

**CPC****COOPERATIVE PATENT CLASSIFICATION****H04M**

**TELEPHONIC COMMUNICATION** (counting mechanisms [G06M](#) ; circuits for controlling other apparatus via a telephone cable and not involving telephone switching apparatus [G08](#) ; reels or other take-up devices for cords [H02G 11/00](#); multiplex transmission between switching centres [H04J](#) ; selecting arrangements [H04Q](#) ; loudspeakers, microphones, gramophone pick-ups or like electromechanical transducers [H04R](#) )

**NOTE**

This subclass covers :

- telephonic communication systems combined with other electrical systems;
- testing arrangements peculiar to telephonic communication systems.

In this subclass, the following terms or expressions are used with the meanings indicated :

- "subscriber" is a general term for terminal equipment, e.g. telephone for public use;
- "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" includes exchanges and satellites.

**WARNING**

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups are classified in the following CPC groups :

[H04M 1/677](#) covered by [H04M 1/677](#)  
[H04M 7/02](#) covered by [H04Q 3/00](#)  
[H04M 7/04](#) covered by [H04Q 3/00](#)  
[H04M 7/10](#) covered by [H04Q 3/00](#)

**Guidance heading:****H04M 1/00**

**Substation equipment, e.g. for use by subscribers ; Analogous equipment at exchanges** (prepayment telephone coin boxes [H04M 17/00](#); current supply arrangements [H04M 19/00](#); {telephone sets particularly adapted for data transmission [H04M 11/066](#); network interface devices [H04Q 1/028](#) } )

**H04M 1/003**

- . {Telephone sets using electrooptical means in the transmission path }

**H04M 1/006**

- . {Call diverting means }

**H04M 1/02**

- . Constructional features of telephone sets

**H04M 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](#)) }

### **WARNING**

Groups [H04M 1/0249](#) to [H04M 1/0285](#) are not complete pending a reorganisation. See also group [H04M 1/0202](#)

<a href="#">H04M 1/0206</a>	...	{ Portable telephones comprising a plurality of mechanically joined movable body parts, e.g. hinged housings }
<a href="#">H04M 1/0208</a>	....	{ characterized by the relative motions of the body parts }
<a href="#">H04M 1/021</a>	.....	{ using combined folding and rotation motions (combined with translation movement <a href="#">H04M 1/0235</a> ) }
<a href="#">H04M 1/0212</a>	.....	{ with a two degrees of freedom mechanism, i.e. folding around a first axis and rotating around a second axis perpendicular to the first }
<a href="#">H04M 1/0214</a>	....	{ 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 <a href="#">H04M 1/0235</a> ) }
<a href="#">H04M 1/0216</a>	.....	{ Foldable in one direction, i.e. using a one degree of freedom hinge }
<a href="#">H04M 1/0218</a>	.....	{ The hinge comprising input and/or output user interface means }
<a href="#">H04M 1/022</a>	.....	{ The hinge comprising two parallel pivoting axes }
<a href="#">H04M 1/0222</a>	.....	{ Foldable in two directions, i.e. using a two degree of freedom hinge }
<a href="#">H04M 1/0225</a>	....	{ 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 <a href="#">H04M 1/0235</a> ) }
<a href="#">H04M 1/0227</a>	.....	{ Rotatable in one plane, i.e. using a one degree of freedom hinge }
<a href="#">H04M 1/0229</a>	.....	{ The hinge comprising input and/or output user interface means }
<a href="#">H04M 1/0231</a>	.....	{ Including a rotatable keypad body part }
<a href="#">H04M 1/0233</a>	.....	{ Including a rotatable display body part }
<a href="#">H04M 1/0235</a>	....	{ 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 }
<a href="#">H04M 1/0237</a>	.....	{ Sliding mechanism with one degree of freedom }
<a href="#">H04M 1/0239</a>	.....	{ Sliding mechanism with two degree of freedom, e.g. translation in two different directions }
<a href="#">H04M 1/0241</a>	....	{ using relative motion of the body parts to change the operational status of the telephone set, e.g. switching on/off, answering incoming call }
<a href="#">H04M 1/0243</a>	.....	{ using the relative angle between housings }
<a href="#">H04M 1/0245</a>	.....	{ using open/close detection }
<a href="#">H04M 1/0247</a>	....	{ comprising more than two body parts }
<a href="#">H04M 1/0249</a>	...	{ Details of the mechanical connection between the housing parts or relating to the method of assembly }
<a href="#">H04M 1/0252</a>	....	{ by means of a snap-on mechanism }
<a href="#">H04M 1/0254</a>	...	{ comprising one or a plurality of mechanically detachable modules }
<a href="#">H04M 1/0256</a>	....	{ wherein the modules are operable in the detached state, e.g. one module for the user interface and one module for the transceiver }
<a href="#">H04M 1/0258</a>	....	{ for a headset device (constructional features of headsets <a href="#">H04M 1/05</a> ; headsets for handsfree use <a href="#">H04M 1/6058</a> ) }

H04M 1/026	...	{ Details of the structure or mounting of specific components }
H04M 1/0262	....	{ for a battery compartment }
H04M 1/0264	....	{ for a camera module assembly (photo or video cameras per se <a href="#">G03B</a> ; television cameras per se <a href="#">H04N 5/225</a> ) }
H04M 1/0266	....	{ for a display module assembly (for fixed telephones <a href="#">H04M 1/0295</a> ) }
H04M 1/0268	.....	{ including a flexible display panel }
H04M 1/027	.....	{ including magnifying means }
H04M 1/0272	....	{ for a projector or beamer module assembly (constructional features of projectors per se <a href="#">G03B21</a> ; constructional details of projectors using electronic spatial light modulators per se <a href="#">H04N 9/31</a> ) }
H04M 1/0274	....	{ for an electrical connector module }
H04M 1/0277	....	{ for a printed circuit board assembly }
H04M 1/0279	...	{ Improving the user comfort or ergonomics }
H04M 1/0281	....	{ for providing single handed use or left/right hand conversion }
H04M 1/0283	....	{ for providing a decorative aspect, e.g. customization of casings, exchangeable faceplate }
H04M 1/0285	....	{ Pen-type handsets }
H04M 1/0287	...	{ being disposable or recyclable }
H04M 1/0289	..	{Telephone sets for operators }
H04M 1/0291	..	{Door telephones }
H04M 1/0293	..	{Terminal boxes for telephone sets }
H04M 1/0295	..	{ mechanical mounting details of display modules (for portable telephones <a href="#">H04M 1/0266</a> ) }
H04M 1/0297	..	{ Telephone sets adapted to be mounted on a desk or on a wall }
H04M 1/03	..	Constructional features of telephone transmitters or receivers, e.g. telephone handsets, { speakers or microphones } (transducers in general <a href="#">H04R 1/00</a> )
H04M 1/035	...	{ Improving the acoustic characteristics by means of constructional features of the housing, e.g. ribs, walls, resonating chambers or cavities }
H04M 1/04	..	Supports for telephone transmitters or receivers (for transducers in general <a href="#">H04R 1/00</a> )
H04M 1/05	...	adapted for use on head, throat, or breast { (handsfree use of portable phones <a href="#">H04M 1/6041</a> ) }
H04M 1/06	...	Hooks ; Cradles
H04M 1/08	....	associated with switches operated by weight of receiver or hand-set
H04M 1/10	....	associated with switches operated by magnetic effect due to proximity of receiver or hand-set
H04M 1/11	..	Supports for sets, e.g. incorporating armrests
H04M 1/12	...	Adjustable supports, e.g. extensible
H04M 1/13	....	pantographic
H04M 1/14	...	with resilient means to eliminate extraneous vibrations
H04M 1/15	..	Protection of telephone cord ; Guiding telephone cord ; Winding-up telephone cord (in general <a href="#">H02G 11/00</a> )
H04M 1/17	..	Hygienic or sanitary devices on telephone equipment (for mouth-pieces or earpieces per se <a href="#">H04R 1/12</a> )
H04M 1/18	..	Telephone sets modified for use in ships, mines, or other places exposed to adverse environment ( <a href="#">H04M 1/19</a> takes precedence; telephone cabinets per se

E04H 1/14)

- H04M 1/185 . . . { Improving the rigidity of the casing or resistance to shocks }
- H04M 1/19 . . Arrangements of transmitters, receivers, or complete sets to prevent eavesdropping, to attenuate local noise or to prevent undesired transmission ; Special mouthpieces or receivers therefor (circuit arrangements for preventing eavesdropping [H04M 1/68](#); telephone cabinets per se [E04H 1/14](#))
- H04M 1/20 . . Arrangements for preventing acoustic feed-back ([H04M 1/62](#) takes precedence)
- H04M 1/21 . . Combinations with auxiliary equipment, e.g. with clock, with memoranda pad
- H04M 1/215 . . . by non-intrusive coupling means, e.g. acoustic couplers
- H04M 1/2155 . . . . {Acoustic coupling }
- H04M 1/22 . . Illuminating ; Arrangements for improving visibility of characters on dials
- H04M 1/23 . . Construction or mounting of dials or of equivalent devices ; Means for facilitating the use thereof (by improving visibility [H04M 1/22](#))
- H04M 1/233 . . . { including a pointing device, e.g. roller key, track ball, rocker switch or joystick (constructional details of pointing devices per se [G06F 3/033](#)) }
- H04M 1/236 . . . { including keys on side or rear faces }
- H04M 1/24 . . Arrangements for testing (measuring electric values [G01R](#) ; testing transducers [H04R 29/00](#))
- H04M 1/247 . . Telephone sets including user guidance or features selection means facilitating their use; { Fixed telephone terminals for accessing a variety of communication services via the PSTN network }
- H04M 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](#))
- H04M 1/2472 . . . { with programmable function keys }
- H04M 1/2473 . . { Telephone terminals interfacing a personal computer, e.g. using an API (Application Programming Interface) (details of API [H04M 7/0021](#)) }
- H04M 1/2474 . . { Telephone terminals specially adapted for disabled people ([H04M 1/72588](#) takes precedence; network based special services or facilities for hearing-impaired persons [H04M 3/42391](#); devices for conversing with the deaf-blind [G09B 21/04](#)) }
- H04M 1/2475 . . . { for a hearing impaired user (hearing-aids per se [H04R 25/00](#)) }
- H04M 1/2476 . . . { for a visually impaired user ([H04M 1/22](#) takes precedence) }
- H04M 1/2477 . . {for selecting a function from a menu display ([H04M 1/2474](#) takes precedence) }
- H04M 1/2478 . . { Telephone terminals specially adapted for non-voice services, e.g. email, internet access (centralized arrangements where telephones services are combined [H04M 7/0024](#); for recording text messages [H04M 3/5322](#); for accessing Internet [H04M 3/4938](#)) }
- H04M 1/253 . . Telephone sets using digital voice transmission (simultaneous speech and data transmission [H04M 11/06](#); {ISDN terminal access circuits [H04Q 11/0471](#) } )
- H04M 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 29/06095](#)) }
- H04M 1/26 . . Devices for signalling identity of wanted subscriber (constructional features [H04M 1/23](#))

H04M 1/27	..	Devices whereby a plurality of signals may be stored simultaneously { (devices disposed in the exchange <a href="#">H04M 3/424</a> , <a href="#">H04M 3/44</a> ) }
H04M 1/271	...	{controlled by voice recognition }
H04M 1/272	...	with provision for storing only one subscriber number at a time, e.g. by keyboard or dial
H04M 1/2725	....	{using electronic memories }
H04M 1/274	...	with provision for storing more than one subscriber number at a time, e.g. using toothed disc
H04M 1/2745	....	using static electronic memories, i.e. memories whose operation does not require relative movement between storage means and a transducer, e.g. chip; { (Fax machines <a href="#">H04N 1/32037</a> ) }
H04M 1/274508	.....	{ Telephone number directory allowing to store a plurality of information regarding one subscriber }
H04M 1/274516	.....	{whose content are provided by data transmission or downloaded }
H04M 1/274525	.....	{Retrieving by scrolling on a display }
H04M 1/274533	.....	{ Telephone number directory management, e.g. manually editing, erasing or modifying data stored in the directory }
H04M 1/27455	.....	{Retrieving by interactive graphical means or pictorial representation }
H04M 1/274558	.....	{Retrieving by matching an alphabetic string }
H04M 1/274566	.....	{Appending a prefix or inserting a pause to a dialling sequence }
H04M 1/274575	.....	{Automatic call origination and retry systems, e.g. on off-hook or redial on busy }
H04M 1/274583	.....	{Sorted according to a specific criteria, e.g. history or frequency of use }
H04M 1/274591	.....	{Implemented by means of discrete electronic components, i.e. neither programmable nor micro-processor controlled ( <a href="#">H04M 1/274516</a> to <a href="#">H04M 1/274583</a> take precedence) }
H04M 1/275	.....	implemented by means of portable electronic directories
H04M 1/2755	.....	whose contents are provided by optical scanning
H04M 1/276	....	using magnetic recording, e.g. on tape
H04M 1/2765	.....	{implemented by means of portable magnetic cards }
H04M 1/278	....	using punched cards or tapes
H04M 1/30	..	Devices which can set up and transmit only one digit at a time
H04M 1/31	...	by interrupting current to generate trains of pulses ; by periodically opening and closing contacts to generate trains of pulses
H04M 1/312	....	{pulses produced by electronic circuits }
H04M 1/315	....	Clutches, spring assemblies, speed regulators, e.g. centrifugal brakes ( <a href="#">H04M 1/32</a> to <a href="#">H04M 1/40</a> take precedence)
H04M 1/32	....	Locking setting devices during transmission to prevent interference by user
H04M 1/34	....	Lost-motion or other arrangements for ensuring a pause between successive digit transmissions
H04M 1/38	....	Pulses transmitted by a movement variably limited by the setting of a stop
H04M 1/40	....	wherein the setting-operation short-circuits or open-circuits the transmitting mechanism during a variable part of a cycle
H04M 1/50	...	by generating or selecting currents of predetermined frequencies or combinations of frequencies
H04M 1/505	....	{signals generated in digital form }
H04M 1/515	..	by generating or selecting other signals than trains of pulses of similar shape or

- other signals than currents of one or more different frequencies, e.g. generation of direct current signals of alternating polarity, coded pulses, impedance dialling
- H04M 1/52 . . Arrangements wherein a dial or equivalent is mechanically coupled to a line selector
- H04M 1/53 . . Generation of additional signals, e.g. additional pulses
- H04M 1/54 . . . Arrangements wherein a dial or equivalent generates identifying signals, e.g. in party-line systems
- H04M 1/56 . Arrangements for indicating or recording the called number at the calling subscriber's set
- H04M 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](#))
- H04M 1/571 . . { Blocking transmission of caller identification to called party }
- H04M 1/573 . . { Line monitoring circuits for detecting caller identification }
- H04M 1/575 . . { Means for retrieving and displaying personal data about calling party }
- H04M 1/576 . . . { associated with a pictorial or graphical representation }
- H04M 1/578 . . . { associated with a synthesized vocal announcement }
- H04M 1/58 . Anti-side-tone circuits ([hybrid circuits for carrier-frequency operation H04B 1/00](#))
- H04M 1/585 . . { implemented without inductive element }
- H04M 1/60 . including speech amplifiers
- H04M 1/6008 . . { in the transmitter circuit }
- H04M 1/6016 . . { in the receiver circuit }
- H04M 1/6025 . . { implemented as integrated speech networks }
- H04M 1/6033 . . { for providing handsfree use or a loudspeaker mode in telephone sets ([arrangements for preventing acoustic echo H04M 9/08](#)) }
- H04M 1/6041 . . . { Portable telephones adapted for handsfree use }
- H04M 1/605 . . . . { involving control of the receiver volume to provide a dual operational mode at close or far distance from the user }
- H04M 1/6058 . . . . { involving the use of a headset accessory device connected to the portable telephone }
- H04M 1/6066 . . . . . { including a wireless connection }
- H04M 1/6075 . . . . { adapted for handsfree use in a vehicle ([H04M 1/6058 takes precedence; arrangements for holding telephones in a vehicle B60R 11/0241](#)) }
- H04M 1/6083 . . . . . { by interfacing with the vehicle audio system }
- H04M 1/6091 . . . . . { including a wireless interface }
- H04M 1/62 . . Constructional arrangements
- H04M 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](#))
- H04M 1/642 . . { storing speech in digital form }
- H04M 1/645 . . . { with speech synthesis }
- H04M 1/647 . . { using magnetic tape ([H04M 1/642 takes precedence](#)) }
- H04M 1/65 . . Recording arrangements { for recording a message from the calling party ([in the exchange H04M 3/50](#)) }



- H04M 1/6505 . . . {storing speech in digital form }
- H04M 1/651 . . . . {with speech synthesis }
- H04M 1/6515 . . . {using magnetic tape ([H04M 1/6505](#) takes precedence) }
- H04M 1/652 . . . Means for playing back the recorded messages by remote control over a telephone line ([H04M 1/658](#) takes precedence)
- H04M 1/654 . . . Telephone line monitoring circuits therefor, e.g. ring detector
- H04M 1/6545 . . . . {mechanically actuating hook switch, e.g. lifting handset }
- H04M 1/656 . . . for recording conversations
- H04M 1/658 . . . Means for redirecting recorded messages to other extensions or equipment
  
- H04M 1/66 . . with means for preventing unauthorised or fraudulent calling ([verifying user identity or authority in secret or secure digital communications H04L 9/32](#))
- H04M 1/663 . . Preventing unauthorised calls to a telephone set
- H04M 1/665 . . . by checking the validity of a code
- H04M 1/667 . . Preventing unauthorised calls from a telephone set ([H04M 1/677](#) takes precedence)
- H04M 1/67 . . . by electronic means
- H04M 1/673 . . . . the user being required to key in a code
- H04M 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](#) } )
- H04M 1/677 . . Preventing the dialling or sending of predetermined telephone numbers or selected types of telephone numbers, e.g. long distance
- H04M 1/6775 . . . by providing access to preprogrammed keys
  
- H04M 1/68 . . Circuit arrangements for preventing eavesdropping
- H04M 1/70 . . Lock-out or secrecy arrangements in party-line systems
  
- H04M 1/72 . . Substation extension arrangements ; Cordless telephones, i.e. devices for establishing wireless links to base stations without route selecting { ([constructional features of cordless telephones H04M 1/0202](#)) }
- H04M 1/723 . . using two or more extensions per line ([H04M 1/725](#) takes precedence)
- H04M 1/725 . . Cordless telephones { ([for handsfree use H04M 1/6041](#)) }
- H04M 1/72502 . . . {with one base station connected to a single line }
- H04M 1/72505 . . . . {Radio link set-up procedure }
- H04M 1/72508 . . . . . {using a control channel }
- H04M 1/72511 . . . . . {Searching for an available channel }
- H04M 1/72513 . . . . . {On hold, intercom or transfer communication modes }
- H04M 1/72516 . . . . { including out-of-range alerting means }
- H04M 1/72519 . . . {Portable communication terminals with improved user interface to control a main telephone operation mode or to indicate the communication status }
- H04M 1/72522 . . . . {With means for supporting locally a plurality of applications to increase the functionality ([for selecting a function in a menu H04M 1/2477](#)) }
- H04M 1/72525 . . . . . {provided by software upgrading or downloading }
- H04M 1/72527 . . . . . {provided by interfacing with an external accessory ([hands-free H04M 1/6041](#)) }
- H04M 1/7253 . . . . . {using a two-way short-range wireless interface }

H04M 1/72533	.....	{for remote control of appliances }
H04M 1/72536	.....	{ for supporting an emergency service (alarm systems <a href="#">G08B</a> ; telephonic communication systems in combination with alarm systems <a href="#">H04M 11/04</a> ; telephone sets for disabled persons <a href="#">H04M 1/2474</a> ) }
H04M 1/72538	.....	{ with automatic feature activation, e.g. upon sensing of an alarm condition }
H04M 1/72541	.....	{ with manual feature activation }
H04M 1/72544	.....	{for supporting a game or graphical animation }
H04M 1/72547	.....	{with interactive input/output means for internally managing multimedia messages (Mail systems for messages comprising audio and non-audio components <a href="#">H04M 3/5307</a> ; Message switching systems <a href="#">H04L 12/58</a> ) }
H04M 1/7255	.....	{for voice messaging, e.g. dictaphone (for answering an incoming call <a href="#">H04M 1/64</a> ) }
H04M 1/72552	.....	{for text messaging, e.g. sms, e-mail }
H04M 1/72555	.....	{for still or moving picture messaging (systems for transmission of still picture signals <a href="#">H04N 1/00095</a> ; Videophones <a href="#">H04N 7/14</a> ) }
H04M 1/72558	.....	{ for playing back music files (portable music players per se <a href="#">G11B27</a> ) }
H04M 1/72561	.....	{for supporting an internet browser application }
H04M 1/72563	....	{ with means for adapting by the user the functionality or the communication capability of the terminal under specific circumstances }
H04M 1/72566	.....	{ according to a schedule or a calendar application (network applications for presence management <a href="#">H04L 29/08684</a> ) }
H04M 1/72569	.....	{ according to context or environment related information }
H04M 1/72572	.....	{ according to a geographic location (user location related services provided by wireless communication networks <a href="#">H04W 4/02</a> ; network applications adapted for the location of the user terminal <a href="#">H04L 29/08657</a> ) }
H04M 1/72575	.....	{ by connection of an exchangeable housing part }
H04M 1/72577	.....	{ to restrict the functionality or the communication capability of the terminal (network access restriction <a href="#">H04W 48/02</a> ) }
H04M 1/7258	....	{by using keys with multiple functionality defined by the current phone mode or status }
H04M 1/72583	....	{ for operating the terminal by selecting telephonic functions from a plurality of displayed items, e.g. menus, icons (interaction techniques for Graphical User Interfaces per se <a href="#">G06F 3/048</a> ) }
H04M 1/72586	.....	{ wherein the items are sorted according to a specific criteria, e.g. frequency of use }
H04M 1/72588	....	{ specially adapted for disabled people (devices for conversing with the deaf-blind <a href="#">G09B 21/04</a> ) }
H04M 1/72591	.....	{ for a hearing impaired user (hearing-aids per se <a href="#">H04R 25/00</a> ) }
H04M 1/72594	.....	{ for a visually impaired user ( <a href="#">H04M 1/22</a> takes precedence) }
H04M 1/72597	....	{ wherein handling of applications is triggered by incoming communication events (changing user alerting upon occurrence of events <a href="#">H04M 19/04</a> ) }
H04M 1/727	...	Identification code transfer arrangements
H04M 1/73	...	Battery saving arrangements { (by switching on/off the receiving circuit <a href="#">H04B 1/1615</a> ) }
H04M 1/733	...	with a plurality of base stations connected to a plurality of lines { (for selection in cordless PBX <a href="#">H04W 84/16</a> ) }



- H04M 1/737 . . . characterised by transmission of electromagnetic waves other than radio waves, e.g. infra-red
- H04M 1/738 . Interface circuits for coupling substations to external telephone lines ([H04M 1/78](#) takes precedence)
- H04M 1/7385 . . {Programmable or microprocessor-controlled }
- H04M 1/74 . . with means for reducing interference ; with means for reducing effects due to line faults
- H04M 1/745 . . . {Protection devices or circuits for voltages surges on the line }
- H04M 1/76 . . Compensating for differences in line impedance (in general [H04B](#) )
- H04M 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 ([repeater circuits H04B 3/38](#))
- H04M 1/80 . Telephone line holding circuits
- H04M 1/82 . Line monitoring circuits for call progress or status discrimination { ([for detecting caller identity H04M 1/573](#)) }
- H04M 3/00** **Automatic or semi-automatic exchanges** { ([constructional details of telephone exchanges H04Q 1/02](#)) }
- H04M 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](#)) }
- H04M 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](#)) }
- H04M 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](#)) }
- H04M 3/02 . Ringing or otherwise calling substations ([selective calling H04Q](#) )
- H04M 3/04 . . calling signal supplied from final selector
- H04M 3/06 . . calling signal supplied from subscriber`s line circuit
- H04M 3/08 . Indicating faults in circuits or apparatus
- H04M 3/085 . . {Fault locating arrangements }
- H04M 3/10 . . Providing fault or trouble signals
- H04M 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 }
- H04M 3/14 . . Signalling existence of persistent "off-hook" condition
- H04M 3/16 . with lock-out or secrecy provision in party-line systems
- H04M 3/18 . with means for reducing interference {or noise } ; with means for reducing effects due to line faults {with means for protecting lines }
- H04M 3/20 . with means for interrupting existing connections ; with means for breaking-in on

	conversations	
H04M 3/205	..	{ Eavesdropping prevention - indication of insecurity of line or network }
H04M 3/22	.	Supervisory, monitoring, {management, i.e. operation, administration, maintenance } or testing arrangements
H04M 3/2209	..	{ for lines also used for data transmission }
H04M 3/2218	..	{Call detail recording }
H04M 3/2227	..	{Quality of service monitoring }
H04M 3/2236	..	{Quality of speech transmission monitoring }
H04M 3/2245	..	{ Management of the local loop plant }
H04M 3/2254	..	{in networks }
H04M 3/2263	...	{Network management }
H04M 3/2272	..	{Subscriber line supervision circuits, e.g. call detection circuits }
H04M 3/2281	..	{ Call monitoring, e.g. for law enforcement purposes; Call tracing; Detection or prevention of malicious calls }
H04M 3/229	..	{Wire identification arrangements; Number assignment determination }
H04M 3/24	..	with provision for checking the normal operation
H04M 3/241	...	{for stored program controlled exchanges }
H04M 3/242	....	{Software testing }
H04M 3/244	...	{for multiplex systems ( <a href="#">H04M 3/30B</a> takes precedence) }
H04M 3/245	....	{for ISDN systems }
H04M 3/247	...	{Knowledge-based maintenance systems }
H04M 3/248	...	{for metering arrangements or prepayment telephone systems ( <a href="#">metering arrangements per se H04M 15/00</a> ; <a href="#">prepayment telephone systems per se H04M 17/00</a> ) }
H04M 3/26	..	with means for applying test signals {or for measuring }
H04M 3/28	...	Automatic routine testing {; Fault testing; Installation testing; Test methods, test equipment or test arrangements therefor }
H04M 3/30	....	for subscriber`s lines {, for the local loop }
H04M 3/301	.....	{Circuit arrangements at the subscriber`s side of the line }
H04M 3/302	.....	{using modulation techniques for copper pairs ( <a href="#">for ISDN systems H04M 3/245</a> ; <a href="#">ISDN selection or connection testing arrangements H04Q 11/045</a> ) }
H04M 3/303	.....	{and using PCM multiplexers, e.g. pair gain systems }
H04M 3/304	.....	{and using xDSL modems ( <a href="#">xDSL line qualification H04M 3/306</a> ) }
H04M 3/305	.....	{testing of physical copper line parameters, e.g. capacitance or resistance ( <a href="#">locating faults in cables G01R 31/08</a> ) }
H04M 3/306	.....	{for frequencies above the voice frequency, e.g. xDSL line qualification (test methods, test equipment and test arrangements for subscriber lines using xDSL modems <a href="#">H04M 3/304</a> ; <a href="#">Systems modifying transmission characteristics according to link quality H04L 1/0001</a> ; <a href="#">Monitoring and/or testing of line transmission systems H04B 3/46</a> ) }
H04M 3/307	.....	{ using ringback }
H04M 3/308	.....	{ Craftsperson test terminals }
H04M 3/32	....	for lines between exchanges

H04M 3/323	.....	{for the arrangements providing the connection (test connection, test call, call simulation) }
H04M 3/326	.....	{for registers and translators }
H04M 3/34	...	Testing for cross-talk (in lines generally <a href="#">H04B</a> )
H04M 3/36	..	Statistical metering, e.g. recording occasions when traffic exceeds capacity of trunks (digital computers for evaluating statistical data <a href="#">G06F 17/18</a> )
H04M 3/362	...	{Traffic simulation }
H04M 3/365	...	{Load metering of control unit }
H04M 3/367	...	{ Traffic or load control }
H04M 3/38	.	Graded-service arrangements, i.e. some subscribers prevented from establishing certain connections (queueing arrangements { <a href="#">H04M 3/523</a> }, <a href="#">H04Q 3/64</a> )
H04M 3/382	..	{using authorisation codes or passwords }
H04M 3/385	...	{ using speech signals }
H04M 3/387	..	{ using subscriber identification cards }
H04M 3/40	.	Applications of speech amplifiers
H04M 3/42	.	Systems providing special services or facilities to subscribers
H04M 3/42008	..	{ Systems for anonymous communication between parties, e.g. by use of disposal contact identifiers }
H04M 3/42017	..	{ Customized ring-back tones }
H04M 3/42025	..	{ Calling or Called party identification service (not used) }
H04M 3/42034	...	{Calling party identification service (not used) }
H04M 3/42042	....	{Notifying the called party of information on the calling party (details within substation equipment <a href="#">H04M 1/57</a> , signalling details <a href="#">H04Q 3/72</a> ) }
H04M 3/42051	.....	{where the notification is included in the ringing tone }
H04M 3/42059	....	{ Making use of the calling party identifier }
H04M 3/42068	.....	{ where the identifier is used to access a profile }
H04M 3/42076	.....	{ where the identifier is a Uniform Resource Locator }
H04M 3/42085	...	{Called party identification service (not used) }
H04M 3/42093	....	{ Notifying the calling party of information on the called or connected party }
H04M 3/42102	....	{ Making use of the called party identifier }
H04M 3/4211	.....	{ where the identifier is used to access a profile }
H04M 3/42119	.....	{ where the identifier is a Uniform Resource Locator }
H04M 3/42127	..	{Systems providing several special services or facilities from groups <a href="#">H04M 3/42008</a> to <a href="#">H04M 3/58</a> }
H04M 3/42136	..	{Administration or customisation of services }
H04M 3/42144	...	{by service provider }
H04M 3/42153	...	{by subscriber }
H04M 3/42161	....	{ via computer interface }
H04M 3/4217	...	{Managing service interactions }
H04M 3/42178	...	{by downloading data to substation equipment }
H04M 3/42187	..	{ Lines and connections with preferential service }
H04M 3/42195	..	{Arrangements for calling back a calling subscriber (when the wanted subscriber

		ceases to be busy <a href="#">H04M 3/48</a> }
<a href="#">H04M 3/42204</a>	..	{Arrangements at the exchange for service or number selection by voice (at the terminal <a href="#">H04M 1/27</a> ) }
<a href="#">H04M 3/42212</a>	..	{ Call pickup (comprising simultaneous alerting <a href="#">H04M 3/46</a> ) }
<a href="#">H04M 3/42221</a>	..	{ Conversation recording systems (at the subscriber's set <a href="#">H04M 1/656</a> ) }
<a href="#">H04M 3/42229</a>	..	{ 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 <a href="#">H04M 3/54</a> ; selecting arrangements in intelligent networks <a href="#">H04Q 3/005</a> ) }
<a href="#">H04M 3/42238</a>	...	{ in systems with telephone lines with multiple users }
<a href="#">H04M 3/42246</a>	...	{ 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 }
<a href="#">H04M 3/42255</a>	....	{ with the subscriber having a personal network-independent number }
<a href="#">H04M 3/42263</a>	...	{ where the same subscriber uses different terminals, i.e. nomadism }
<a href="#">H04M 3/42272</a>	....	{ whereby the subscriber registers to the terminals for personalised service provision }
<a href="#">H04M 3/4228</a>	..	{in networks }
<a href="#">H04M 3/42289</a>	...	{ with carrierprovider selection by subscriber }
<a href="#">H04M 3/42297</a>	...	{ with number portability }
<a href="#">H04M 3/42306</a>	...	{ Number translation services, e.g. premium-rate, freephone or vanity number services }
<a href="#">H04M 3/42314</a>	..	{in private branch exchanges }
<a href="#">H04M 3/42323</a>	...	{PBX's with CTI arrangements }
<a href="#">H04M 3/42331</a>	...	{ Direct inward dialling }
<a href="#">H04M 3/4234</a>	...	{ Remote access to features of PBX or home telephone systems-teleworking in a PBX }
<a href="#">H04M 3/42348</a>	..	{ Location-based services which utilize the location information of a target }
<a href="#">H04M 3/42357</a>	...	{ where the information is provided to a monitoring entity such as a potential calling party or a call processing server }
<a href="#">H04M 3/42365</a>	..	{ Presence services providing information on the willingness to communicate or the ability to communicate in terms of media capability or network connectivity }
<a href="#">H04M 3/42374</a>	...	{ where the information is provided to a monitoring entity such as a potential calling party or a call processing server }
<a href="#">H04M 3/42382</a>	..	{ Text-based messaging services in telephone networks such as PSTN/ISDN, e.g. User-to-User Signalling or Short Message Service for fixed networks }
<a href="#">H04M 3/42391</a>	..	{where the subscribers are hearing-impaired persons, e.g. telephone devices for the deaf }
<a href="#">H04M 3/424</a>	..	Arrangements for automatic redialling (at the subscriber's set <a href="#">H04M 1/27</a> )
<a href="#">H04M 3/428</a>	..	Arrangements for placing incoming calls on hold
<a href="#">H04M 3/4281</a>	...	{when the called subscriber is connected to a data network using his telephone line, e.g. dial-up connection, Internet browsing }
<a href="#">H04M 3/4283</a>	...	{Call holding circuits }
<a href="#">H04M 3/4285</a>	...	{Notifying, informing or entertaining a held party while on hold, e.g. Music On Hold }
<a href="#">H04M 3/4286</a>	...	{Notifying a held subscriber when his held call is removed from hold }
<a href="#">H04M 3/4288</a>	...	{Notifying a called subscriber of an incoming call during an ongoing call, e.g.

## Call Waiting }

- H04M 3/432 .. Arrangements for calling a subscriber at a specific time, e.g. morning call service
- H04M 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](#) ) }
- H04M 3/4365 ... { based on information specified by the calling party, e.g. priority or subject }
- H04M 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](#))
- H04M 3/46 .. Arrangements for calling a number of substations in a predetermined sequence until an answer is obtained
- H04M 3/465 ... { Arrangements for simultaneously calling a number of substations until an answer is obtained }
- H04M 3/48 .. Arrangements for recalling a calling subscriber when the wanted subscriber ceases to be busy
- H04M 3/487 .. Arrangements for providing information services, e.g. recorded voice services, time announcement
- H04M 3/4872 ... {Non-interactive information services }
- H04M 3/4874 .... {Intercept announcements }
- H04M 3/4876 .... {Time announcements }
- H04M 3/4878 .... {Advertisement messages }
- H04M 3/493 ... Interactive information services, e.g. directory enquiries; { Arrangements therefor, e.g. interactive voice response [IVR ] systems or voice portals}
- H04M 3/4931 .... {Directory assistance systems }
- H04M 3/4933 ..... { with operator assistance }
- H04M 3/4935 ..... { Connection initiated by DAS system }
- H04M 3/4936 .... {Speech interaction details (speech recognition per se [G10L 15/00](#)) }
- H04M 3/4938 .... { comprising a voice browser which renders and interprets e.g. VoiceXML }
- H04M 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 }
- H04M 3/51 ... Centralised call answering arrangements requiring operator intervention, { e.g. call or contact centers for telemarketing }
- H04M 3/5108 .... {Secretarial services }
- H04M 3/5116 .... { for emergency applications }
- H04M 3/5125 .... {with remote located operators }
- H04M 3/5133 .... { Operator terminal details }
- H04M 3/5141 .... { Details of processing calls and other types of contacts in an unified manner (unified messaging in packet-switching networks [H04L 12/589](#)) }
- H04M 3/515 .... {Night service systems }
- H04M 3/5158 .... {in combination with automated outdialling systems (devices for signalling identity of wanted subscriber [H04M 1/26](#)) }
- H04M 3/5166 .... { in combination with interactive voice response systems or voice portals e.g. as front-ends }
- H04M 3/5175 .... { Call or contact centers supervision arrangements }

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



- H04M 3/56 . . Arrangements for connecting several subscribers to a common circuit, i.e. affording conference facilities ( { [computer conferences H04L 12/1813](#) }; [video conference systems H04N 7/15](#))
- H04M 3/561 . . . {by multiplexing }
- H04M 3/562 . . . { where the conference facilities are distributed }
- H04M 3/563 . . . { User guidance or feature selection }
- H04M 3/564 . . . . { whereby the feature is a sub-conference }
- H04M 3/565 . . . . { relating to time schedule aspects }
- H04M 3/566 . . . . { relating to a participants right to speak (protocols for floor control [H04L 29/06421](#), [H04L 29/06428](#), [H04L 29/06435](#)) }
- H04M 3/567 . . . {Multimedia conference systems }
- H04M 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](#)) }
- H04M 3/569 . . . . {using the instant speaker's algorithm } (speech detection per se [G10L 25/78](#))
- H04M 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](#))
- H04M 3/60 . Semi-automatic systems, i.e. in which the numerical selection of the outgoing line is under the control of an operator
- H04M 3/62 . . Keyboard equipment {[in key telephone systems H04M 9/003](#) }
- H04M 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](#))
- H04M 5/00 Manual exchanges** ([substation equipment in general H04M 1/00](#))
- H04M 5/02 . Constructional details ([jacks, jack-plugs H01R 2201/16](#), [H01R 2201/16](#))
- H04M 5/04 . Arrangements for indicating calls or supervising connections for calling or clearing
- H04M 5/06 . . affording automatic call distribution
- H04M 5/08 . using connecting means other than cords
- H04M 5/10 . using separate plug for each subscriber
- H04M 5/12 . Ringing or otherwise calling substations
- H04M 5/14 . Applications of speech amplifiers
- H04M 5/16 . with means for reducing interference ; with means for reducing effects due to line faults
- H04M 5/18 . Arrangements for signalling the class or number of called or calling line from one exchange to another
- H04M 5/20 . . Number-indicating arrangements for incoming lines
- H04M 7/00 Interconnection arrangements between switching centres** ([transmission arrangements in general H04B](#) ; { [interconnection arrangements between PSTN/ISDN switching centres H04Q 3/00](#) }

- H04M 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](#)

- H04M 7/0006 . . { where voice calls cross both 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](#)

- H04M 7/0009 . . { where voice calls remain entirely in the telephone network }

**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](#)

- H04M 7/0012 . { Details of application programming interfaces [API] for telephone networks ; Arrangements which combine a telephonic communication equipment and a computer, i.e. computer telephony integration [CPI] arrangements }

- H04M 7/0015 . . { First party call control architectures }

- H04M 7/0018 . . { Computer Telephony Resource Boards }

- H04M 7/0021 . . { Details of Application Programming Interfaces }

- H04M 7/0024 . { Services and arrangements where telephone services are combined with data services (arrangements which combine a telephonic equipment and a computer [H04M 7/0012](#)) }

- H04M 7/0027 . . { Collaboration services where a computer is used for data transfer and the telephone is used for telephonic communication }

- H04M 7/003 . . { Click to dial services }

- H04M 7/0033 . . { Notification or handling of incoming calls by a computer }

- H04M 7/0036 . . { where the data service is an information service }

- H04M 7/0039 . . { where the data service is provided by a stream of packets which are rendered in real time by the receiving terminal (audio streaming or audio streaming details of combined audio and video streaming [H04M 7/0026](#)) }

- H04M 7/0042 . . { where the data service is a text-based messaging service ([H04M 7/0054](#) takes precedence) }

- H04M 7/0045 . . . { where the text-based messaging service is an instant messaging service }

- H04M 7/0048 . . . { where the text-based messaging service is a Short Message Service }

- H04M 7/0051 . . { where the data service is a multimedia messaging service }

- H04M 7/0054 . . { where the data service is an electronic mail service }

- H04M 7/0057 . . { Services where the data services network provides a telephone service in addition or as an alternative, e.g. for backup purposes, to the telephone service provided by the telephone services network }

- H04M 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 65/00 takes precedence; aspects not specific to the type of network H04M 3/00; special services in those networks H04M 3/42) }
- H04M 7/0063 . . { where the network is a peer-to-peer network }
- H04M 7/0066 . . { Details of access arrangements to the networks (where the access arrangement is a PSTN/ISDN access H04M 7/122) }
- H04M 7/0069 . . . { comprising a residential gateway, e.g. those which provide an adapter for POTS or ISDN terminals }
- H04M 7/0072 . . { Speech codec negotiation (H04L 65/1069 takes precedence) }
- H04M 7/0075 . . { Details of addressing, directories or routing tables }
- H04M 7/0078 . . { Security; Fraud detection; Fraud prevention }
- H04M 7/0081 . . { Network operation, administration, maintenance, or provisioning }
- H04M 7/0084 . . . { Network monitoring; Error detection; Error recovery; Network testing }
- H04M 7/0087 . . . { Network planning or provisioning }
- H04M 7/009 . {in systems involving PBX or KTS networks }
- H04M 7/0093 . { signalling arrangements in networks }
- H04M 7/0096 . {Trunk circuits }
- H04M 7/06 . using auxiliary connections for control or supervision { , e.g. where the auxiliary connection is a signalling system number 7 link }

**WARNING**

Not complete, see also other subgroups of [H04M 7/00](#)

- H04M 7/063 . . { where the telephone network is a network other than PSTN/ISDN }
- H04M 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) }
- H04M 7/08 . for phantom working { (phantom working in transmission of digital information H04L 5/20) }
- H04M 7/12 . for working between exchanges having different types of switching equipment, e.g. power-driven and step by step, decimal and non-decimal, { circuit-switched and packet-switched, i.e. gateway arrangements }

**WARNING**

Not complete, see also other subgroups of [H04M 7/00](#)

- H04M 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 }
- H04M 7/121 . . . { Details of network access arrangements or protocols }
- H04M 7/1215 . . . . { where a cable TV network is used as an access to the PSTN/ISDN }
- H04M 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](#))  
}

- H04M 7/1225 . . . { Details of core network interconnection arrangements }
- H04M 7/123 . . . . { where the packet-switched network is an Internet Protocol Multimedia System-type network }
- H04M 7/1235 . . . . { where one of the core networks is a wireless network }
- H04M 7/124 . . . { where PSTN/ISDN interconnects two networks other than PSTN/ISDN }
- H04M 7/1245 . . . { where a network other than PSTN/ISDN interconnects two PSTN/ISDN networks }
- H04M 7/125 . . . { Details of gateway equipment }
- H04M 7/1255 . . . . { where the switching fabric and the switching logic are decomposed such as in Media Gateway Control }
- H04M 7/126 . . . { Interworking of session control protocols }
- H04M 7/1265 . . . . { where the session control protocols comprise H.323 and SS7 }
- H04M 7/127 . . . . { where the session control protocols comprise SIP and SS7 }
- H04M 7/1275 . . . { Methods and means to improve the telephone service quality, e.g. reservation, prioritisation or admission control }
- H04M 7/128 . . . { Details of addressing, directories or routing tables }
- H04M 7/1285 . . . { Details of finding and selecting a gateway for a particular call }
- H04M 7/129 . . . { Details of providing call progress tones or announcements }
- H04M 7/1295 . . . { Details of dual tone multiple frequency signalling }
- H04M 7/14 . . { in systems involving main and subordinate switching centres }

### **WARNING**

Not complete, see also other subgroups of [H04M 7/00](#)

- H04M 7/16 . . in systems employing carrier frequencies

## **H04M 9/00 Interconnection arrangements not involving centralised switching**

- H04M 9/001 . . {Two-way communication systems between a limited number of parties }
- H04M 9/002 . . {with subscriber controlled access to a line, i.e. key telephone systems }
- H04M 9/003 . . {Transmission of control signals from or to the key telephone set; signalling equipment at key telephone set, e.g. keyboard or display equipment ([keyboard equipment in semi-automatic systems H04M 3/62](#)) }
- H04M 9/005 . . {with subscriber controlled access to an exchange line }
- H04M 9/006 . . . {Exchange line circuits ([subscriber line circuits H04M 3/005](#)) }
- H04M 9/007 . . . {wherein the key telephone sets are star-connected to a central unit by a limited number of lines }
- H04M 9/008 . . {Multiplex systems }
- H04M 9/02 . . involving a common line for all parties
- H04M 9/022 . . {Multiplex systems }

- H04M 9/025 . . . {Time division multiplex systems, e.g. loop systems }
- H04M 9/027 . . . {Frequency division multiplex systems }
- H04M 9/04 . involving a separate line for each pair of parties
- H04M 9/06 . involving combinations of interconnecting lines
- H04M 9/08 . Two-way loud-speaking telephone systems with means for suppressing echoes or otherwise conditioning for one or other direction of traffic (for line transmission in general [H04B 3/20](#))
- H04M 9/082 . . {using echo cancellers (echo cancellers per se [H04B 3/23](#)) }
- H04M 9/085 . . {using digital techniques ([H04M 9/082](#) takes precedence) }
- H04M 9/087 . . {using different frequency bands for transmitting and receiving paths (for line transmission in general [H04B 3/21](#)) ; using phase shifting arrangements }
- H04M 9/10 . . with switching of direction of transmission by voice frequency
- H04M 11/00** **Telephonic communication systems adapted for combination with other electrical systems**
- H04M 11/002 . {with telemetering systems (telemetering in general [G08C](#) ) }
- H04M 11/005 . . {using recorded signals, e.g. speech }
- H04M 11/007 . {with remote control systems (remote control in general [G08C](#) ) }
- H04M 11/02 . with bell or annunciator systems (such systems in general [G08](#) )
- H04M 11/022 . . {Paging systems (personal calling arrangements or devices [G08B 3/1008](#); selective calling networks [H04W 84/022](#)) }
- H04M 11/025 . . {Door telephones (adapted for television [H04N 7/186](#)) }
- H04M 11/027 . . {Annunciator systems for hospitals }
- H04M 11/04 . with fire, police, burglar, or other alarm systems (such systems in general [G08](#) )
- H04M 11/045 . . {using recorded signals, e.g. speech }
- H04M 11/06 . Simultaneous speech and telegraphic or other data transmission over the same conductors ([telegraphy in general H04L](#) )
- H04M 11/062 . . {using different frequency bands for speech and other data }
- H04M 11/064 . . {Data transmission during pauses in telephone conversation }
- H04M 11/066 . . {Telephone sets adapted for data transmission }
- H04M 11/068 . . {using time division multiplex techniques; integrated services digital networks [H04Q 11/0428](#) }
- H04M 11/08 . adapted for optional reception of entertainment or informative matter (systems in which the information is continuously available on a carrier over the whole network [H04H 20/81](#))
- H04M 11/085 . . {using a television receiver, e.g. viewdata system }
- H04M 11/10 . with dictation recording and playback systems (such systems in general [G11B](#) )
- H04M 13/00** **Party-line systems** (substation equipment [H04M 1/00](#); exchange equipment [H04M 3/00](#), [H04M 5/00](#); metering arrangements [H04M 15/36](#))

<b>H04M 15/00</b>	<b>Arrangements for metering, time-control or time indication { ; Metering, charging or billing arrangements for voice wireline or wireless communications, e.g. VoIP }</b>
H04M 15/02	<ul style="list-style-type: none"> <li>Severing connection after predetermined time</li> </ul> <p><b><u>WARNING</u></b></p> <p>This subgroup is no longer used for classification as from 01.05.2012. The backlog of this subgroup is being continuously reclassified to <a href="#">H04M 15/88G</a></p>
H04M 15/04	<ul style="list-style-type: none"> <li>Recording calls { , or communications } in printed, perforated or other permanent form</li> </ul>
H04M 15/06	<ul style="list-style-type: none"> <li>Recording class or number of calling { , i.e. A-party } or called party { , i.e. B-party }</li> </ul>
H04M 15/07	<ul style="list-style-type: none"> <li>{ Split billing, i.e. both A-party and B-party charged for the communication }</li> </ul>
H04M 15/08	<ul style="list-style-type: none"> <li>Metering calls to called party { , i.e. B-party charged for the communication }</li> </ul>
H04M 15/09	<ul style="list-style-type: none"> <li>{ Third party charged communications }</li> </ul>
H04M 15/10	<ul style="list-style-type: none"> <li>Metering calls from calling party; { , i.e. A-party charged for the communication }</li> </ul>
H04M 15/12	<ul style="list-style-type: none"> <li>Discriminative metering { , charging or billing }</li> </ul>
H04M 15/14	<ul style="list-style-type: none"> <li>according to class of calling party</li> </ul>
H04M 15/16	<ul style="list-style-type: none"> <li>according to connection obtained</li> </ul>
H04M 15/18	<ul style="list-style-type: none"> <li>according to duration of the call { , or the communication }</li> </ul>
H04M 15/20	<ul style="list-style-type: none"> <li>Operator's time recording or indicating arrangements</li> </ul>
H04M 15/22	<ul style="list-style-type: none"> <li>according to time of day</li> </ul>
H04M 15/24	<ul style="list-style-type: none"> <li>Preventing metering of tax-free calls to certain lines, e.g. to fire or ambulance stations</li> </ul>
H04M 15/26	<ul style="list-style-type: none"> <li>with a meter { or performing charging or billing } at the exchange controlled by an operator</li> </ul>
H04M 15/28	<ul style="list-style-type: none"> <li>with meter at substation { or with calculation of charges at terminal }</li> </ul>
H04M 15/30	<ul style="list-style-type: none"> <li>the meter { or calculation of charges } not being controlled from an exchange</li> </ul>
H04M 15/31	<ul style="list-style-type: none"> <li>{ Distributed metering or calculation of charges }</li> </ul>
H04M 15/32	<ul style="list-style-type: none"> <li>{ Charging, billing or } metering arrangements for satellites or concentrators which connect one or more exchange lines with a group of local lines</li> </ul>
H04M 15/34	<ul style="list-style-type: none"> <li>{ Charging, billing or } metering arrangements for private branch exchanges</li> </ul>
H04M 15/36	<ul style="list-style-type: none"> <li>{ Charging, billing or } metering arrangements for party-lines</li> </ul>
H04M 15/38	<ul style="list-style-type: none"> <li>{ Charging, billing or } metering by apparatus other than mechanical step-by-step counter type</li> </ul>
H04M 15/39	<ul style="list-style-type: none"> <li>{ Arrangements for preventing metering, charging or billing }</li> </ul>
H04M 15/41	<ul style="list-style-type: none"> <li>{ Billing record details, i.e. parameters, identifiers, structure of call data record [CDR] }</li> </ul>



- H04M 15/42 . { Dynamic individual rates per user }
- H04M 15/43 . { Billing software details }
- H04M 15/44 . { Augmented, consolidated or itemized billing statement or bill presentation }
- H04M 15/46 . { Real-time negotiation between users and providers or operators }
- H04M 15/47 . { Fraud detection or prevention means }
- H04M 15/48 . { Secure or trusted billing, e.g. trusted elements or encryption }
- H04M 15/49 . { Connection to several service providers }
- H04M 15/50 . { for cross-charging network operators }
- H04M 15/51 . { for resellers, retailers or service providers }
- H04M 15/52 . { for operator independent billing system }
- H04M 15/53 . { using mediation }
- H04M 15/54 . { for revenue sharing }
- H04M 15/55 . { for hybrid networks }
- H04M 15/56 . { for VoIP communications }
- H04M 15/57 . { for integrated multimedia messaging subsystem [IMS] }
- H04M 15/58 . { based on statistics of usage or network monitoring }
- H04M 15/59 . { based on real time }
- H04M 15/60 . { based on actual use of network resources }
- H04M 15/61 . { based on the service used }
- H04M 15/62 . { based on trigger specification }
- H04M 15/63 . { based on the content carried by the session initiation protocol [SIP] messages }
- H04M 15/64 . { On-line charging system [OCS] }
- H04M 15/65 . { Off-line charging system }
- H04M 15/66 . { Policy and charging system }
- H04M 15/67 . { Transmitting arrangements for sending billing related information }
- H04M 15/68 . { Payment of value-added services }

H04M 15/70	. { Administration or customization aspects; Counter-checking correct charges }
H04M 15/705	.. { Account settings, e.g. limits or numbers or payment }
H04M 15/71	.. { Modifying recharging resources }
H04M 15/715	.. { Activating new subscriber or card }
H04M 15/72	.. { by the user }
H04M 15/721	... { using the Internet }
H04M 15/723	... { using the user's device }
H04M 15/725	.. { by the operator }
H04M 15/73	.. { Validating charges }
H04M 15/735	.. { Re-crediting user }
H04M 15/74	.. { Backing up }
H04M 15/745	.. { Customizing according to wishes of subscriber, e.g. friends or family }
H04M 15/75	.. { Account location specifications }
H04M 15/751	... { Card based account, e.g. smart card, SIM card or USIM }
H04M 15/752	... { Terminal based account }
H04M 15/753	... { Network based account }
H04M 15/755	.. { Account identification }
H04M 15/7553	... { via service number, e.g. calling card }
H04M 15/7556	... { by SIM, e.g. smart card account in SCP, SDP or SN }
H04M 15/76	.. { Synchronization of distributed accounts }
H04M 15/765	.. { Linked or grouped accounts, e.g. of users or devices }
H04M 15/7652	... { shared by users }
H04M 15/7655	... { shared by technologies }
H04M 15/7657	... { for closed subscriber group [CSG] }
H04M 15/77	.. { involving multiple accounts per user }
H04M 15/771	... { per terminal or location, e.g. mobile device with multiple directory numbers }
H04M 15/772	... { per service, e.g. prepay or post-pay }
H04M 15/773	... { per technology, e.g. PSTN or wireless }
H04M 15/774	... { per card }
H04M 15/775	.. { Account specifications on parallel communications }
H04M 15/78	.. { Redistributing amount between accounts }
H04M 15/781	... { dynamically }
H04M 15/783	... { by user request }
H04M 15/785	.. { Reserving amount on the account }
H04M 15/79	.. { Virtual purses }
H04M 15/80	. { Rating or billing plans; Tariff determination aspects }
H04M 15/8005	.. { Flat-fee }
H04M 15/8011	.. { using class of subscriber }
H04M 15/8016	.. { based on quality of service [QoS] }
H04M 15/8022	.. { Determining tariff or charge band }
H04M 15/8027	.. { based on network load situation }

H04M 15/8033	.. { location-dependent, e.g. business or home }
H04M 15/8038	.. { Roaming or handoff }
H04M 15/8044	.. { Least cost routing }
H04M 15/805	... { Bidding }
H04M 15/8055	... { Selecting cheaper transport technology for a given service }
H04M 15/8061	... { Selecting least cost route depending on origin or type of service }
H04M 15/8066	.. { According to the number of recipients }
H04M 15/8072	... { Group, conference or multi-party call }
H04M 15/8077	... { Group MMS or SMS; Point-to-multi-point services or broadcast services }
H04M 15/8083	.. { involving reduced rates or discounts, e.g. time-of-day reductions or volume discounts }
H04M 15/8088	.. { involving increased rates, e.g. spam messaging billing differentiation }
H04M 15/8094	.. { Trial service, i.e. free of charge service for trial purposes }
H04M 15/81	. { Dynamic pricing, e.g. change of tariff during call }
H04M 15/82	. { Criteria or parameters used for performing billing operations }
H04M 15/8207	.. { Time based data metric aspects, e.g. VoIP or circuit switched packet data }
H04M 15/8214	.. { Data or packet based }
H04M 15/8221	.. { Message based }
H04M 15/8228	.. { Session based }
H04M 15/8235	.. { Access based }
H04M 15/8242	.. { Transaction based }
H04M 15/825	.. { based on the number of used channels, e.g. bundling channels, frequencies or CDMA codes }
H04M 15/8257	.. { Unit based }
H04M 15/8264	.. { Pulse based }
H04M 15/8271	.. { Based on the number of used services, e.g. call forwarding or call barring }
H04M 15/8278	.. { Event based }
H04M 15/8285	.. { Money or currency based }
H04M 15/8292	.. { Charging for signaling or unsuccessful connection }
H04M 15/83	. { Notification aspects }
H04M 15/835	.. { Time or frequency of notifications, e.g. Advice of Charge [AoC] }
H04M 15/8351	... { before establishing a communication }
H04M 15/8353	... { during the communication }
H04M 15/8355	... { after the end of the communication }
H04M 15/8356	... { in regular intervals }
H04M 15/8358	... { Dynamic change of the length or frequency of the notification interval }
H04M 15/84	.. { Types of notifications }
H04M 15/842	... { Announcement, e.g. IVR dialogue }
H04M 15/844	... { Message, e.g. SMS }
H04M 15/846	... { optical, e.g. icon }
H04M 15/848	... { Tone, e.g. beeper }

H04M 15/85	.. { characterised by the type of condition triggering a notification }
H04M 15/851	... { Determined tariff }
H04M 15/852	... { Low balance or limit reached }
H04M 15/853	... { Calculate maximum communication time or volume }
H04M 15/854	... { Available credit }
H04M 15/855	... { Successful event }
H04M 15/856	... { Unsuccessful event }
H04M 15/857	... { Cumulative charges }
H04M 15/858	... { Request users acknowledgement prior to use }
H04M 15/86	.. { Recipients of the notification }
H04M 15/863	... { multiple parties, e.g. multi party AOC }
H04M 15/866	... { a predetermined or undetermined destination, e.g. notifying a prepaid accounting server of a successful delivery of a service }
H04M 15/88	. { Provision for limiting connection, or expenditure }
H04M 15/881	.. { for continuing the call beyond the limit using allow grace }
H04M 15/882	.. { for continuing the call beyond the limit using an alternative, e.g. alternative account }
H04M 15/883	.. { linked escalation limits, i.e. establish, first or second limit }
H04M 15/885	.. { limit per application }
H04M 15/886	.. { limit per terminal }
H04M 15/887	.. { limit per user or user related number }
H04M 15/888	.. { severing connection after predetermined time or data }
H04M 15/90	. { using Intelligent Networks [IN] or Advanced Intelligent Networks [AIN] }
H04M 15/93	. { using near field or similar technologies }
<b>H04M 17/00</b>	<b>Prepayment</b> { of wireline communication systems, wireless communication systems or } <b>telephone systems</b> (using a coded card to authorise calls from a telephone set <a href="#">H04M 1/675</a> )
H04M 17/005	. { Disposable prepaid communication devices }
H04M 17/01	. { Cocot systems, i.e. private ownership of payphones }
H04M 17/02	. Coin-freed or check-freed systems, { e.g. mobile- or card-operated phones, public telephones or booths }
H04M 17/023	.. {Circuit arrangements }
H04M 17/026	.. {Constructional features }
H04M 17/10	. { Account details or usage }
H04M 17/103	.. { using SIMs (USIMs) or calling cards }
H04M 17/106	.. { using commercial credit or debit cards }
H04M 17/20	. { with provision for recharging the prepaid account or card, or for credit establishment }

- H04M 17/201 . . { automatic recharging with predetermined amount at threshold }
- H04M 17/202 . . { selecting interactively a payment method }
- H04M 17/203 . . . { cash-based recharging, i.e. physical input of coins or bank notes }
- H04M 17/204 . . { on-line recharging e.g. cashless }
- H04M 17/205 . . . { by calling a service number, e.g. interactive voice response [IVR] or menu }
- H04M 17/206 . . . { by sending a message, e.g. SMS, MMS or EMS }
- H04M 17/207 . . . { using signaling, e.g. USSD, UUS or DTMF }
- H04M 17/208 . . . { using WAP or Internet , i.e. including electronic payment, e.g. e-cash }
  
- H04M 17/30 . { using a code }
- H04M 17/301 . . { Code input or reading }
- H04M 17/302 . . . { from communication terminal display }
- H04M 17/303 . . . { from material cards, i.e. magnetic stripe card }
- H04M 17/304 . . . { Optical code recognition [OCR], e.g. bar code reader }
- H04M 17/305 . . . { Wireless codes, e.g. Bluetooth or RFID }
- H04M 17/306 . . . { using public code readers, e.g. public payment or recharge point }
- H04M 17/307 . . { Code type e.g. alphanumeric code, bar code. }
- H04M 17/308 . . { Code management }
  
- H04M 17/35 . { Pay as you go }
  
- H04M 19/00** **Current supply arrangements for telephone systems (for selecting-equipment [H04Q 1/28](#))**
  
- H04M 19/001 . {Current supply source at the exchanger providing current to substations }
- H04M 19/003 . . {Arrangements for compensation of the DC flux in line transformers }
- H04M 19/005 . . {Feeding arrangements without the use of line transformers }
- H04M 19/006 . . {Circuits for increasing the range of current supply source }
- H04M 19/008 . . {Using DC/DC converters ([DC/DC converters per se H02M 3/28](#)) }
  
- H04M 19/02 . providing ringing current or supervisory tones, e.g. dialling tone, busy tone
- H04M 19/023 . . {by reversing the polarity of the current at the exchange }
- H04M 19/026 . . {Arrangements for interrupting the ringing current }
- H04M 19/04 . . ringing-current generated at substation
- H04M 19/041 . . . { Encoding the ringing signal, i.e. providing distinctive or selective ringing capability }
- H04M 19/042 . . . { with variable loudness of the ringing tone, e.g. variable envelope or amplitude of ring signal }
- H04M 19/044 . . . . { according to the level of ambient noise }
- H04M 19/045 . . . { Call privacy arrangements, e.g. timely inhibiting the ring signal }
- H04M 19/047 . . . { Vibrating means for incoming calls }
- H04M 19/048 . . . { Arrangements providing optical indication of the incoming call, e.g. flasher circuits }
  
- H04M 19/06 . Current supply source at subordinate switching centre charged from main exchange

H04M 19/08 . Current supply source at substation ([generating ringing current H04M 19/04](#))

**H04M 99/00 Subject matter not provided for in other groups of this subclass**

**Guidance heading:**

**H04M 2001/00 Substation equipment, e.g. for use by subscribers ; Analogous equipment at exchanges** ([prepayment telephone coin boxes H04M 17/00](#); [current supply arrangements H04M 19/00](#); {[telephone sets particularly adapted for data transmission H04M 11/066](#); [network interface devices H04Q 1/028](#) } )

H04M 2001/02 . Constructional features of telephone sets

H04M 2001/0202 . . { [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](#)) }

**[WARNING](#)**

[Groups H04M 1/0249 to H04M 1/0285](#) are not complete pending a reorganisation. See also group [H04M 1/0202](#)

H04M 2001/0204 . . . including a battery compartment

H04M 2001/26 . Devices for signalling identity of wanted subscriber ([constructional features H04M 1/23](#))

H04M 2001/27 . . Devices whereby a plurality of signals may be stored simultaneously { ([devices disposed in the exchange H04M 3/424, H04M 3/44](#)) }

H04M 2001/274 . . . with provision for storing more than one subscriber number at a time, e.g. using toothed disc

H04M 2001/2745 . . . . using static electronic memories, i.e. memories whose operation does not require relative movement between storage means and a transducer, e.g. chip; { ([Fax machines H04N 1/32037](#)) }

H04M 2001/274541 . . . . . Predictive input, predictive dialling by comparing the dialled sequence with the content of a telephone directory

**H04M 2017/00 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](#))

H04M 2017/12 . using calling, telephone credit/debit cards

H04M 2017/14 . using commercial credit/debit cards, e.g. VISA, AMEX

H04M 2017/22 . with automatic recharging of account/card, e.g. if limit is reached during connection the account is recharged automatically

H04M 2017/222 . . at threshold

H04M 2017/225 . . with predetermined amount

H04M 2017/227 . . with amount selected interactively



- H04M 2017/24 . with on-line recharging of an account or card, e.g. cashless
- H04M 2017/241 . . by calling a service number IVR, menu
- H04M 2017/243 . . by sending a message, e.g. SMS, MMS, EMS
- H04M 2017/245 . . using money , i.e. physical input of coins or bank notes
- H04M 2017/246 . . using signalling, e.g. USSD, UUS, DTMF
- H04M 2017/248 . . using WAP or Internet , i.e. including electronic payment, e-cash, etc.
  
- H04M 2017/25 . using a code
- H04M 2017/2506 . . code input or reading
- H04M 2017/2512 . . . from communication terminal display
- H04M 2017/2518 . . . from material card, using a magnetic stripe card
- H04M 2017/2525 . . . optical code recognition (OCR), e.g. bar code reader
- H04M 2017/2531 . . . wireless, e.g. Bluetooth, RFID
- H04M 2017/2537 . . code reader
- H04M 2017/2543 . . . public, e.g. public recharge point
- H04M 2017/255 . . . local at the terminal itself
- H04M 2017/2556 . . code type
- H04M 2017/2562 . . . alphanumeric
- H04M 2017/2568 . . . bar code
- H04M 2017/2575 . . . pattern, i.e. single or changing sequences of pictures or patterns
- H04M 2017/2581 . . . punched holes
- H04M 2017/2587 . . . temporarily valid code
- H04M 2017/2593 . . code management
  
- H04M 2017/26 . with real-time recharging of account/card, e.g. if limit is reached during connection user is asked if he wants to recharge or not

#### Guidance heading:

- H04M 2201/00      Electronic components, circuits, software, systems or apparatus used in telephone systems**
  
- H04M 2201/02 . Diodes
  
- H04M 2201/04 . Transistors
  
- H04M 2201/06 . Integrated circuits
  
- H04M 2201/08 . Magnetic elements
  
- H04M 2201/10 . Logic circuits
  
- H04M 2201/12 . Counting circuits
  
- H04M 2201/14 . Delay circuits ; Timers

- H04M 2201/16 . Sequence circuits
- H04M 2201/18 . Comparators
- H04M 2201/20 . Scanners
- H04M 2201/22 . Synchronisation circuits
- H04M 2201/26 . A/D convertors
- H04M 2201/28 . S/P convertors
- H04M 2201/30 . PCM
- H04M 2201/32 . Personal computers
- H04M 2201/34 . Microprocessors
- H04M 2201/36 . Memories
- H04M 2201/38 . Displays
- H04M 2201/39 . using speech synthesis ([speech synthesis per se G10L 13/00](#))
- H04M 2201/40 . using speech recognition ([speech recognition per se G10L 15/00](#))
- H04M 2201/405 . . involving speaker-dependent recognition ([adaptation to speaker for speech recognition G10L 15/07](#))
- H04M 2201/41 . using speaker recognition ([speaker recognition per se G10L 17/00](#))
- H04M 2201/42 . Graphical user interfaces
- H04M 2201/50 . Telephonic communication in combination with video communication
- H04M 2201/52 . Telephonic communication in combination with fax communication
- H04M 2201/54 . Object oriented software
- H04M 2201/60 . Medium conversion
- H04M 2201/80 . line protection circuits such as current or overvoltage protection circuits

**Guidance heading:**

**H04M 2203/00 Aspects of automatic or semi-automatic exchanges**

- H04M 2203/05 . related to OAM&P
- H04M 2203/051 . . technician dispatch system
- H04M 2203/052 . . software update

- H04M 2203/053 .. remote terminal provisioning, e.g. of applets
- H04M 2203/055 .. loopback testing
- H04M 2203/056 .. non-invasive testing, i.e. in operation testing without service interruption
- H04M 2203/057 .. distortion monitoring ([QoS monitoring H04M 3/2227](#); [quality of speech transmission monitoring H04M 3/2236](#))
- H04M 2203/058 .. signature devices
  
- H04M 2203/10 . related to the purpose or context of the telephonic communication
- H04M 2203/1008 .. Calls without connection establishment for implicit information transfer or as a service trigger
- H04M 2203/1016 .. Telecontrol
- H04M 2203/1025 ... of avatars
- H04M 2203/1033 .. Remote administration, e.g. of web servers
- H04M 2203/1041 .. Televoting
- H04M 2203/105 .. Financial transactions and auctions, e.g. bidding ([auctioneering devices in packet switching networks H04L 12/1804](#))
- H04M 2203/1058 .. Shopping and product ordering
- H04M 2203/1066 .. Game playing
- H04M 2203/1075 .. Telemetry, e.g. transmission of ambient measurements
- H04M 2203/1083 .. for hotels
- H04M 2203/1091 .. Fixed mobile conversion
  
- H04M 2203/15 . related to dial plan and call routing
- H04M 2203/152 .. Temporary dial plan
- H04M 2203/154 .. Functional or symbolic dial plan such as license plate numbers
- H04M 2203/156 .. On-line status dependent routing
- H04M 2203/158 .. Call-type dependent routing ([route determination based on the nature of the carried application in packet switching networks H04L 45/306](#))
  
- H04M 2203/20 . related to features of supplementary services
- H04M 2203/2005 .. Temporarily overriding a service configuration
- H04M 2203/2011 .. Service processing based on information specified by a party before or during a call, e.g. information, tone or routing selection
- H04M 2203/2016 .. Call initiation by network rather than by subscriber
- H04M 2203/2022 .. Path replacement
- H04M 2203/2027 .. Live party detection
- H04M 2203/2033 .. Call handling or answering restrictions, e.g. specified by the calling party
- H04M 2203/2038 .. Call context notifications
- H04M 2203/2044 .. Group features, e.g. closed user group
- H04M 2203/205 .. Broadcasting ([broadcasting in packet switching networks H04L 12/18](#))
- H04M 2203/2055 .. Line restrictions
- H04M 2203/2061 .. Language aspects
- H04M 2203/2066 .. Call type detection of indication, e.g. voice or fax, mobile or fixed, PSTN or IP
- H04M 2203/2072 .. Schedules, e.g. personal calendars
- H04M 2203/2077 .. Call queuing apart from automatic call distribution

- H04M 2203/2083 . . Confirmation by serviced party
- H04M 2203/2088 . . Call or conference reconnect, e.g. resulting from isdn terminal portability
- H04M 2203/2094 . . Proximity
  
- H04M 2203/25 . related to user interface aspects of the telephonic communication service
- H04M 2203/251 . . where a voice mode or a visual mode can be used interchangeably
- H04M 2203/252 . . . where a voice mode is enhanced with visual information
- H04M 2203/253 . . . where a visual mode is used instead of a voice mode
- H04M 2203/254 . . . . where the visual mode comprises menus
- H04M 2203/255 . . comprising a personalized user interface
- H04M 2203/256 . . comprising a service specific user interface
- H04M 2203/257 . . remote control of substation user interface for telephonic services, e.g. by ISDN stimulus, ADSI, wireless telephony application WTA, MExE or BREW
- H04M 2203/258 . . Service state indications
  
- H04M 2203/30 . related to audio recordings in general
- H04M 2203/301 . . Management of recordings
- H04M 2203/303 . . Marking
- H04M 2203/305 . . Recording playback features, e.g. increased speed
- H04M 2203/306 . . Prerecordings to be used during a voice call
- H04M 2203/308 . . Personal name recording
  
- H04M 2203/35 . related to information services provided via a voice call
- H04M 2203/351 . . Pre or post-call/conference information service
- H04M 2203/352 . . In-call/conference information service
- H04M 2203/353 . . where the information comprises non-audio but is provided over voice channels ([protocols for multimedia information services per se H04L 65/00](#))
- H04M 2203/354 . . Reverse directory service
- H04M 2203/355 . . Interactive dialogue design tools, features or methods
- H04M 2203/356 . . Phonecasting
- H04M 2203/357 . . Autocues for dialog assistance
- H04M 2203/358 . . Digital rights management
- H04M 2203/359 . . Augmented reality
  
- H04M 2203/40 . related to call centers
- H04M 2203/401 . . Performance feedback
- H04M 2203/402 . . Agent or workforce management
- H04M 2203/403 . . Agent or workforce training
- H04M 2203/404 . . Collaboration among agents
- H04M 2203/405 . . Competitive bidding for work items
- H04M 2203/406 . . Rerouting calls between call centers
- H04M 2203/407 . . Call center operated for multiple customers
- H04M 2203/408 . . Customer-specific call routing plans
  
- H04M 2203/45 . related to voicemail messaging

- H04M 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](#))
- H04M 2203/4518 . . Attachments to voicemail ([messages including annexed information, e.g. Attachments, in packet switching networks H04L 51/08](#))
- H04M 2203/4527 . . Voicemail attached to other kind of message
- H04M 2203/4536 . . Voicemail combined with text-based messaging
- H04M 2203/4545 . . Message forwarding ([selective message forwarding in packet switching networks H04L 51/14](#))
- H04M 2203/4554 . . Sender-side editing
- H04M 2203/4563 . . Voicemail monitoring during recording
- H04M 2203/4572 . . Voicemail RSS
- H04M 2203/4581 . . Sending message identifiers instead of whole messages ([notification of incoming messages in packet-switching networks H04L 51/24](#))
- H04M 2203/459 . . Calling party redirected to message centre on called party request
  
- H04M 2203/50 . . related to audio conference
- H04M 2203/5009 . . Adding a party to an existing conference ([conducting a computer conference, e.g. admission detection H04L 12/1822](#))
- H04M 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](#))
- H04M 2203/5027 . . Dropping a party from a conference ([conducting a computer conference, e.g. admission detection H04L 12/1822](#))
- H04M 2203/5036 . . using conference for collection of feedback
- H04M 2203/5045 . . Selection of bridge/multipoint control unit ([network arrangements for computer conference optimisation H04L 12/1827](#))
- H04M 2203/5054 . . Meet-me conference, i.e. participants dial-in
- H04M 2203/5063 . . Centrally initiated conference, i.e. Conference server dials participants ([computer conference organisation arrangements H04L 12/1818](#))
- H04M 2203/5072 . . Multiple active speakers ([conducting a computer conference, e.g. Admission detection H04L 12/1822](#))
- H04M 2203/5081 . . Inform conference party of participants, e.g. of change of participants ([conducting a computer conference, e.g. admission detection, H04L 12/1822](#))
- H04M 2203/509 . . Microphone arrays
  
- H04M 2203/55 . . related to network data storage and management
- H04M 2203/551 . . Call history ([recording a computer conference H04L 12/1831](#))
- H04M 2203/552 . . Call annotations
- H04M 2203/553 . . Data upload
- H04M 2203/554 . . Data synchronization
- H04M 2203/555 . . Statistics, e.g. about subscribers but not being call statistics
- H04M 2203/556 . . . . Statistical analysis and interpretation
- H04M 2203/557 . . Portable profiles
- H04M 2203/558 . . Databases
- H04M 2203/559 . . Sorting systems
  
- H04M 2203/60 . . related to security aspects in telephonic communication systems ([network architectures or network communication protocols for network security H04L 63/00](#))

- H04M 2203/6009 . . Personal information, e.g. profiles or personal directories being only provided to authorised persons
- H04M 2203/6018 . . Subscriber or terminal logon/logoff
- H04M 2203/6027 . . Fraud preventions
- H04M 2203/6036 . . Anti virus measures
- H04M 2203/6045 . . Identity confirmation
- H04M 2203/6054 . . Biometric subscriber identification
- H04M 2203/6063 . . Authentication using cards
- H04M 2203/6072 . . Authentication using challenger response
- H04M 2203/6081 . . Service authorization mechanisms
- H04M 2203/609 . . Secret communication
  
- H04M 2203/65 . . related to applications where calls are combined with other types of communication
- H04M 2203/651 . . Text message transmission triggered by call ([automatic reactions in messaging within packet-switching networks H04L 51/02](#))
- H04M 2203/652 . . Call initiation triggered by text message
- H04M 2203/654 . . Pre, in or post-call message
- H04M 2203/655 . . Combination of telephone service and social networking ([messaging within social networks H04L 51/32](#))
- H04M 2203/657 . . Combination of voice and fax calls
- H04M 2203/658 . . Combination of voice calls and paging

**Guidance heading:**

- H04M 2207/00** **Type of exchange or network, i.e. telephonic medium, in which the telephonic communication takes place**
  
- H04M 2207/08 . ISDN systems
- H04M 2207/12 . intelligent networks
- H04M 2207/14 . cable networks
- H04M 2207/18 . wireless networks
  - H04M 2207/182 . . wireless circuit-switched
  - H04M 2207/185 . . wireless packet-switched
  - H04M 2207/187 . . combining circuit and packet-switched, e.g. GPRS
- H04M 2207/20 . hybrid systems
  - H04M 2207/203 . . composed of PSTN and data network, e.g. the Internet
  - H04M 2207/206 . . composed of PSTN and wireless network
- H04M 2207/30 . third party service providers
- H04M 2207/35 . virtual private networks
- H04M 2207/40 . terminals with audio html browser



- H04M 2207/45 . public-private interworking, e.g. centrex
- H04M 2215/00 Metering arrangements ; Time controlling arrangements ; Time indicating arrangements**
- H04M 2215/01 . Details of billing arrangements
- H04M 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
- H04M 2215/0108 . . Customization according to wishes of subscriber, e.g. customer preferences, friends and family, selecting services or billing options, Personal Communication Systems (PCS)
- H04M 2215/0112 . . Dynamic pricing, e.g. change of tariff during call
- H04M 2215/0116 . . Provision for limiting expenditure, e.g. limit on call expenses or account
- H04M 2215/012 . . . Continue allow grace, e.g. accept negative balance
- H04M 2215/0124 . . . Continue alternative, i.e. alternative account to continue use
- H04M 2215/0128 . . . Linked escalation limits, establish, first or second limit
- H04M 2215/0132 . . . Limit per application
- H04M 2215/0136 . . . Limit per terminal
- H04M 2215/014 . . . Limit per user or user related number
- H04M 2215/0144 . . . Release upon reaching limit
- H04M 2215/0148 . . Fraud detection or prevention means
- H04M 2215/0152 . . General billing plans, rate plans, e.g. charge rates, numbering plans, rate centers, customer accounts
- H04M 2215/0156 . . Secure and trusted billing, e.g. trusted elements, encryption, digital signature, codes or double check mechanisms to secure billing calculation and information
- H04M 2215/016 . . Billing using Intelligent Networks (IN) or Advanced Intelligent Networks (AIN)
- H04M 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
- H04M 2215/0168 . . On line or real-time flexible customization or negotiation according to wishes of subscriber
- H04M 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
- H04M 2215/0176 . . Billing arrangements using internet
- H04M 2215/018 . . On-line real-time billing, able to see billing information while in communication, e.g. via the internet
- H04M 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
- H04M 2215/0188 . . Network monitoring ; statistics on usage on called/calling number
- H04M 2215/0192 . . Sponsored, subsidised calls via advertising, e.g. calling cards with ads or connecting to special ads, free calling time by purchasing goods
- H04M 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
- H04M 2215/14 . Billing aspects relating to the actual charge

- H04M 2215/143 . . 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
- H04M 2215/146 . . Data billing, e.g. wherein the user is charged based only on the time he receives data
- H04M 2215/20 . Technology dependant metering
- H04M 2215/2006 . . Fixed telephone network, e.g. POTS, ISDN
- H04M 2215/2013 . . Fixed data network, e.g. PDN, ATM, B-ISDN
- H04M 2215/202 . . VoIP ; Packet switched telephony
- H04M 2215/2026 . . Wireless network, e.g. GSM, PCS, TACS
- H04M 2215/2033 . . WLAN
- H04M 2215/204 . . UMTS ; GPRS
- H04M 2215/2046 . . Hybrid network
- H04M 2215/2053 . . In based PPS
- H04M 2215/206 . . CDMA, i.e. Code Division Multiple Access
- H04M 2215/2066 . . Service node based PPS
- H04M 2215/2073 . . Multipoint, e.g. messaging, broadcast or group SMS
- H04M 2215/208 . . IMS, i.e. Integrated Multimedia messaging Subsystem
- H04M 2215/2086 . . xDSL Modem lines, e.g. HDSL or ADSL
- H04M 2215/2093 . . Push to talk
- H04M 2215/22 . Bandwidth or usage-sensitive billing
- H04M 2215/24 . Voice over IP billing
- H04M 2215/26 . Data billing charged as a voice call, i.e. based on time or unit charging
- H04M 2215/28 . SMS billing
- H04M 2215/32 . Involving wireless systems
- H04M 2215/34 . Roaming
- H04M 2215/42 . Least cost routing, i.e. provision for selecting the lowest cost tariff
- H04M 2215/44 . Charging/billing arrangements for connection made over different networks, e.g. wireless and PSTN, ISDN, etc.
- H04M 2215/46 . Connection to several service providers
- H04M 2215/48 . Sending information over a non-traffic network channel or another connection than the one actually used, e.g. signalling, D-channel, data and voice
- H04M 2215/52 . Interconnection, inter-exchange, reseller billing, billing agreements between different operators, e.g. billing identifier added on the CDR in order to cross charge the other operator, inter-operator accounting, reconciliation, bill directly resellers customers
- H04M 2215/54 . Resellers-retail or service providers billing, e.g. agreements with telephone service operator, activation, charging/recharging of accounts

- H04M 2215/56 . On line or real-time flexible agreements between service providers and telecoms operators
- H04M 2215/62 . Called party billing, e.g. reverse billing, freephone, collect call, 0800 or 0900
- H04M 2215/64 . Split billing, sharing the cost of calls, e.g. between calling and called parties
- H04M 2215/66 . Third party billing, i.e. third party can also be the predetermined telephone line of the caller if he is calling from another telephone set
- H04M 2215/68 . Billing calls completely to the calling party, except POTS, e.g. charge on caller's choice service
- H04M 2215/70 . Administration aspects, modify settings or limits or counter-check correct charges
- H04M 2215/7009 . . Account settings, e.g. users, terminals, limits, numbers or payment
- H04M 2215/7018 . . Modify recharging resources, e.g. banking, credit, debit or phone account
- H04M 2215/7027 . . Activate new subscriber or card
- H04M 2215/7036 . . Administer via user
- H04M 2215/7045 . . . Using Internet or WAP
- H04M 2215/7054 . . . Using the phone
- H04M 2215/7063 . . Administer via operator
- H04M 2215/7072 . . Validate charges
- H04M 2215/7081 . . . Re-credit user, e.g. repay user with the amount or free time after finding an error in calculating the charges
- H04M 2215/709 . . Backup
- H04M 2215/72 . . Account specifications
- H04M 2215/7204 . . . Account location
- H04M 2215/7209 . . . Card based, e.g. smart card, SIM card or USIM
- H04M 2215/7213 . . . Terminal based
- H04M 2215/7218 . . . Network based
- H04M 2215/7222 . . Account identification
- H04M 2215/7227 . . . via service number, e.g. calling card
- H04M 2215/7231 . . . by SIM, e.g. smart card account in SCP, SDP or SN
- H04M 2215/7236 . . Synchronisation of distributed accounts
- H04M 2215/724 . . Linked accounts
- H04M 2215/7245 . . . Shared by users, e.g. group accounts or one account for different users
- H04M 2215/725 . . . Shared by technologies, e.g. one account for different access technologies
- H04M 2215/7254 . . . Multiple accounts per user
- H04M 2215/7259 . . . . per terminal or location ; Mobile with multiple directory numbers
- H04M 2215/7263 . . . . per service, e.g. prepay and post-pay
- H04M 2215/7268 . . . . per technology, e.g. PSTN or wireless
- H04M 2215/7272 . . . . per card
- H04M 2215/7277 . . Account specifications on parallel communications
- H04M 2215/7281 . . . Redistribute amount between accounts

- H04M 2215/7286 . . . . Dynamically
- H04M 2215/729 . . . . by user request
- H04M 2215/7295 . . . Reserve amount , e.g. according to estimated costs for a typical communication duration or according to the estimated volume to be transferred
  
- H04M 2215/74 . Rating aspects, e.g. rating parameters or tariff determination aspects
- H04M 2215/7407 . . class of subscriber
- H04M 2215/7414 . . QoS
- H04M 2215/7421 . . Determine tariff or charge band
- H04M 2215/7428 . . Load situation, e.g. Current network load, traffic load or available resources
- H04M 2215/7435 . . Location dependent, e.g. Bussiness or home
- H04M 2215/7442 . . Roaming
- H04M 2215/745 . . Least cost routing, e.g. Automatic or manual, call by call or by preselection
- H04M 2215/7457 . . . Biding
- H04M 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
- H04M 2215/7471 . . . Select route depending on origin or type of service, e.g. route TDMA voice calls differently than VoIP calls
- H04M 2215/7478 . . According to the number of recipients
- H04M 2215/7485 . . . Group call ; Conference call ; Multi Party Call
- H04M 2215/7492 . . . Group MMS or SMS ; Point-to-multi-point services, broadcast services
  
- H04M 2215/78 . Metric aspects
- H04M 2215/7806 . . Time based
- H04M 2215/7813 . . Time based data, e.g. VoIP or circuit switched packet data
- H04M 2215/782 . . Data or packet based
- H04M 2215/7826 . . Message based
- H04M 2215/7833 . . Session based
- H04M 2215/784 . . Access based
- H04M 2215/7846 . . Transaction based
- H04M 2215/7853 . . Based on the number of used channels, e.g. bundling channels or frequencies or CDMA codes
- H04M 2215/786 . . Unit based
- H04M 2215/7866 . . Pulse based
- H04M 2215/7873 . . Based on the number of used services, e.g. call forwarding or call barring
- H04M 2215/788 . . Event based
- H04M 2215/7886 . . Apply cheapest or best package, e.g. selection among available tariffs or packages ([least cost routing H04M 2215/42](#))
- H04M 2215/7893 . . Money or currency based
  
- H04M 2215/81 . Notifying aspects, e.g. notifications or displays to the user
- H04M 2215/8104 . . Time or frequency of notification
- H04M 2215/8108 . . . before establishing a communication
- H04M 2215/8112 . . . during the communication

H04M 2215/8116	...	after the end of the communication
H04M 2215/812	...	in regular intervals
H04M 2215/8125	...	Dynamic change of the length/frequency of the length of the notification interval, e.g. depending on the remaining available prepaid credit
H04M 2215/8129	..	Type of notification
H04M 2215/8133	...	Announcement, e.g. IVR dialogue, intelligent peripheral or switch
H04M 2215/8137	...	Message, e.g. alphanumeric text, SMS, MMS, EMS or www-based messaging service
H04M 2215/8141	...	Optical, e.g. flashing indication of a lamp, icon, soft-key or symbol
H04M 2215/8145	...	Tone, e.g. beeper, sound, wave
H04M 2215/815	..	Notification when a specific condition, service or event is met
H04M 2215/8154	...	Determined tariff
H04M 2215/8158	...	Low balance or limit reached
H04M 2215/8162	...	Calculate maximum communication time or volume
H04M 2215/8166	...	Available credit
H04M 2215/817	...	Successful event, e.g. successful recharge or delivery of a service
H04M 2215/8175	...	Unsuccessful event, e.g. service rejected due to low credit
H04M 2215/8179	...	Cumulative charges
H04M 2215/8183	...	Request users acknowledgement prior to use
H04M 2215/8187	..	Send to
H04M 2215/8191	...	multiple parties, e.g. multi party AOC
H04M 2215/8195	...	a predetermined or undetermined destination, e.g. notifying a prepaid accounting server of a successful delivery of a service, a connection, or chargeable content to a mobile terminal
H04M 2215/82	.	Advice-of-Charge (AOC), i.e. notify subscriber of charges/cumulative charge ; meter at the substation
H04M 2215/825	..	Select from different charging routines or algorithms or formulas
H04M 2215/92	.	Autonomous calculations of charges in terminal, i.e. meter not controlled from exchange
H04M 2215/96	.	Distributed calculation of charges, e.g. in different nodes like for mobiles between HLR and VLR, or between the terminal and the billing function
<b>H04M 2242/00</b>		<b>Special services or facilities</b>
H04M 2242/02	.	Broadcasting
H04M 2242/04	.	for emergency applications
H04M 2242/06	.	Lines and connections with preferential service
H04M 2242/08	.	menus for interactive user guidance
H04M 2242/10	.	Secret communications
H04M 2242/12	.	Language recognition, selection or translation arrangements

- H04M 2242/14 . with services dependent on location ([where the service is an information service H04M 2242/15](#); [services independent of location H04M 3/42229](#))
- H04M 2242/15 . Information service where the information is dependent on the location of the subscriber
- H04M 2242/16 . with computer telephone integration
- H04M 2242/18 . Automated outdialling systems
- H04M 2242/20 . Televoting service
- H04M 2242/22 . Automatic class or number identification arrangements

### **WARNING**

This group is no longer used for classification of new documents as from November 20, 2009. The backlog of this group is being continuously reclassified to [H04M 3/42034](#) and [H04M 3/42085](#)

- H04M 2242/24 . Detection or indication of type terminal or call, ([e.g. fax, broadband](#))
- H04M 2242/26 . Paging systems
- H04M 2242/28 . Services making use of subscriber schedule information
- H04M 2242/30 . Determination of the location of a subscriber
- H04M 2242/40 . Data synchronization between user terminals and central server
- H04M 2242/405 . . Incremental backup

### **Guidance heading:**

#### **H04M 2250/00      Details of telephonic subscriber devices**

- H04M 2250/02 . including a Bluetooth interface
- H04M 2250/04 . including near field communication means, e.g. RFID
- H04M 2250/06 . including a wireless LAN interface
- H04M 2250/08 . home cordless telephone systems using the DECT standard
- H04M 2250/10 . including a GPS signal receiver
- H04M 2250/12 . including a sensor for measuring a physical value, e.g. temperature or motion ([telephones including GPS signal receivers H04M 2250/10](#))
- H04M 2250/14 . including a card reading device

- H04M 2250/16 . including more than one display unit
- H04M 2250/18 . including more than one keyboard unit
- H04M 2250/20 . including a rotatable camera
- H04M 2250/22 . including a touch pad, a touch sensor or a touch detector ([digitizers for touch screens G06F 3/041](#))
- H04M 2250/52 . including functional features of a camera ([constructional features concerning the integration of cameras in portable phones H04M 1/0264](#))
- H04M 2250/54 . including functional features of a projector or beamer module assembly ([constructional features concerning the integration of projectors in portable phones H04M 1/0272](#))
- H04M 2250/56 . including a user help function
- H04M 2250/58 . including a multilanguage function
- H04M 2250/60 . 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](#))
- H04M 2250/62 . user interface aspects of conference calls
- H04M 2250/64 . file transfer between terminals ([download of applications H04M 1/72525](#); [transfer of messages, e.g. SMS, e-mail or MMS H04M 1/72547](#))
- H04M 2250/66 . user interface aspects for indicating selection options for a communication line
- H04M 2250/68 . with means for recording information, e.g. telephone number during a conversation ([recording of telephone conversations H04M 1/656](#))
- H04M 2250/70 . methods for entering alphabetical characters, e.g. multi-tap or dictionary disambiguation ([methods for entering alphabetical characters per se G06F 3/0237](#))
- H04M 2250/72 . user manuals of subscriber equipments, e.g. of mobile phones
- H04M 2250/74 . with voice recognition means ([voice activated dialling H04M 1/271](#); [voice recognition algorithms G10L 15/00](#))