telephones comprising a plurality of mechanically joined movable body parts, e.g. hinged housings}
   1/0208 .... {characterized by the relative motions of the body parts}
   1/021 .... {using combined folding and rotation motions (combined with translation movement H04M 1/0235)}

1/0212 .... {with a two degrees of freedom mechanism, i.e. folding around a first axis and rotating around a second axis perpendicular to the first}
   1/0214 .... {Foldable telephones, i.e. with body parts pivoting to an open position around an axis parallel to the plane they define in closed position (combined with translation movement H04M 1/0235)}
   1/0216 .... {Foldable in one direction, i.e. using a one degree of freedom hinge}
   1/0218 .... {The hinge comprising input and/or output user interface means}
   1/022 .... {The hinge comprising two parallel pivoting axes}
   1/0222 .... {Foldable in two directions, i.e. using a two degree of freedom hinge}
   1/0225 .... {Rotatable telephones, i.e. the body parts pivoting to an open position around an axis perpendicular to the plane they define in closed position (combined with translation movement H04M 1/0235)}
   1/0227 .... {Rotatable in one plane, i.e. using a one degree of freedom hinge}
   1/0229 .... {The hinge comprising input and/or output user interface means}
{Including a rotatable keypad body part}

{Including a rotatable display body part}

{Slidable or telescopic telephones, i.e. with a relative translation movement of the body parts; Telephones using a combination of translation and other relative motions of the body parts}

{Sliding mechanism with one degree of freedom}

{Sliding mechanism with two degree of freedom, e.g. translation in two different directions}

{using relative motion of the body parts to change the operational status of the telephone set, e.g. switching on/off, answering incoming call}

{using the relative angle between housings}

{using open/close detection}

{comprising more than two body parts}

{Details of the mechanical connection between the housing parts or relating to the method of assembly}

{by means of a snap-on mechanism}

{comprising one or a plurality of mechanically detachable modules}

{wherein the modules are operable in the detached state, e.g. one module for the user interface and one module for the transceiver}

{for a headset device (constructional features of headsets H04M 1/05; headsets for handsfree use H04M 1/6058)}

{Details of the structure or mounting of specific components}

{for a battery compartment}

{for a camera module assembly (photo or video cameras per se G03B; television cameras per se H04N 5/225)}

{for a display module assembly (for fixed telephones H04M 1/0295)}

{including a flexible display panel}

{including magnifying means}

{for a projector or beamer module assembly (constructional features of projectors per se G03B 21/00; constructional details of projectors using electronic spatial light modulators per se H04N 9/31)}

{for an electrical connector module}

{for a printed circuit board assembly}

{Improving the user comfort or ergonomics}

{for providing single handed use or left/right hand conversion}

{for providing a decorative aspect, e.g. customization of casings, exchangeable faceplate}

{Pen-type handsets}

{being disposable or recyclable}

{Telephone sets for operators}

{Door telephones}

{Terminal boxes for telephone sets}

{Mechanical mounting details of display modules}

{Telephone sets adapted to be mounted on a desk or on a wall}

{Constructional features of telephone transmitters or receivers, e.g. telephone hand-sets}

{Improving the acoustic characteristics by means of constructional features of the housing, e.g. ribs, walls, resonating chambers or cavities}

{Supports for telephone transmitters or receivers specially adapted for use on head, throat or breast}

{Hooks; Cradles}

{associated with switches operated by the weight of the receiver or hand-set}

{associated with switches operated by magnetic effect due to proximity of receiver or hand-set}

{Supports for sets, e.g. incorporating armrests}

{Adjustable supports, e.g. extensible}

{pantographic}

{with resilient means to eliminate extraneous vibrations}

{Protecting or guiding telephone cords}

{Hygienic or sanitary devices on telephone equipment (for mouthpieces or earpieces per se H04R 1/12)}

{Telephone sets specially adapted for use in ships, mines, or other places exposed to adverse environment (H04M 1/19 takes precedence)}

{Improving the rigidity of the casing or resistance to shocks}

{Arrangements of transmitters, receivers, or complete sets to prevent eavesdropping, to attenuate local noise or to prevent undesired transmission; Mouthpieces or receivers specially adapted thereto (circuit arrangements for preventing eavesdropping H04M 1/66; telephone cabinets E04H 1/14)}

{Arrangements for preventing acoustic feed-back (H04M 1/62 takes precedence)}

{Combinations with auxiliary equipment, e.g. with clocks or memoranda pads}

{by non-intrusive coupling means, e.g. acoustic couplers}

[Acoustic coupling]

Illumination: Arrangements for improving the visibility of characters on dials

Construction or mounting of dials or of equivalent devices; Means for facilitating the use thereof (by improving visibility H04M 1/22)

{including a pointing device, e.g. roller key, track ball, rocker switch or joystick (constructional details of pointing devices per se G06F 3/033)}

{including keys on side or rear faces}

Arrangements for testing
1/247 . Telephone sets including user guidance or feature selection means facilitating their use (user interfaces specially adapted for cordless or mobile telephones H04M 1/724)

WARNING


All groups listed in this Warning should be considered in order to perform a complete search.

1/2471 . (Configurable and interactive telephone terminals with subscriber controlled features modifications, e.g. with ADSI capability [Analog Display Services Interface] (systems providing special services or facilities to subscribers H04M 3/42; administration or customization of services H04M 3/42136; by downloading data to substation equipment H04M 3/42178))

1/2472 . . (with programmable function keys)

1/2473 . . (Telephone terminals interfacing a personal computer, e.g. using an API (Application Programming Interface) (details of API H04M 7/0021))

1/2474 . . (Telephone terminals specially adapted for disabled people (user interfaces for cordless or mobile telephones specially adapted for disabled users H04M 1/72475; network based special services or facilities for hearing-impaired persons H04M 3/42391; devices for converting with the deaf-blind G09B 21/04])

1/2475 . . . (for a hearing impaired user)

1/2476 . . . (for a visually impaired user (illuminating or arrangements for improving visibility of characters on dials H04M 1/22))

1/2477 . . . (for selecting a function from a menu display (H04M 1/2474 takes precedence))

1/2478 . . . (Telephone terminals specially adapted for non-voice services, e.g. email, internet access (centralized arrangements where telephones are combined H04M 7/0024; for recording text messages H04M 3/5322; for accessing Internet H04M 3/49381))

1/253 . Telephone sets using digital voice transmission

1/2535 . . (adapted for voice communication over an Internet Protocol [IP] network (Voice over Internet Protocol (VoIP) network equipment and services H04M 7/006; internet protocols H04L 29/0605/5))

1/26 . Devices for calling a subscriber (H04M 1/66 takes precedence)

1/27 . Devices whereby a plurality of signals may be stored simultaneously (devices disposed in the exchange H04M 3/424, H04M 3/44))

1/271 . . . (controlled by voice recognition)

1/272 . . . with provision for storing only one subscriber number at a time, e.g. by keyboard or dial

1/2725 . . . . [using electronic memories]

1/274 . . . with provision for storing more than one subscriber number at a time . e.g. using toothed disc)

1/2745 . . . . using static electronic memories, e.g. chips

1/27453 . . . . Directories allowing storage of additional subscriber data, e.g. metadata

1/27457 . . . . Management thereof, e.g. manual editing of data

1/2746 . . . . Sorting, e.g. according to history or frequency of use

1/27463 . . . . [Predictive input, predictive dialling by comparing the dialed sequence with the content of a telephone directory]

1/27467 . . . . Methods of retrieving data

1/2747 . . . . Scrolling on a display

1/27475 . . . . using interactive graphical means or pictorial representations

1/2748 . . . . by matching character strings

1/27485 . . . . Appending a prefix to or inserting a pause into a dialling sequence

1/2749 . . . . Automatic dialling or redialling systems, e.g. on off-hook or redial on busy

1/27495 . . . . implemented by means of discrete electronic components, i.e. neither programmable nor microprocessor-controlled (H04M 1/72475-H04M 1/7249 take precedence)

1/275 . . . . implemented by means of portable electronic directories

1/2753 . . . . providing data content

1/2755 . . . . by optical scanning

1/2757 . . . . by data transmission, e.g. downloading

1/276 . . . . using magnetic recording, e.g. on tape

1/2765 . . . . [implemented by means of portable magnetic cards]

1/278 . . . . using punched cards or tapes

1/30 . . Devices which can set up and transmit only one digit at a time

1/31 . . . by interrupting current to generate trains of pulses; by periodically opening and closing contacts to generate trains of pulses

1/312 . . . . [pulses produced by electronic circuits]

1/315 . . . . Clutches; Spring assemblies; Speed regulators, e.g. centrifugal brakes (H04M 1/32 – H04M 1/40 take precedence)

1/32 . . . . Locking setting devices during transmission to prevent interference by user

1/34 . . . . Lost-motion or other arrangements for ensuring a pause between successive digit transmissions

1/38 . . . . Pulses transmitted by a movement variably limited by the setting of a stop

1/40 . . . . wherein the setting-operation short-circuits or open-circuits the transmitting mechanism during a variable part of a cycle

1/50 . . . . by generating or selecting currents of predetermined frequencies or combinations of frequencies

1/505 . . . . [signals generated in digital form]

CPC - 2021.02

3
1/515 . . by generating or selecting signals other than trains of pulses of similar shape, or signals other than currents of one or more different frequencies, e.g. generation of dc signals of alternating polarity, coded pulses or impedance dialling
1/52 . . Arrangements wherein a dial or the like is mechanically coupled to a line selector
1/53 . . Generation of additional signals, e.g. additional pulses
1/54 . . . Arrangements wherein a dial or the like generates identifying signals, e.g. in party-line systems
1/56 . . Arrangements for indicating or recording the number at the calling subscriber's set
1/57 . . Arrangements for indicating or recording the number of the calling subscriber at the called subscriber's set (at the operator set in a manual exchange H04M 5/20)
1/571 . . . (Blocking transmission of caller identification to called party)
1/573 . . . (Line monitoring circuits for detecting caller identification)
1/575 . . . (Means for retrieving and displaying personal data about calling party)
1/576 . . . [associated with a pictorial or graphical representation]
1/578 . . . [associated with a synthesized vocal announcement]
1/58 . . Anti-side-tone circuits
1/585 . . . [implemented without inductive element]
1/60 . . including speech amplifiers
1/6008 . . . (in the transmitter circuit)
1/6016 . . . (in the receiver circuit)
1/6025 . . . (implemented as integrated speech networks)
1/6033 . . . (for providing handsfree use or a loudspeaker mode in telephone sets (arrangements for preventing acoustic echo H04M 9/08))
1/6041 . . . [Portable telephones adapted for handsfree use]
1/605 . . . . (involving control of the receiver volume to provide a dual operational mode at close or far distance from the user)
1/6058 . . . . (involving the use of a headset accessory device connected to the portable telephone)
1/6066 . . . . . [including a wireless connection]
1/6075 . . . . . [adapted for handsfree use in a vehicle (H04M 1/6058 takes precedence; arrangements for holding telephones in a vehicle B60R 11/0241)]
1/6083 . . . . . . [by interfacing with the vehicle audio system]
1/6091 . . . . . . [including a wireless interface]
1/62 . . . . . Constructional arrangements
1/64 . . Automatic arrangements for answering calls; Automatic arrangements for recording messages for absent subscribers; Arrangements for recording conversations (centralised dictation systems H04M 11/10)
1/642 . . . . . . [storing speech in digital form]
1/645 . . . . . . [with speech synthesis]
1/647 . . . . . . [using magnetic tape (H04M 1/642 takes precedence)]
1/65 . . . Recording arrangements {for recording a message from the calling party (in the exchange H04L 3/501)}
1/6505 . . . . [storing speech in digital form]
1/651 . . . . . [with speech synthesis]
1/6515 . . . . [using magnetic tape (H04M 1/6505 takes precedence)]
1/652 . . . Means for playing back the recorded messages by remote control over a telephone line (H04M 1/658 takes precedence)
1/654 . . . . Telephone line monitoring circuits therefor, e.g. ring detectors
1/6545 . . . . . [mechanically actuating hook switch, e.g. lifting handset]
1/656 . . . . for recording conversations
1/658 . . . . . Means for redirecting recorded messages to other extensions or equipment
1/66 . . . with means for preventing unauthorised or fraudulent calling (verifying user identity or authority in secret or secure digital communications H04L 9/32)
1/663 . . . . Preventing unauthorised calls to a telephone set
1/665 . . . . . by checking the validity of a code
1/667 . . . . Preventing unauthorised calls from a telephone set (H04M 1/677 takes precedence)
1/67 . . . . by electronic means
1/673 . . . . . the user being required to key in a code
1/675 . . . . . . the user being required to insert a coded card, e.g. a smart card carrying an integrated circuit chip {(for constructional features in portable telephones H04B 1/3816)}
1/677 . . . Preventing the dialling or sending of predetermined telephone numbers or selected types of telephone numbers, e.g. long distance numbers
1/6775 . . . . . (by providing access to preprogrammed keys)
1/68 . . . . . Circuit arrangements for preventing eavesdropping
1/70 . . . . . Lock-out or secrecy arrangements in party-line systems
1/71 . . . . Substation extension arrangements

**WARNING**

Group H04M 1/71 is incomplete pending reclassification of documents from group H04M 1/72.

Groups H04M 1/72 and H04M 1/71 should be considered in order to perform a complete search.

1/715 . . . using two or more extensions per line (cordless telephones H04M 1/725)
1/72 . . . Mobile telephones; Cordless telephones, i.e. devices for establishing wireless links to base stations without route selection

**WARNING**

Group H04M 1/72 is impacted by reclassification into group H04M 1/71.

Groups H04M 1/72 and H04M 1/71 should be considered in order to perform a complete search.
1/724 . . . User interfaces specially adapted for cordless or mobile telephones

**WARNING**

Groups H04M 1/724 - H04M 1/72484 are incomplete pending reclassification of documents from group H04M 1/247. All groups listed in this Warning should be considered in order to perform a complete search.

1/72403 . . . with means for local support of applications that increase the functionality
1/72406 . . . by software upgrading or downloading
1/72409 . . . by interfacing with external accessories (hands-free H04M 1/60)
1/72412 . . . using two-way short-range wireless interfaces
1/72415 . . . for remote control of appliances
1/72418 . . . for supporting emergency services
1/72421 . . . with automatic activation of emergency-service functions, e.g. upon sensing an alarm
1/72424 . . . with manual activation of emergency-service functions
1/72427 . . . for supporting games or graphical animations
1/7243 . . . with interactive means for internal management of messages
1/7243 . . . for voice messaging, e.g. dictaphones (for answering incoming calls H04M 1/64)
1/72436 . . . for text messaging, e.g. SMS or e-mail
1/72439 . . . for image or video messaging
1/72442 . . . for playing music files
1/72445 . . . for supporting Internet browser applications
1/72448 . . . with means for adapting the functionality of the device according to specific conditions
1/72451 . . . according to schedules, e.g. using calendar applications
1/72454 . . . according to context-related or environment-related conditions
1/72457 . . . according to geographic location
1/7246 . . . by connection of exchangeable house parts
1/72463 . . . to restrict the functionality of the device
1/72466 . . . with selection means, e.g. keys, having functions defined by the mode or the status of the device
1/72469 . . . for operating the device by selecting functions from two or more displayed items, e.g. menus or icons
1/72472 . . . wherein the items are sorted according to specific criteria, e.g. frequency of use
1/72475 . . . specially adapted for disabled users
1/72478 . . . for hearing-impaired users
1/72481 . . . for visually impaired users
1/72484 . . . wherein functions are triggered by incoming communication events
1/725 . . . Cordless telephones (user interfaces specially adapted therefor H04M 1/724)
1/72502 . . . with one base station connected to a single line
1/72505 . . . Radio link set-up procedures
1/72508 . . . using a control channel
1/72511 . . . Searching for available channels
1/72513 . . . On hold, intercom or transfer communication modes
1/72516 . . . . . . with means for out-of-range alerting
1/727 . . . Identification code transfer arrangements
1/73 . . . Battery saving arrangements (by switching on/off the receiving circuit H04B 1/1615)
1/733 . . . . . . with a plurality of base stations connected to a plurality of lines (for selection in cordless PBX H04W 8/16)
1/737 . . . Characterised by transmission of electromagnetic waves other than radio waves, e.g. infra-red waves
1/738 . . . Interface circuits for coupling substations to external telephone lines (H04M 1/78 takes precedence)
1/7385 . . . [Programmable or microprocessor-controlled]
1/74 . . . with means for reducing interference; with means for reducing effects due to line faults
1/745 . . . . . . [Protection devices or circuits for voltages surges on the line]
1/76 . . . Compensating for differences in line impedance
1/78 . . Circuit arrangements in which low-frequency speech signals proceed in one direction on the line, while speech signals proceeding in the other direction on the line are modulated on a high-frequency carrier signal
1/80 . . Telephone line holding circuits
1/82 . . Line monitoring circuits for call progress or status discrimination (for detecting caller identity H04M 1/573)

3/00 Automatic or semi-automatic exchanges
3/002 . . [Applications of echo suppressors or cancellers in telephonic connections (in two-way loud-speaking telephone systems H04M 9/08, echo suppressors or cancellers per se H04B 3/20)]
3/005 . . [Interface circuits for subscriber lines (current supply H04M 19/00 and subgroups; supervisory, monitoring or testing arrangements H04M 3/22 and subgroups; in key telephone systems H04M 9/006)]
3/007 . . [Access interface units for simultaneous transmission of speech and data, e.g. digital subscriber line (DSL) access interface units (DSL access multiplexers H04Q 11/0478, and H04L 12/2856)]
3/02 . . Calling substations, e.g. by ringing (selective calling H04Q)
3/04 . . the calling signal being supplied from the final selector
3/06 . . the calling signal being supplied from the subscriber’s line circuit
3/08 . . Indicating faults in circuits or apparatus
3/085 . . [Fault locating arrangements]
3/10 . . Providing fault- or trouble-signals
3/12 . . Marking faulty circuits “busy”; Enabling equipment to disengage itself from faulty circuits [; Using redundant circuits; Response of a circuit, apparatus or system to an error]
3/14 . . Signalling existence of persistent “off-hook” condition
3/16 . . with lock-out or secrecy provision in party-line systems
3/18 . . with means for reducing interference [or noise]; with means for reducing effects due to line faults [with means for protecting lines]
3/20 . . with means for interrupting existing connections; with means for breaking-in on conversations
Arrangements for supervision, monitoring or testing
with means for applying test signals or for
{ Wire identification arrangements; Number
purposes; Call tracing; Detection or prevention of
malicious calls}

Wire identification arrangements; Number
assignment determination

with provision for checking the normal operation
{ for stored program controlled exchanges}

Software testing

for multiplex systems

{ for ISDN systems}

{ Knowledge-based maintenance systems}

for metering arrangements or prepayment
telephone systems (metering arrangements per
se H04M 15/00; prepayment telephone systems
per se H04M 17/00))

with means for applying test signals [or for
measuring]

Automatic routine testing [ Fault testing;
Installation testing; Test methods, test
equipment or test arrangements therefor]

for subscriber's lines [, for the local loop]

{ Circuit arrangements at the subscriber's
side of the line}

{ using modulation techniques for copper
pairs (for ISDN systems H04M 3/245;
ISDN selection or connection testing
arrangements H04Q 11/045)}

{ and using PCM multiplexers, e.g. pair
gain systems}

{ and using xDSL modems (xDSL line
qualification H04M 3/306)}

{ testing of physical copper line
parameters, e.g. capacitance or resistance
(locating faults in cables G01R 31/08)}

{ for frequencies above the voice
frequency, e.g. xDSL line qualification
(test methods, test equipment and test
arrangements for subscriber lines using
xDSL modems H04M 3/304; systems
modifying transmission characteristics
according to link quality H04L 1/0001;
monitoring and/or testing of line
transmission systems H04B 3/46)}

{ using ringback}

{ Craftsman test terminals}

for lines between exchanges

{ for the arrangements providing the
connection (test connection, call, call
simulation)}

{ for registers and translators}

Testing for cross-talk

Statistical metering, e.g. recording occasions
when traffic exceeds capacity of trunks

[Traffic simulation]

[Load metering of control unit]

[Traffic or load control]

Graded-service arrangements, i.e. some subscribers
prevented from establishing certain connections
queuing arrangements H04Q 3/64)

{ using authorisation codes or passwords}

[using speech signals]

{ using subscriber identification cards}

Applications of speech amplifiers

Systems providing special services or facilities
to subscribers (specially adapted for wireless
communication networks H04W 4/00)

{ Systems for anonymous communication between
parties, e.g. by use of disposal contact identifiers}

{ Customized ring-back tones}

{ Calling or Called party identification service}

{ Calling party identification service}

{ Notifying the called party of information
on the calling party (details within substation
equipment H04M 1/57, signalling details
H04Q 3/72)}

{ where the notification is included in the
ringing tone}

{ Making use of the calling party identifier}

{ where the identifier is used to access a
profile}

{ where the identifier is a Uniform
Resource Locator}

{ Calling party identification service}

{ Notifying the calling party of information
on the called or connected party}

{ Making use of the called party identifier}

{ where the identifier is used to access a
profile}

{ where the identifier is a Uniform
Resource Locator}

{ Systems providing several special
services or facilities from groups
H04M 3/42008 - H04M 3/58}

{ Administration or customisation of services}

{ by service provider}

{ by subscriber}

{ via computer interface}

{ Managing service interactions}

{ by downloading data to substation equipment}

{ Lines and connections with preferential service}

{ Arrangements for calling back a calling
subscriber (when the wanted subscriber ceases to
be busy H04M 3/48)}

{ Arrangements at the exchange for service
or number selection by voice (at the terminal
H04M 1/27)}

{ Call pickup (comprising simultaneous alerting
H04M 3/46)}

{ Conversation recording systems (at the
subscriber's set H04M 1/656)
H04M

3/4229 . . . [Personal communication services, i.e. services related to one subscriber independent of his terminal and/or location (diverting calls from one subscriber to another subscriber, i.e. two different subscriptions H04M 3/54; selecting arrangements in intelligent networks H04Q 3/005)]

3/42238 . . . [in systems with telephone lines with multiple users]

3/42246 . . . [where the subscriber uses a multi-mode terminal which moves and accesses different networks with at least one network having a wireline access including cordless PBX]

3/42255 . . . [with the subscriber having a personal network-independent number]

3/42263 . . . [where the same subscriber uses different terminals, i.e. nomadism]

3/42272 . . . [whereby the subscriber registers to the terminals for personalised service provision]

3/4228 . . . [in networks]

3/42289 . . . [with carrierprovider selection by subscriber]

3/42297 . . . [with number portability]

3/42306 . . . [Number translation services, e.g. premium-rate, freephone or vanity number services]

3/42314 . . . [in private branch exchanges]

3/42323 . . . [PBX's with CTI arrangements]

3/42331 . . . [Direct inward dialling]

3/4234 . . . [Remote access to features of PBX or home telephone systems-teleworking in a PBX]

3/42348 . . . [Location-based services which utilize the location information of a target]

3/42357 . . . [where the information is provided to a monitoring entity such as a potential calling party or a call processing server]

3/42365 . . . [Presence services providing information on the willingness to communicate or the ability to communicate in terms of media capability or network connectivity]

3/42374 . . . [where the information is provided to a monitoring entity such as a potential calling party or a call processing server]

3/42382 . . . [Text-based messaging services in telephone networks such as PSTN/ISDN, e.g. User-to-User Signalling or Short Message Service for fixed networks]

3/42391 . . . [where the subscribers are hearing-impaired persons, e.g. telephone devices for the deaf]

3/424 . . . [Arrangements for automatic redialling (at the subscriber's set H04M 1/27)]

3/428 . . . [Arrangements for placing incoming calls on hold]

3/4281 . . . [when the called subscriber is connected to a data network using his telephone line, e.g. dial-up connection, Internet browsing]

3/4283 . . . [Call holding circuits]

3/4285 . . . [Notifying, informing or entertaining a held party while on hold, e.g. Music On Hold]

3/4286 . . . [Notifying a held subscriber when his held call is removed from hold]

3/4288 . . . [Notifying a called subscriber of an incoming call during an ongoing call, e.g. Call Waiting]

3/432 . . . [Arrangements for calling a subscriber at a specific time, e.g. morning call service]

3/436 . . . [Arrangements for screening incoming calls, i.e. evaluating the characteristics of a call before deciding whether to answer it (based on the calling party profile H04M 3/42059; based on location H04M 3/42348; based on presence H04M 3/42365; diversion H04M 3/54)]

3/4365 . . . [based on information specified by the calling party, e.g. priority or subject]

3/44 . . . [Additional connecting arrangements for providing access to frequently-wanted subscribers, e.g. abbreviated dialling (at the subscriber's set H04M 1/27; automatic redialling H04M 3/424)]

3/46 . . . [Arrangements for calling a number of substations in a predetermined sequence until an answer is obtained]

3/465 . . . [Arrangements for simultaneously calling a number of substations until an answer is obtained]

3/48 . . . [Arrangements for recalling a calling subscriber when the wanted subscriber ceases to be busy]

3/487 . . . [Arrangements for providing information services, e.g. recorded voice services or time announcements]

3/4872 . . . [Non-interactive information services]

3/4874 . . . [Intercept announcements]

3/4876 . . . [Time announcements]

3/4878 . . . [Advertisement messages]

3/493 . . . [Interactive information services, e.g. directory enquiries ; Arrangements therefor, e.g. interactive voice response [IVR] systems or voice portals]

3/4931 . . . [Directory assistance systems]

3/4933 . . . [with operator assistance]

3/4935 . . . [Connection initiated by DAS system]

3/4936 . . . [Speech interaction details (speech recognition per se G10L 15/00)]

3/4938 . . . [comprising a voice browser which renders and interprets, e.g. VoiceXML]

3/50 . . . [Centralised arrangements for answering calls; Centralised arrangements for recording messages for absent or busy subscribers H04M 3/487; takes precedence; centralised dictation systems H04M 11/10); [Centralised arrangements for recording messages]

3/51 . . . [Centralised call answering arrangements requiring operator intervention, e.g. call or contact centers for telemarketing]

3/5108 . . . [Secretarial services]

3/5116 . . . [for emergency applications]

3/5125 . . . [with remote located operators]

3/5133 . . . [Operator terminal details]

3/5141 . . . [Details of processing calls and other types of contacts in a unified manner (unified messaging in packet-switching networks H04L 51/36)]

3/515 . . . [Night service systems]

3/5158 . . . [in combination with automated outdialling systems (devices for signalling identity of wanted subscriber H04M 1/26)]

3/5166 . . . [in combination with interactive voice response systems or voice portals, e.g. as front-ends]

3/5175 . . . [Call or contact centers supervision arrangements]
3/5183 . . . . [Call or contact centers with computer-telephony arrangements]
3/5191 . . . . . [interacting with the Internet]
3/52 . . . . . . . . Arrangements for routing dead number calls to operators
3/523 . . . . . . . . with call distribution or queueing
3/5231 . . . . . . . . [with call back arrangements]
3/5232 . . . . . . . . [Call distribution algorithms]
3/5233 . . . . . . . . [Operator skill based call distribution]
3/5234 . . . . . . . . [Uniform load distribution]
3/5235 . . . . . . . . [Dependent on call type or called number (DNIS)]
3/5236 . . . . . . . . [Sequential or circular distribution]
3/5237 . . . . . . . . [Interconnection arrangements between ACD systems]
3/5238 . . . . . . . . [with waiting time or load prediction arrangements]
3/527 . . . . Centralised call answering arrangements not requiring operator intervention
3/53 . . . . . . . . Centralised arrangements for recording incoming messages, i.e. mailbox systems
3/5307 . . . . . . . . [for recording messages comprising any combination of audio and non-audio components]
3/5315 . . . . . . . . [where the non-audio components are still images or video (still image mailbox systems H04N 1/324, intermediate storage of video signals for videophones H04N 7/147)]
3/5322 . . . . . . . . [for recording text messages]
3/533 . . . . . . . . Voice mail systems
3/53308 . . . . . . . . [Message originator indirectly connected to the message centre, e.g. after detection of busy or absent state of a called party]
3/53316 . . . . . . . . [Messaging centre selected by message originator]
3/53325 . . . . . . . . [Interconnection arrangements between voice mail systems]
3/53333 . . . . . . . . [Message receiving aspects]
3/53341 . . . . . . . . [Message reply]
3/5335 . . . . . . . . [Message type or category, e.g. priority, indication]
3/53358 . . . . . . . . [Message preview]
3/53366 . . . . . . . . [Message disposing or creating aspects]
3/53375 . . . . . . . . [Message broadcasting]
3/53383 . . . . . . . . [Message registering commands or announcements; Greetings]
3/53391 . . . . . . . . [dependent on calling party]
3/537 . . . . . . . . Arrangements for indicating the presence of a recorded message, whereby the presence information might include a preview or summary of the message]
3/54 . . . . . . . . Arrangements for diverting calls for one subscriber to another predetermined subscriber (based on the calling party profile H04M 3/42059; based on location H04M 3/42348; based on presence H04M 3/42365; to voice mail H04M 3/53308)
3/541 . . . . . . . . [based on information specified by the calling party]
3/543 . . . . . . . . [Call deflection]
3/545 . . . . . . . . [with loop avoiding arrangements]
3/546 . . . . . . . . [in private branch exchanges]
3/548 . . . . . . . . [with remote control]

3/56 . . . . Arrangements for connecting several subscribers to a common circuit, i.e. affording conference facilities (video conference systems H04N 7/15)
3/561 . . . . . . . . [by multiplexing]
3/562 . . . . . . . . [where the conference facilities are distributed]
3/563 . . . . . . . . [User guidance or feature selection]
3/564 . . . . . . . . [whereby the feature is a sub-conference]
3/565 . . . . . . . . [relating to time schedule aspects]
3/566 . . . . . . . . [relating to a participants right to speak (protocols for floor control H04L 29/06421, H04L 29/06428, H04L 29/06435)]
3/567 . . . . . . . . [Multimedia conference systems]
3/568 . . . . . . . . [audio processing specific to telephonic conferencing, e.g. spatial distribution, mixing of participants (echo suppression in two-way loud-speaking telephone systems H04M 9/02; sound field processing per se H04S 7/30)]
3/569 . . . . . . . . [using the instant speaker's algorithm (speech detection per se G10L 25/78)]
3/58 . . . . . . . . Arrangements for transferring received calls from one subscriber to another; Arrangements affording interim conversations between either the calling or the called party and a third party (substation line holding circuits H04M 1/80)
3/60 . . . . . . . . Semi-automatic systems, i.e. in which the numerical selection of the outgoing line is under the control of an operator
3/62 . . . . . . . . Keyboard equipment (in key telephone systems H04M 9/003)
3/64 . . . . . . . . Arrangements for signalling the number or class of the calling line to the operator (between operators in inter-exchange working H04M 5/18)

5/00 Manual exchanges (substation equipment in general H04M 1/00)
5/02 . . . . . . . . Constructional details (jacks, jack-plugs H01R 24/58)
5/04 . . . . . . . . Arrangements for indicating calls or supervising connections for calling or clearing
5/06 . . . . . . . . affording automatic call distribution
5/08 . . . . . . . . using connecting means other than cords
5/10 . . . . . . . . using separate plug for each subscriber
5/12 . . . . . . . . Calling substations, e.g. by ringing
5/14 . . . . . . . . Applications of speech amplifiers
5/16 . . . . . . . . with means for reducing interference; with means for reducing effects due to line faults
5/18 . . . . . . . . Arrangements for signalling the class or number of called or calling line from one exchange to another
5/20 . . . . . . . . Arrangements for indicating the numbers of the incoming lines

7/00 Arrangements for interconnection between switching centres
7/0003 . . . . [Interconnection between telephone networks and data networks]

**WARNING**

This group is no longer used for the classification of new documents as from February 1, 2007. The backlog of this group is being continuously reclassified to subgroups of H04M 7/0024 or H04M 7/1205
WARNING
This group is no longer used for the classification of new documents as from February 1, 2007. The backlog of this group is being continuously reclassified to subgroups of H04M 7/0024 or H04M 7/1205

7/006 . . . (Networks other than PSTN/ISDN providing telephone service, e.g. Voice over Internet Protocol (VoIP), including next generation networks with a packet-switched transport layer (H04L 65/08) takes precedence; aspects not specific to the type of network (H04M 3/42))

7/0063 . . . (where the network is a peer-to-peer network)

7/0066 . . . (Details of access arrangements to the networks (where the access arrangement is a PSTN/ISDN access H04M 7/122))

7/0069 . . . (comprising a residential gateway, e.g. those which provide an adapter for POTS or ISDN terminals)

7/0072 . . . (Speech codec negotiation (H04L 65/1069 takes precedence))

7/0075 . . . (Details of addressing, directories or routing tables)

7/0078 . . . (Security; Fraud detection; Fraud prevention)

7/0081 . . . (Network operation, administration, maintenance, or provisioning)

7/0084 . . . (Network monitoring; Error detection; Error recovery; Network testing)

7/0087 . . . (Network planning or provisioning)

7/009 . . . (in systems involving PBX or KTS networks)

7/0093 . . . (signalling arrangements in networks)

7/0096 . . . (Trunk circuits)

7/06 . using auxiliary connections for control or supervision, e.g. where the auxiliary connection is a signalling system number 7 link)

7/063 . . . (where the telephone network is a network other than PSTN/ISDN)

7/066 . . . (where the auxiliary connection is via an Internet Protocol network (interworking of signalling system number 7 (SS7) with Internet Protocol-based session control protocols H04M 7/1265, H04M 7/127))

7/08 . for phantom working {phantom working in transmission of digital information H04L 5/20)

7/12 . for working between exchanges having different types of switching equipment, e.g. power-driven and step by step or decimal and non-decimal

7/1205 . . . (where the types of switching equipment comprises PSTN/ISDN equipment and switching equipment of networks other than PSTN/ISDN, e.g. Internet Protocol networks)

7/121 . . . (Details of network access arrangements or protocols)

7/1215 . . . (where a cable TV network is used as an access to the PSTN/ISDN)

7/122 . . . . (where the PSTN/ISDN access is used as an access to networks other than PSTN/ISDN (access arrangements to networks other than PSTN/ISDN H04M 7/0066; access arrangements to public data networks H04L 12/2856))

7/1225 . . . (Details of core network interconnection arrangements)

7/123 . . . . (where the packet-switched network is an Internet Protocol Multimedia System-type network)

7/1235 . . . . (where one of the core networks is a wireless network)

7/124 . . . . (where PSTN/ISDN interconnects two networks other than PSTN/ISDN)

7/1245 . . . . (where a network other than PSTN/ISDN interconnects two PSTN/ISDN networks)

7/125 . . . . (Details of gateway equipment)

7/1255 . . . . (where the switching fabric and the switching logic are decomposed such as in Media Gateway Control)

7/126 . . . . (Interworking of session control protocols)
11/005 . . . [using recorded signals, e.g. speech]
11/007 . . . [with remote control systems (remote control in general G08C)]
11/002 . . with bell or annunciator systems
11/022 . . . [Paging systems (personal calling arrangements or devices G08B 3/1008; selective calling networks H04W 84/022)]
11/025 . . . (Door telephones (adapted for television H04N 7/186))
11/027 . . . [Annunciator systems for hospitals]
11/04 . . with alarm systems, e.g. fire, police or burglar alarm systems
11/045 . . . [using recorded signals, e.g. speech]
11/06 . . . [Simultaneous speech and data transmission, e.g. telegraphic transmission over the same conductors]
11/062 . . . [using different frequency bands for speech and other data]
11/064 . . . [Data transmission during pauses in telephone conversation]
11/066 . . . [Telephone sets adapted for data transmission]
11/068 . . . [using time division multiplex techniques; (integrated services digital networks H04Q 11/0428)]
11/08 . . . specially adapted for optional reception of entertainment or informative matter
11/085 . . . [using a television receiver, e.g. viewdata system]
11/10 . . . with a television receiver, e.g. viewdata system
11/10 . . . with a television receiver, e.g. viewdata system
11/10 . . . with a television receiver, e.g. viewdata system
13/00 Party-line systems (substation equipment H04M 1/00; exchange equipment H04M 3/00, H04M 5/00; metering arrangements H04M 15/36)
15/00 Arrangements for metering, time-control or time indication (; Metering, charging or billing arrangements for voice wireline or wireless communications, e.g. VoIP)
15/04 . . . Recording calls [,. or communications] in printed, perforated or other permanent form
15/06 . . . Recording class or number of calling [,. i.e. A-party] or called party [,. i.e. B-party]
15/07 . . . [Split billing, i,. both A-party and B-party charged for the communication]
15/08 . . . Metering calls to called party [,. i.e. B-party charged for the communication]
15/09 . . . [Third party charged communications]
15/10 . . . Metering calls from calling party [,. i.e. A-party charged for the communication]
15/12 . . . Discriminative metering [,. charging or billing]
15/14 . . . according to class of calling party
15/16 . . . according to connection obtained
15/18 . . . according to duration of the call [,. or the communication]
15/20 . . . [Operator's time recording or indicating arrangements
15/22 . . . according to time of day
15/24 . . . preventing metering of tax-free calls to certain lines, e.g. to fire or ambulance stations
15/26 . . . with a meter [or performing charging or billing] at the exchange controlled by an operator
15/28 . . . with meter at substation [or with calculation of charges at terminal]
15/30 . . . the meter [or calculation of charges] not being controlled from an exchange
15/31 . . . [Distributed metering or calculation of charges]
{Charging, billing or} metering arrangements for satellites or concentrators which connect one or more exchange lines with a group of local lines

{Charging, billing or} metering arrangements for private branch exchanges

{Charging, billing or} metering arrangements for party-lines

{Charging, billing or} metering by apparatus other than mechanical step-by-step counter type

{Arrangements for preventing metering, charging or billing}

{Billing record details, i.e. parameters, identifiers, structure of call data record [CDRI]}

{Dynamic individual rates per user}

{Billing software details}

{Augmented, consolidated or itemized billing statement or bill presentation}

{Real-time negotiation between users and providers or operators}

{Fraud detection or prevention means}

{Secure or trusted billing, e.g. trusted elements or encryption}

{Connection to several service providers}

{for cross-charging network operators}

{for resellers, retailers or service providers}

{for operator independent billing system}

{using mediation}

{for revenue sharing}

{for hybrid networks}

{for VoIP communications}

{for integrated multimedia messaging subsystem [IMS]}

{based on statistics of usage or network monitoring}

{based on real time}

{based on actual use of network resources}

{based on the service used}

{based on trigger specification}

{based on the content carried by the session initiation protocol [SIP] messages}

{On-line charging system [OCS]}

{Off-line charging system}

{Policy and charging system}

{Transmitting arrangements for sending billing related information}

{Payment of value-added services}

{Administration or customization aspects; Counter-checking correct charges}

{Account settings, e.g. limits or numbers or payment}

{Modifying recharging resources}

{Activating new subscriber or card}

{by the user}

{using the Internet}

{using the user's device}

{by the operator}

{Validating charges}

{Re-crediting user}

{Back up}

{Customizing according to wishes of subscriber, e.g. friends or family}

{Account location specifications}

{Card based account, e.g. smart card, SIM card or USIM}

{Terminal based account}

{Network based account}

{Account identification}

{via service number, e.g. calling card}

{by SIM, e.g. smart card account in SCP, SDP or SN}

{Synchronization of distributed accounts}

{Linked or grouped accounts, e.g. of users or devices}

{shared by users}

{shared by technologies}

{for closed subscriber group [CSG]}

{involving multiple accounts per user}

{per terminal or location, e.g. mobile device with multiple directory numbers}

{per service, e.g. prepay or post-pay}

{per technology, e.g. PSTN or wireless}

{per card}

{Account specifications on parallel communications}

{Redistributing amount between accounts}

{dynamically}

{by user request}

{Reserving amount on the account}

{Virtual purses}

{Rating or billing plans; Tariff determination aspects}

{Flat-fee}

{using class of subscriber}

{based on quality of service [QoS]}

{Determining tariff or charge band}

{based on network load situation}

{location-dependent, e.g. business or home}

{Roaming or handoff}

{Least cost routing}

{Bidding}

{Selecting cheaper transport technology for a given service}

{Selecting least cost route depending on origin or type of service}

{According to the number of recipients}

{Group, conference or multi-party call}

{Group MMS or SMS; Point-to-multi-point services or broadcast services}

{involving multiple accounts per user}

{involving reduced rates or discounts, e.g. time-of-day reductions or volume discounts}

{involving increased rates, e.g. spam messaging billing differentiation}

{Trial service, i.e. free of charge service for trial purposes}

{Dynamic pricing, e.g. change of tariff during call}

{Criteria or parameters used for performing billing operations}

{Time based data metric aspects, e.g. VoIP or circuit switched packet data}

{Data or packet based}

{Message based}

{Session based}

{Access based}

{Transaction based}

{based on the number of used channels, e.g. bundling channels, frequencies or CDMA codes}
Prepayment [of wireline communication systems, wireless communication systems or telephone systems (using a coded card to authorise calls from a telephone set H04M 1/675)]

17/00

17/005 . . . [Disposable prepaid communication devices]
17/01 . . . [Cocot systems, i.e. private ownership of payphones]
17/02 . . . [Coin-free or check-free systems, i.e. mobile- or card-operated phones, public telephones or booths]
Current supply arrangements for telephone systems (for selecting-equipment H04Q 1/28)

- [by reversing the polarity of the current at the exchange]
- [Arrangements for interrupting the ringing current]
- [Encoding the ringing signal, i.e. providing distinctive or selective ringing capability]
- [with variable loudness of the ringing tone, e.g. variable envelope or amplitude of ring signal]
- [according to the level of ambient noise]
- [Call privacy arrangements, e.g. timely inhibiting the ring signal]
- [Vibrating means for incoming calls]
- [Arrangements providing optical indication of the incoming call, e.g. flasher circuits]
- in which current supply sources at subordinate switching centres are charged from the main exchange
- with current supply sources at the substations (generating ringing current H04M 19/04)

Subject matter not provided for in other groups of this subclass

Electronic components, circuits, software, systems or apparatus used in telephone systems

- Diodes
- Transistors
- Integrated circuits
- Magnetic elements
- Logic circuits
- Counting circuits
- Delay circuits; Timers
- Sequence circuits
- Comparators
- Scanners
- Synchronisation circuits
- A/D convertors
- S/P convertors
2203/2005 . . Temporarily overriding a service configuration
2203/2011 . . Service processing based on information
specified by a party before or during a call, e.g.
information, tone or routing selection
2203/2016 . . Call initiation by network rather than by
subscriber
2203/2022 . . Path replacement
2203/2027 . . Live party detection
2203/2033 . . Call handling or answering restrictions, e.g.
specified by the calling party
2203/2038 . . Call context notifications
2203/2044 . . Group features, e.g. closed user group
2203/205 . . Broadcasting (broadcasting in packet switching
networks H04L 12/18)
2203/2055 . . Line restrictions
2203/2061 . . Language aspects
2203/2066 . . Call type detection of indication, e.g. voice or fax,
mobile of fixed, PSTN or IP
2203/2072 . . Schedules, e.g. personal calendars
2203/2077 . . Call queuing apart from automatic call
distribution
2203/2083 . . Confirmation by serviced party
2203/2088 . . Call or conference reconnect, e.g. resulting from
isdn terminal portability
2203/2094 . . Proximity
2203/25 . . related to user interface aspects of the telephonic
communication service
2203/251 . . where a voice mode or a visual mode can be used
interchangeably
2203/252 . . where a voice mode is enhanced with visual
information
2203/253 . . where a visual mode is used instead of a voice
mode
2203/254 . . where the visual mode comprises menus
2203/255 . . comprising a personalized user interface
2203/256 . . comprising a service specific user interface
2203/257 . . remote control of substation user interface for
telephonic services, e.g. by ISDN stimulus, ADSI,
wireless telephony application WTA, MExE or
BREW
2203/258 . . Service state indications
2203/30 . . related to audio recordings in general
2203/301 . . Management of recordings
2203/303 . . Marking
2203/305 . . Recording playback features, e.g. increased speed
2203/306 . . Prerecordings to be used during a voice call
2203/308 . . Personal name recording
2203/35 . . related to information services provided via a voice
call
2203/351 . . Pre or post-call/conference information service
2203/352 . . In-call/conference information service
2203/353 . . where the information comprises non-audio
but is provided over voice channels (protocols
for multimedia information services per se
H04L 65/00)
2203/354 . . Reverse directory service
2203/355 . . Interactive dialogue design tools, features or
methods
2203/356 . . Phonecasting
2203/357 . . Autocues for dialog assistance
2203/358 . . Digital rights management
2203/359 . . Augmented reality
2203/40 . . related to call centers
2203/401 . . Performance feedback
2203/402 . . Agent or workforce management
2203/403 . . Agent or workforce training
2203/404 . . Collaboration among agents
2203/405 . . Competitive bidding for work items
2203/406 . . Rerouting calls between call centers
2203/407 . . Call center operated for multiple customers
2203/408 . . Customer-specific call routing plans
2203/45 . . related to voicemail messaging
2203/4509 . . Unified messaging with single point of access to
voicemail and other mail or messaging systems
( unified messaging in packet switching networks
H04L 51/36)
2203/4518 . . Attachments to voicemail (messages including
annexed information, e.g. Attachments, in packet
switching networks H04L 51/08)
2203/4527 . . Voicemail attached to other kind of message
2203/4536 . . Voicemail combined with text-based messaging
2203/4545 . . Message forwarding (selective message
forwarding in packet switching networks
H04L 51/14)
2203/4554 . . Sender-side editing
2203/4563 . . Voicemail monitoring during recording
2203/4572 . . Voicemail RSS
2203/4581 . . Sending message identifiers instead of whole
messages (notification of incoming messages in
packet-switching networks H04L 51/24)
2203/459 . . Calling party redirected to message centre on
called party request
2203/50 . . related to audio conference
2203/5009 . . Adding a party to an existing conference
(conducting a computer conference, e.g. admission detection
H04L 12/1822)
2203/5018 . . Initiating a conference during a two-party
conversation, i.e. three-party-service or three-
way-call (computer conference organisation
arrangements H04L 12/1818)
2203/5027 . . Dropping a party from a conference (conducting
a computer conference, e.g. admission detection
H04L 12/1822)
2203/5036 . . using conference for collection of feedback
2203/5045 . . Selection of bridge/multipoint control unit
(network arrangements for computer conference
optimisation H04L 12/1827)
2203/5054 . . Meet-me conference, i.e. participants dial-in
2203/5063 . . Centrally initiated conference, i.e. Conference
server dials participants (computer conference
organisation arrangements H04L 12/1818)
2203/5072 . . Multiple active speakers (conducting a
computer conference, e.g. Admission detection
H04L 12/1822)
2203/5081 . . Inform conference party of participants,
e.g. of change of participants (conducting a
computer conference, e.g. admission detection,
H04L 12/1822)
2203/509 . . Microphone arrays
2203/55 . . related to network data storage and management
2203/551 . . Call history (recording a computer conference
H04L 12/1831)
2203/552 . . Call annotations
2203/553 . . Data upload
2203/554 . . Data synchronization
2203/555 . . Statistics, e.g. about subscribers but not being call
statistics
2203/556 . . . Statistical analysis and interpretation
2203/557 . . . Portable profiles
2203/558 . . . Databases
2203/559 . . . Sorting systems
2203/60 . . . related to security aspects in telephonic communication systems (network architectures or network communication protocols for network security H04L 63/00)
2203/6009 . . . Personal information, e.g. profiles or personal directories being only provided to authorised persons
2203/6018 . . . Subscriber or terminal logon/logoff
2203/6027 . . . Fraud preventions
2203/6036 . . . Anti virus measures
2203/6045 . . . Identity confirmation
2203/6054 . . . Biometric subscriber identification
2203/6063 . . . Authentication using cards
2203/6072 . . . Authentication using challenger response
2203/6081 . . . Service authorization mechanisms
2203/609 . . . Secret communication
2203/65 . . . related to applications where calls are combined with other types of communication
2203/651 . . . Text message transmission triggered by call (automatic reactions in messaging within packet-switching networks H04L 51/02)
2203/652 . . . Call initiation triggered by text message
2203/654 . . . Pre, in or post-call message
2203/655 . . . Combination of telephone service and social networking (messaging within social networks H04L 51/32)
2203/657 . . . Combination of voice and fax calls
2203/658 . . . Combination of voice calls and paging

**2207/00**

**Type of exchange or network, i.e. telephonic medium, in which the telephonic communication takes place**

2207/08 . . . ISDN systems
2207/12 . . . intelligent networks
2207/14 . . . cable networks
2207/18 . . . wireless networks
2207/182 . . . wireless circuit-switched
2207/185 . . . wireless packet-switched
2207/187 . . . combining circuit and packet-switched, e.g. GPRS
2207/20 . . . hybrid systems
2207/203 . . . composed of PSTN and data network, e.g. the Internet
2207/206 . . . composed of PSTN and wireless network
2207/30 . . . third party service providers
2207/35 . . . virtual private networks
2207/40 . . . terminals with audio html browser
2207/45 . . . public-private interworking, e.g. centrex

**2215/00**

**Metering arrangements; Time controlling arrangements; Time indicating arrangements**

2215/01 . . . Details of billing arrangements
2215/0104 . . . Augmented, consolidated or itemised billing statement, e.g. additional billing information, bill presentation, layout, format, e-mail, fax, printout, itemised bill per service or per account, cumulative billing, consolidated billing
2215/0108 . . . Customization according to wishes of subscriber, e.g. customer preferences, friends and family, selecting services or billing options, Personal Communication Systems [PCS]
2215/0112 . . . Dynamic pricing, e.g. change of tariff during call
2215/0116 . . . Provision for limiting expenditure, e.g. limit on call expenses or account
2215/012 . . . Continue allow grace, e.g. accept negative balance
2215/0124 . . . Continue alternative, i.e. alternative account to continue use
2215/0128 . . . Linked escalation limits, establish, first or second limit
2215/0132 . . . Limit per application
2215/0136 . . . Limit per terminal
2215/014 . . . Limit per user or user related number
2215/0144 . . . Release upon reaching limit
2215/0148 . . . Fraud detection or prevention means
2215/0152 . . . General billing plans, rate plans, e.g. charge rates, numbering plans, rate centers, customer accounts
2215/0156 . . . Secure and trusted billing, e.g. trusted elements, encryption, digital signature, codes or double check mechanisms to secure billing calculation and information
2215/016 . . . Billing using Intelligent Networks [IN] or Advanced Intelligent Networks [AIN]
2215/0164 . . . Billing record, e.g. Call Data Record [CDR], Toll Ticket[TT], Automatic Message Accounting [AMA], Call Line Identifier [CLI], details, i.e. parameters, identifiers, structure
2215/0168 . . . On line or real-time flexible customization or negotiation according to wishes of subscriber
2215/0172 . . . Mediation, i.e. device or program to reformat CDRS from one or more switches in order to adapt to one or more billing programs formats
2215/0176 . . . Billing arrangements using internet
2215/018 . . . On-line real-time billing, able to see billing information while in communication, e.g. via the internet
2215/0184 . . . involving reduced rates or discounts, e.g. time-of-day reductions, volume discounts, cell discounts, group billing, frequent calling destination(s) or user history list
2215/0188 . . . Network monitoring; statistics on usage on called/calling number
2215/0192 . . . Sponsored, subsidised calls via advertising, e.g. calling cards with ads or connecting to special ads, free calling time by purchasing goods
2215/0196 . . . Payment of value-added services, mainly when their charges are added on the telephone bill, e.g. payment of non-telecom services, e-commerce, on-line banking
2215/014 . . . Billing aspects relating to the actual charge
2215/0143 . . . Non communication time, i.e. billing the user for the actual time used by the service, not for the time awaiting responses due to network problems; Billing the user when there is a satisfied QoS
2215/0146 . . . Data billing, e.g. wherein the user is charged based only on the time he receives data
2215/020 . . . Technology dependant metering
2215/0206 . . . Fixed telephone network, e.g. POTS, ISDN
2215/0213 . . . Fixed data network, e.g. PDN, ATM, B-ISDN
2215/0202 . . . VoIP; Packet switched telephony
2215/0226 . . . Wireless network, e.g. GSM, PCS, TACS
计量原理

- 2215/2033 . . . WLAN
- 2215/204 . . . UMTS; GPRS
- 2215/2046 . . . Hybrid network
- 2215/2053 . . . In based PPS
- 2215/206 . . . CDMA, i.e. Code Division Multiple Access
- 2215/2066 . . . Service node based PPS
- 2215/2073 . . . Multipoint, e.g. messaging, broadcast or group
- 2215/208 . . . IMS, i.e. Integrated Multimedia messaging
- 2215/2086 . . . xDSL Modem lines, e.g. HDSL or ADSL
- 2215/2093 . . . Push to talk
- 2215/22 . . . Bandwidth or usage-sensitive billing
- 2215/24 . . . Voice over IP billing
- 2215/26 . . . Data billing charged as a voice call, i.e. based on
- 2215/28 . . . SMS billing
- 2215/32 . . . Involving wireless systems
- 2215/34 . . . Roaming
- 2215/42 . . . Least cost routing, i.e. provision for selecting the
- 2215/44 . . . Charging/billing arrangements for connection made
- 2215/46 . . . Connection to several service providers
- 2215/48 . . . Sending information over a non-traffic network
- 2215/52 . . . Interconnection, inter-exchange, reseller billing,
- 2215/54 . . . Resellers-retail or service providers billing, e.g.
- 2215/56 . . . On line or real-time flexible agreements between
- 2215/60 . . . Called party billing, e.g. reverse billing, freephone,
- 2215/64 . . . Split billing, sharing the cost of calls, e.g. between
- 2215/66 . . . Third party billing, i.e. third party can also be the
- 2215/68 . . . Billing calls completely to the calling party, except
- 2215/70 . . . Administration aspects, modify settings or limits or
- 2215/709 . . . Account specifications
- 2215/72 . . . Card based, e.g. smart card, SIM card or USIM
- 2215/7209 . . . Terminal based
- 2215/7218 . . . Network based
- 2215/7222 . . . Account identification
- 2215/7227 . . . via service number, e.g. calling card
- 2215/7231 . . . by SIM, e.g. smart card account in SCP, SDP
- 2215/7236 . . . Synchronisation of distributed accounts
- 2215/724 . . . Linked accounts
- 2215/7245 . . . Shared by users, e.g. group accounts or one
- 2215/725 . . . Shared by technologies, e.g. one account for
different access technologies
- 2215/7254 . . . Multiple accounts per user
- 2215/7259 . . . per terminal or location; Mobile with
- 2215/7263 . . . per service, e.g. prepay and post-pay
- 2215/7268 . . . per technology, e.g. PSTN or wireless
- 2215/7272 . . . per card
- 2215/7277 . . . Account specifications on parallel
- 2215/7281 . . . Redistribute amount between accounts
- 2215/7286 . . . Dynamically
- 2215/729 . . . by user request
- 2215/7295 . . . Reserve amount, e.g. according to estimated

costs for a typical communication duration
- 2215/74 . . . Rating aspects, e.g. rating parameters or tariff
determination aspects
- 2215/7407 . . . class of subscriber
- 2215/7414 . . . QoS
- 2215/7421 . . . Determine tariff or charge band
- 2215/7428 . . . Load situation, e.g. Current network load, traffic
load or available resources
- 2215/7435 . . . Location dependent, e.g. Bussiness or home
- 2215/7442 . . . Roaming
- 2215/745 . . . Least cost routing, e.g. Automatic or manual, call
by call or by preselection
- 2215/7457 . . . Biding
- 2215/7464 . . . Select transport technology for a given service,
e.g. use for data connection WLAN rather than GSM/UMTS/GPRS or use company's communication network rather than a public network
- 2215/7471 . . . Select route depending on origin or type of service, e.g. route TDMA voice calls differently than VoIP calls
- 2215/7478 . . . According to the number of recipients
- 2215/7485 . . . Group call; Conference call; Multi Party Call
- 2215/7492 . . . Group MMS or SMS; Point-to-multi-point services, broadcast services
- 2215/78 . . . Metric aspects
- 2215/7806 . . . Time based
- 2215/7813 . . . Time based data, e.g. VoIP or circuit switched packet data
- 2215/782 . . . Data or packet based
- 2215/7826 . . . Message based
- 2215/7833 . . . Session based
- 2215/784 . . . Access based
- 2215/7846 . . . Transaction based
Special services or facilities

- Secret communications
- Language recognition, selection or translation arrangements
- with services dependent on location (where the service is an information service H04M 2242/15; services independent of location H04M 3/42229)
- Information service where the information is dependent on the location of the subscriber
- with computer telephone integration
- Automated outdialling systems
- Teleleasing service
- Automatic class or number identification arrangements
- Detection or indication of type terminal or call, (e.g. fax, broadband)
- Paging systems
- Services making use of subscriber schedule information
- Determination of the location of a subscriber
- Data synchronization between user terminals and central server
- Incremental backup

Details of telephonic subscriber devices

- including a Bluetooth interface
- including near field communication means, e.g. RFID
- including a wireless LAN interface
- home cordless telephone systems using the DECT standard
- including a GPS signal receiver
- including a sensor for measuring a physical value, e.g. temperature or motion (telephones including GPS signal receivers H04M 2250/10)
- including a card reading device
- including more than one display unit
- including more than one keyboard unit
- including a rotatable camera
- including a touch pad, a touch sensor or a touch detector (digitizers for touch screens G06F 3/041)
- including functional features of a camera (constructional features concerning the integration of cameras in portable phones H04M 1A0264)
- including functional features of a projector or beamer module assembly (constructional features concerning the integration of projectors in portable phones H04M 1A0272)
- including a user help function
- including a multilanguage function
- logging of communication history, e.g. outgoing or incoming calls, missed calls, messages or URLs (logging of telephone numbers H04M 1/56, H04M 1/57)
- user interface aspects of conference calls
- file transfer between terminals (download of applications H04M 1/72406; transfer of messages, e.g. SMS, e-mail or MMS H04M 1/7243)
- user interface aspects for indicating selection options for a communication line
- with means for recording information, e.g. telephone number during a conversation (recording of telephone conversations H04M 1/656)
2250/70. methods for entering alphabetical characters, e.g. multi-tap or dictionary disambiguation (methods for entering alphabetical characters per se G06F 3/0237)

2250/72. user manuals of subscriber equipments, e.g. of mobile phones

2250/74. with voice recognition means (voice activated dialling H04M 1/271; voice recognition algorithms G10L 15/00)