

ECLA**EUROPEAN 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 [H02G11/00](#); multiplex transmission between switching centres H04J; selecting arrangements H04Q; loudspeakers, microphones, gramophone pick-ups or like electromechanical transducers H04R)

[N: **WARNING** [C2011.01]

1. The following IPC groups are not used in the internal ECLA classification scheme. Subject matter covered by these groups are classified in the following ECLA groups :

H04M1/36	covered by	H04M1/677
H04M7/02	covered by	H04Q3/00
H04M7/04	covered by	H04Q3/00
H04M7/10	covered by	H04Q3/00

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Notes

1. This subclass covers :
 - telephonic communication systems combined with other electrical systems;
 - testing arrangements peculiar to telephonic communication systems.
2. In this subclass, the following terms or expressions are used with the meanings indicated :
 - "subscriber" is a general term for terminal equipment, e.g. 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.

H04M1/00

Substation equipment, e.g. for use by subscribers; Analogous equipment at exchanges (prepayment telephone coin boxes [H04M17/00](#); current supply arrangements [H04M19/00](#); [N: telephone sets particularly adapted for data transmission [H04M11/06D](#); network interface devices [H04Q1/02N](#)]) [C0108]

H04M1/00B

- . [N: Telephone sets using electrooptical means in the transmission path]

H04M1/00T

- . [N: Call diverting means] [N0005]

H04M1/02

- . Constructional features of telephone sets

H04M1/02A	.	.	[N: 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 H04M1/03 ; mounting of the dialing module H04M1/23 ; with protection against RF exposure H04B1/38P2E)] [C0802]
			[N: WARNING Groups H04M1/02A10 to H04M1/02A16P are not complete pending a reorganisation. See also group H04M1/02A [C0802]]
H04M1/02A2	.	.	[N: Portable telephones comprising a plurality of mechanically joined movable body parts, e.g. hinged housings] [N9706] [C0612]
H04M1/02A2B	.	.	[N: characterized by the relative motions of the body parts] [N0612]
H04M1/02A2B2	.	.	[N: using combined folding and rotation motions (combined with translation movement H04M1/02A2B8)] [N0612]
H04M1/02A2B2F	.	.	[N: with a two degrees of freedom mechanism, i.e. folding around a first axis and rotating around a second axis perpendicular to the first] [N0612]
H04M1/02A2B4	.	.	[N: 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 H04M1/02A2B8)] [N0612]
H04M1/02A2B4F	.	.	[N: Foldable in one direction, i.e. using a one degree of freedom hinge] [N0612]
H04M1/02A2B4F1	.	.	{7 dots} [N: The hinge comprising input and/or output user interface means] [N0612]
H04M1/02A2B4F2	.	.	{7 dots} [N: The hinge comprising two parallel pivoting axes] [N0612]
H04M1/02A2B4T	.	.	[N: Foldable in two directions, i.e. using a two degree of freedom hinge] [N0612]
H04M1/02A2B6	.	.	[N: 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 H04M1/02A2B8)] [N0612]
H04M1/02A2B6F	.	.	[N: Rotatable in one plane, i.e. using a one degree of freedom hinge] [N0612]
H04M1/02A2B6F1	.	.	{7 dots} [N: The hinge comprising input and/or output user interface means] [N0612]
H04M1/02A2B6K	.	.	[N: Including a rotatable keypad body part] [N0612]
H04M1/02A2B6S	.	.	[N: Including a rotatable display body part] [N0612]
H04M1/02A2B8	.	.	[N: 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] [N0612]
H04M1/02A2B8F	.	.	[N: Sliding mechanism with one degree of freedom] [N0612]
H04M1/02A2B8T	.	.	[N: Sliding mechanism with two degree of freedom, e.g. translation in two different directions] [N0612]
H04M1/02A2F	.	.	[N: using relative motion of the body parts to change the operational status of the telephone set, e.g. switching on/off, answering incoming call] [N0612]
H04M1/02A2F1	.	.	[N: using the relative angle between housings] [N0612]
H04M1/02A2F2	.	.	[N: using open/close detection] [N0612]
H04M1/02A2P	.	.	[N: comprising more than two body parts] [N0612]
H04M1/02A10	.	.	[N: Details of the mechanical connection between the housing parts or relating to the method of assembly] [N0802]

H04M1/02A10S	. . . .	[N: by means of a snap-on mechanism] [N0802]
H04M1/02A12	. . .	[N: comprising one or a plurality of mechanically detachable modules] [N0802]
H04M1/02A12F	. . . .	[N: wherein the modules are operable in the detached state, e.g. one module for the user interface and one module for the transceiver] [N0802]
H04M1/02A12H	. . . .	[N: for a headset device (constructional features of headsets H04M1/05 ; headsets for handsfree use H04M1/60T2B)] [N0802]
H04M1/02A14	. . .	[N: Details of the structure or mounting of specific components] [N0802]
H04M1/02A14B	. . . .	[N: for a battery compartment] [N0802]
H04M1/02A14C	. . . .	[N: for a camera module assembly (photo or video cameras per se G03B; television cameras per se H04N5/225)] [N0802]
H04M1/02A14D	. . . .	[N: for a display module assembly (for fixed telephones H04M1/02S)] [N1205]
H04M1/02A14D2	. . . . .	[N: including a flexible display panel] [N0802]
H04M1/02A14D4	. . . . .	[N: including magnifying means] [N0802]
H04M1/02A14F	. . . .	[N: for a projector or beamer module assembly (constructional features of projectors per se G03B21; constructional details of projectors using electronic spatial light modulators per se H04N9/31)] [N1205]
H04M1/02A14M	. . . .	[N: for an electrical connector module] [N0802]
H04M1/02A14P	. . . .	[N: for a printed circuit board assembly] [N0802]
H04M1/02A16	. . .	[N: Improving the user comfort or ergonomics] [N0802]
H04M1/02A16A	. . . .	[N: for providing single handed use or left/right hand conversion] [N0802]
H04M1/02A16D	. . . .	[N: for providing a decorative aspect, e.g. customization of casings, exchangeable faceplate] [N0802]
H04M1/02A16P	. . . .	[N: Pen-type handsets] [N0802]
H04M1/02A18	. . .	[N: being disposable or recyclable] [N1205]
H04M1/02B	. .	[N: Telephone sets for operators]
H04M1/02C	. .	[N: Door telephones]
H04M1/02D	. .	[N: Terminal boxes for telephone sets]
H04M1/02S	. .	[N: mechanical mounting details of display modules (for portable telephones H04M1/02A14D)] [N1205]
H04M1/02W	. .	[N: Telephone sets adapted to be mounted on a desk or on a wall]
H04M1/03	. .	Constructional features of telephone transmitters or receivers, e.g. telephone handsets, [N: speakers or microphones] (transducers in general H04R1/00)
H04M1/03C	. . .	[N: Improving the acoustic characteristics by means of constructional features of the housing, e.g. ribs, walls, resonating chambers or cavities] [N0802]
H04M1/04	. .	Supports for telephone transmitters or receivers (for transducers in general H04R1/00)
H04M1/05	. . .	adapted for use on head, throat, or breast [N: (handsfree use of portable phones H04M1/60T2)] [C0509]
H04M1/06	. . .	Hooks; Cradles
H04M1/08	. . . .	associated with switches operated by weight of receiver or hand-set
H04M1/10	. . . .	associated with switches operated by magnetic effect due to proximity of receiver or hand-set
H04M1/11	. .	Supports for sets, e.g. incorporating armrests
H04M1/12	. . .	Adjustable supports, e.g. extensible
H04M1/13	. . . .	pantographic

- H04M1/14 . . . with resilient means to eliminate extraneous vibrations
- H04M1/15 . . Protection of telephone cord; Guiding telephone cord; Winding-up telephone cord (in general [H02G11/00](#))
- H04M1/17 . . Hygienic or sanitary devices on telephone equipment (for mouth-pieces or earpieces per se [H04R1/12](#))
- H04M1/18 . . Telephone sets modified for use in ships, mines, or other places exposed to adverse environment ([H04M1/19](#) takes precedence; telephone cabinets per se [E04H1/14](#))
- H04M1/18R . . . [N: Improving the rigidity of the casing or resistance to shocks] [N0802]
- H04M1/19 . . 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 [H04M1/68](#); telephone cabinets per se [E04H1/14](#))
- H04M1/20 . . Arrangements for preventing acoustic feed-back ([H04M1/62](#) takes precedence)
- H04M1/21 . . Combinations with auxiliary equipment, e.g. with clock, with memoranda pad
- H04M1/215 . . . by non-intrusive coupling means, e.g. acoustic couplers[N9909]
- H04M1/215A [N: Acoustic coupling] [N9909]
- H04M1/22 . . Illuminating; Arrangements for improving visibility of characters on dials
- H04M1/23 . . Construction or mounting of dials or of equivalent devices; Means for facilitating the use thereof (by improving visibility [H04M1/22](#))
- H04M1/23P . . . [N: including a pointing device, e.g. roller key, track ball, rocker switch or joystick (constructional details of pointing devices per se [G06F3/033](#))] [N0904]
- H04M1/23S . . . [N: including keys on side or rear faces] [N0802]
- H04M1/24 . . Arrangements for testing (measuring electric values [G01R](#); testing transducers [H04R29/00](#))
- H04M1/247 . . Telephone sets including user guidance or features selection means facilitating their use; [N: Fixed telephone terminals for accessing a variety of communication services via the PSTN network] [N9909] [C0904]
- H04M1/247A . . [N: 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 [H04M3/42](#); administration or customization of services [H04M3/42E](#); by downloading data to substation equipment [H04M3/42E5](#)) [N0904]
- H04M1/247A1 . . . [N: with programmable function keys] [N0904]
- H04M1/247C . . [N: Telephone terminals interfacing a personal computer, e.g. using an API (Application Programming Interface) (details of API [H04M7/00C6](#))] [N0904]
- H04M1/247D . . [N: Telephone terminals specially adapted for disabled people ([H04M1/725F5](#) takes precedence; network based special services or facilities for hearing-impaired persons [H04M3/42Z](#); devices for conversing with the deaf-blind [G09B21/04](#))] [C0904]
- H04M1/247D1 . . . [N: for a hearing impaired user (hearing-aids per se [H04R25/00](#))] [N0904]
- H04M1/247D2 . . . [N: for a visually impaired user ([H04M1/22](#) takes precedence)] [N0904]
- H04M1/247F . . [N: for selecting a function from a menu display ([H04M1/247D](#) takes precedence)] [N9909]
- H04M1/247N . . [N: Telephone terminals specially adapted for non-voice services, e.g. email, internet access (centralized arrangements where telephones services are combined [H04M7/00D](#); for recording text messages [H04M3/53T](#); for accessing Internet [H04M3/493W](#))] [N0904]

- H04M1/253 . Telephone sets using digital voice transmission ([simultaneous speech and data transmission H04M11/06](#); [N: ISDN terminal access circuits [H04Q11/04S1T](#)]) [N9909]
- H04M1/253W . . [N: adapted for voice communication over an Internet Protocol (IP) network (Voice over Internet Protocol (VoIP) network equipment and services [H04M7/00M](#); internet protocols [H04L29/06J](#))] [N0107]
- H04M1/26 . Devices for signalling identity of wanted subscriber ([constructional features H04M1/23](#))
- H04M1/27 . . Devices whereby a plurality of signals may be stored simultaneously [N: ([devices disposed in the exchange H04M3/424](#), [H04M3/44](#))]
- H04M1/27A . . . [N: controlled by voice recognition]
- H04M1/272 . . . with provision for storing only one subscriber number at a time, e.g. by keyboard or dial
- H04M1/272A [N: using electronic memories]
- H04M1/274 . . . with provision for storing more than one subscriber number at a time, e.g. using toothed disc
- H04M1/2745 using static electronic memories, i.e. memories whose operation does not require relative movement between storage means and a transducer, e.g. chip; [N: ([Fax machines H04N1/32B](#))] [N0012]
- H04M1/2745A [N: Telephone number directory allowing to store a plurality of information regarding one subscriber] [N1205]
- H04M1/2745C [N: whose content are provided by data transmission or downloaded] [N0012]
- H04M1/2745D [N: Retrieving by scrolling on a display] [N0012]
- H04M1/2745E [N: Telephone number directory management, e.g. manually editing, erasing or modifying data stored in the directory] [N1205]
- H04M1/2745G [N: Retrieving by interactive graphical means or pictorial representation] [N0012]
- H04M1/2745M [N: Retrieving by matching an alphabetic string] [N0012]
- H04M1/2745P [N: Appending a prefix or inserting a pause to a dialling sequence] [N0012]
- H04M1/2745R [N: Automatic call origination and retry systems, e.g. on off-hook or redial on busy] [N0012]
- H04M1/2745S [N: Sorted according to a specific criteria, e.g. history or frequency of use] [N0012]
- H04M1/2745Z [N: Implemented by means of discrete electronic components, i.e. neither programmable nor micro-processor controlled ([H04M1/2745C](#) to [H04M1/2745S](#) take precedence)] [N0012]
- H04M1/275 implemented by means of portable electronic directories [N0012]
- H04M1/2755 whose contents are provided by optical scanning [N0012]
- H04M1/276 using magnetic recording, e.g. on tape
- H04M1/276A [N: implemented by means of portable magnetic cards]
- H04M1/278 using punched cards or tapes
- H04M1/30 . . Devices which can set up and transmit only one digit at a time
- H04M1/31 . . . by interrupting current to generate trains of pulses; by periodically opening and closing contacts to generate trains of pulses
- H04M1/31A [N: pulses produced by electronic circuits]
- H04M1/315 Clutches, spring assemblies, speed regulators, e.g. centrifugal brakes

[H04M1/32 to H04M1/40 take precedence](#) [N9504]

- H04M1/32 Locking setting devices during transmission to prevent interference by user
- H04M1/34 Lost-motion or other arrangements for ensuring a pause between successive digit transmissions
- H04M1/38 Pulses transmitted by a movement variably limited by the setting of a stop
- H04M1/40 wherein the setting-operation short-circuits or open-circuits the transmitting mechanism during a variable part of a cycle
- H04M1/50 . . . by generating or selecting currents of predetermined frequencies or combinations of frequencies
- H04M1/50A [N: signals generated in digital form]
- H04M1/515 . . 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
- H04M1/52 . . Arrangements wherein a dial or equivalent is mechanically coupled to a line selector
- H04M1/53 . . Generation of additional signals, e.g. additional pulses
- H04M1/54 . . . Arrangements wherein a dial or equivalent generates identifying signals, e.g. in party-line systems
- H04M1/56 . Arrangements for indicating or recording the called number at the calling subscriber's set
- H04M1/57 . 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 H04M5/20](#))
- H04M1/57B . . [N: Blocking transmission of caller identification to called party] [N1205]
- H04M1/57M . . [N: Line monitoring circuits for detecting caller identification] [N0012]
- H04M1/57P . . [N: Means for retrieving and displaying personal data about calling party] [N0012]
- H04M1/57P1 . . . [N: associated with a pictorial or graphical representation] [N0012]
- H04M1/57P2 . . . [N: associated with a synthesized vocal announcement] [N0012]
- H04M1/58 . Anti-side-tone circuits ([hybrid circuits for carrier-frequency operation H04B1/00](#))
- H04M1/58H . . [N: implemented without inductive element]
- H04M1/60 . including speech amplifiers
- H04M1/60M . . [N: in the transmitter circuit]
- H04M1/60R . . [N: in the receiver circuit]
- H04M1/60S . . [N: implemented as integrated speech networks]
- H04M1/60T . . [N: for providing handsfree use or a loudspeaker mode in telephone sets ([arrangements for preventing acoustic echo H04M9/08](#))] [C0509]
- H04M1/60T2 . . . [N: Portable telephones adapted for handsfree use] [C0509]
- H04M1/60T2A [N: involving control of the receiver volume to provide a dual operational mode at close or far distance from the user] [N0509]
- H04M1/60T2B [N: involving the use of a headset accessory device connected to the portable telephone] [N0509]
- H04M1/60T2B2 [N: including a wireless connection] [N0509]
- H04M1/60T2C [N: adapted for handsfree use in a vehicle ([H04M1/60T2B takes precedence; arrangements for holding telephones in a vehicle B60R11/02G](#))] [N0509]

- H04M1/60T2C2 [N: by interfacing with the vehicle audio system] [N0509]
- H04M1/60T2C2A [N: including a wireless interface] [N0509]
- H04M1/62 Constructional arrangements

- H04M1/64 Automatic arrangements for answering calls; Automatic arrangements for recording messages for absent subscribers; Arrangements for recording conversations (centralised dictation systems [H04M11/10](#)) [C0409]
- H04M1/64D [N: storing speech in digital form] [C0409]
- H04M1/64D2 [N: with speech synthesis]
- H04M1/64M [N: using magnetic tape ([H04M1/64D](#) takes precedence)]
- H04M1/65 Recording arrangements [N: for recording a message from the calling party (in the exchange [H04M3/50](#))] [C0409]
- H04M1/65D [N: storing speech in digital form] [C0409]
- H04M1/65D2 [N: with speech synthesis]
- H04M1/65M [N: using magnetic tape ([H04M1/65D](#) takes precedence)] [C0409]
- H04M1/652 Means for playing back the recorded messages by remote control over a telephone line ([H04M1/658](#) takes precedence) [N0409]
- H04M1/654 Telephone line monitoring circuits therefor, e.g. ring detector [N0409]
- H04M1/654B [N: mechanically actuating hook switch, e.g. lifting handset] [N0409]
- H04M1/656 for recording conversations [N0409]
- H04M1/658 Means for redirecting recorded messages to other extensions or equipment [N0409]

- H04M1/66 with means for preventing unauthorised or fraudulent calling (verifying user identity or authority in secret or secure digital communications [H04L9/32](#)) [C0209]
- H04M1/663 Preventing unauthorised calls to a telephone set [N0209]
- H04M1/665 by checking the validity of a code [N0209]
- H04M1/667 Preventing unauthorised calls from a telephone set ([H04M1/677](#) takes precedence) [N0209]
- H04M1/67 by electronic means [N0209]
- H04M1/673 the user being required to key in a code [N0209]
- H04M1/675 the user being required to insert a coded card, e.g. a smart card carrying an integrated circuit chip ([N: for constructional features in portable telephones [H04B1/38C](#)]) [N0209]
- H04M1/677 Preventing the dialling or sending of predetermined telephone numbers or selected types of telephone numbers, e.g. long distance [N0209]
- H04M1/677A by providing access to preprogrammed keys [N1205]

- H04M1/68 Circuit arrangements for preventing eavesdropping
- H04M1/70 Lock-out or secrecy arrangements in party-line systems

- H04M1/72 Substation extension arrangements; Cordless telephones, i.e. devices for establishing wireless links to base stations without route selecting [N: (constructional features of cordless telephones [H04M1/02A](#))] [C0612]
- H04M1/723 using two or more extensions per line ([H04M1/725](#) takes precedence)[N9910]
- H04M1/725 Cordless telephones [N: (for handsfree use [H04M1/60T2](#))] [N9910]
- H04M1/725C [N: with one base station connected to a single line] [N9910]

H04M1/725C2	. . . .	[N: Radio link set-up procedure] [N9910]
H04M1/725C2C	. . . . .	[N: using a control channel] [N9910]
H04M1/725C2F	. . . . .	[N: Searching for an available channel] [N9910]
H04M1/725C2H	. . . . .	[N: On hold, intercom or transfer communication modes] [N9910]
H04M1/725C4	. . . . .	[N: including out-of-range alerting means] [N1205]
H04M1/725F	. . . .	[N: Portable communication terminals with improved user interface to control a main telephone operation mode or to indicate the communication status] [N0012] [C0312]
H04M1/725F1	. . . . .	[N: With means for supporting locally a plurality of applications to increase the functionality (for selecting a function in a menu H04M1/247F)] [N0012] [C0312]
H04M1/725F1A	. . . . .	[N: provided by software upgrading or downloading] [N0312]
H04M1/725F1B	. . . . .	[N: provided by interfacing with an external accessory (hands-free H04M1/60T2)] [N0312] [C0408]
H04M1/725F1B1	. . . . .	[N: using a two-way short-range wireless interface] [N0312]
H04M1/725F1B2	. . . . .	[N: for remote control of appliances] [N0312]
H04M1/725F1E	. . . . .	[N: for supporting an emergency service (alarm systems G08B; telephonic communication systems in combination with alarm systems H04M11/04; telephone sets for disabled persons H04M1/247D)] [N0612]
H04M1/725F1E2	. . . . .	[N: with automatic feature activation, e.g. upon sensing of an alarm condition] [N0612]
H04M1/725F1E4	. . . . .	[N: with manual feature activation] [N0612]
H04M1/725F1G	. . . . .	[N: for supporting a game or graphical animation] [N0312]
H04M1/725F1M	. . . . .	[N: with interactive input/output means for internally managing multimedia messages (Mail systems for messages comprising audio and non-audio components H04M3/53M ; Message switching systems H04L12/58)] [N0312] [C0503]
H04M1/725F1M2	. . . . .	[N: for voice messaging, e.g. dictaphone (for answering an incoming call H04M1/64)] [N0503]
H04M1/725F1M4	. . . . .	[N: for text messaging, e.g. sms, e-mail] [N0503]
H04M1/725F1M6	. . . . .	[N: for still or moving picture messaging (systems for transmission of still picture signals H04N1/00B ; Videophones H04N7/14)] [N0503]
H04M1/725F1P	. . . . .	[N: for playing back music files (portable music players per se G11B27)] [N1205]
H04M1/725F1W	. . . . .	[N: for supporting an internet browser application] [N0312]
H04M1/725F2	. . . . .	[N: with means for adapting by the user the functionality or the communication capability of the terminal under specific circumstances] [N0312] [C1102]
H04M1/725F2C	. . . . .	[N: according to a schedule or a calendar application (network applications for presence management H04L29/08N23)] [N1102]
H04M1/725F2E	. . . . .	[N: according to context or environment related information] [N1102]
H04M1/725F2G	. . . . .	[N: according to a geographic location (user location related services provided by wireless communication networks H04W4/02 ; network applications adapted for the location of the user terminal H04L29/08N17)] [N1102]
H04M1/725F2H	. . . . .	[N: by connection of an exchangeable housing part] [N1102]
H04M1/725F2R	. . . . .	[N: to restrict the functionality or the communication capability of the terminal (network access restriction H04W48/02)] [N1102]

- H04M1/725F3 [N: by using keys with multiple functionality defined by the current phone mode or status] [N0403]
- H04M1/725F4 [N: 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 [G06F3/048](#))] [N0904]
- H04M1/725F4S [N: wherein the items are sorted according to a specific criteria, e.g. frequency of use] [N0904]
- H04M1/725F5 [N: specially adapted for disabled people (devices for conversing with the deaf-blind [G09B21/04](#))] [N0904]
- H04M1/725F5H [N: for a hearing impaired user (hearing-aids per se [H04R25/00](#))] [N0904]
- H04M1/725F5V [N: for a visually impaired user ([H04M1/22](#) takes precedence)] [N0904]
- H04M1/725F6 [N: wherein handling of applications is triggered by incoming communication events (changing user alerting upon occurrence of events [H04M19/04](#)) [N1205]
- H04M1/727 Identification code transfer arrangements [N9910]
- H04M1/73 Battery saving arrangements [N: (by switching on/off the receiving circuit [H04B1/16A2](#))] [N9910]
- H04M1/733 with a plurality of base stations connected to a plurality of lines [N: (for selection in cordless PBX [H04Q7/26](#))] [N9910]
- H04M1/737 characterised by transmission of electromagnetic waves other than radio waves, e.g. infra-red [N9910]
- H04M1/738 Interface circuits for coupling substations to external telephone lines ([H04M1/78](#) takes precedence) [N9910]
- H04M1/738P [N: Programmable or microprocessor-controlled] [N9910]
- H04M1/74 with means for reducing interference; with means for reducing effects due to line faults
- H04M1/74P [N: Protection devices or circuits for voltages surges on the line]
- H04M1/76 Compensating for differences in line impedance (in general [H04B](#))
- H04M1/78 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 [H04B3/38](#))
- H04M1/80 Telephone line holding circuits [N9910]
- H04M1/82 Line monitoring circuits for call progress or status discrimination [N: (for detecting caller identity [H04M1/57M](#))] [N9910] [C0012]
- H04M3/00** **Automatic or semi-automatic exchanges** [N: (constructional details of telephone exchanges [H04Q1/02](#))] [C0108]
- H04M3/00E [N: Applications of echo suppressors or cancellers in telephonic connections (in two-way loud-speaking telephone systems [H04M9/08](#), echo suppressors or cancellers per se [H04B3/20](#))] [N0108]
- H04M3/00L [N: Interface circuits for subscriber lines (current supply [H04M19/00](#) and subgroups; supervisory, monitoring or testing arrangements [H04M3/22](#) and subgroups; in key telephone systems [H04M9/00K3L](#))]

- H04M3/00L2 . . [N: Access interface units for simultaneous transmission of speech and data, e.g. digital subscriber line (DSL) access interface units (DSL access multiplexers [H04Q11/04S2](#), and [H04L12/28P1](#))] [N0501]
- H04M3/02 . Ringing or otherwise calling substations ([selective calling H04Q](#))
- H04M3/04 . . calling signal supplied from final selector
- H04M3/06 . . calling signal supplied from subscriber's line circuit
- H04M3/08 . Indicating faults in circuits or apparatus
- H04M3/08L . . [N: Fault locating arrangements] [N0108]
- H04M3/10 . . Providing fault or trouble signals
- H04M3/12 . . Marking faulty circuits "busy"; Enabling equipment to disengage itself from faulty circuits; [N: Using redundant circuits; Response of a circuit, apparatus or system to an error] [C0108]
- H04M3/14 . . Signalling existence of persistent "off-hook" condition
- H04M3/16 . with lock-out or secrecy provision in party-line systems
- H04M3/18 . with means for reducing interference [N: or noise]; with means for reducing effects due to line faults [N: with means for protecting lines] [C0108]
- H04M3/20 . with means for interrupting existing connections; with means for breaking-in on conversations
- H04M3/20E . . [N: Eavesdropping prevention - indication of insecurity of line or network] [N0611]
- H04M3/22 . Supervisory, monitoring, [N: management, i.e. operation, administration, maintenance] or testing arrangements [C0108]
- H04M3/22B . . [N: for lines also used for data transmission] [N0611]
- H04M3/22D . . [N: Call detail recording] [N0108]
- H04M3/22F . . [N: Quality of service monitoring] [N0108]
- H04M3/22K . . [N: Quality of speech transmission monitoring] [N0108]
- H04M3/22L . . [N: Management of the local loop plant] [N0611]
- H04M3/22N . . [N: in networks]
- H04M3/22N2 . . . [N: Network management] [N0108]
- H04M3/22S . . [N: Subscriber line supervision circuits, e.g. call detection circuits]
- H04M3/22T . . [N: Call monitoring, e.g. for law enforcement purposes; Call tracing; Detection or prevention of malicious calls] [N9905] [C0611]
- H04M3/22W . . [N: Wire identification arrangements; Number assignment determination] [N0108]
- H04M3/24 . . with provision for checking the normal operation
- H04M3/24A . . . [N: for stored program controlled exchanges]
- H04M3/24A1 [N: Software testing]
- H04M3/24B [N: for multiplex systems ([H04M3/30B](#) takes precedence)]
- H04M3/24B1 [N: for ISDN systems]
- H04M3/24E . . . [N: Knowledge-based maintenance systems]
- H04M3/24M . . . [N: for metering arrangements or prepayment telephone systems (metering arrangements per se [H04M15/00](#); prepayment telephone systems per se [H04M17/00](#))]

H04M3/26	. . . with means for applying test signals [N: or for measuring] [C0108]
H04M3/28	. . . Automatic routine testing [N: ; Fault testing; Installation testing; Test methods, test equipment or test arrangements therefor] [C0507]
H04M3/30	. . . . for subscriber's lines [N: , for the local loop] [C0507]
H04M3/30C	. . . . . [N: Circuit arrangements at the subscriber's side of the line]
H04M3/30M	. . . . . [N: using modulation techniques for copper pairs (for ISDN systems H04M3/24B1 ; ISDN selection or connection testing arrangements H04Q11/04S1M)] [N0507]
H04M3/30M2	. . . . . [N: and using PCM multiplexers, e.g. pair gain systems] [N0507]
H04M3/30M4	. . . . . [N: and using xDSL modems (xDSL line qualification H04M3/30P2)] [N0507]
H04M3/30P	. . . . . [N: testing of physical copper line parameters, e.g. capacitance or resistance (locating faults in cables G01R31/08)] [N0108] [C0507]
H04M3/30P2	. . . . . [N: for frequencies above the voice frequency, e.g. xDSL line qualification (test methods, test equipment and test arrangements for subscriber lines using xDSL modems H04M3/30M4 ; Systems modifying transmission characteristics according to link quality H04L1/00A ; Monitoring and/or testing of line transmission systems H04B3/46)] [N0507]
H04M3/30R	. . . . . [N: using ringback] [N0611]
H04M3/30T	. . . . . [N: Craftsperson test terminals] [N0108]
H04M3/32	. . . . for lines between exchanges
H04M3/32A	. . . . . [N: for the arrangements providing the connection (test connection, test call, call simulation)]
H04M3/32B	. . . . . [N: for registers and translators]
H04M3/34	. . . Testing for cross-talk (in lines generally H04B)
H04M3/36	. . Statistical metering, e.g. recording occasions when traffic exceeds capacity of trunks (digital computers for evaluating statistical data G06F17/18)
H04M3/36A	. . . [N: Traffic simulation]
H04M3/36B	. . . [N: Load metering of control unit]
H04M3/36C	. . . [N: Traffic or load control] [N0611]
H04M3/38	. Graded-service arrangements, i.e. some subscribers prevented from establishing certain connections (queueing arrangements [N: H04M3/523], H04Q3/64)
H04M3/38A	. . [N: using authorisation codes or passwords]
H04M3/38A2	. . . [N: using speech signals] [N0611]
H04M3/38S	. . [N: using subscriber identification cards] [N0611]
H04M3/40	. Applications of speech amplifiers
H04M3/42	. Systems providing special services or facilities to subscribers [C9907]
H04M3/42A	. . [N: Systems for anonymous communication between parties, e.g. by use of disposal contact identifiers] [N0108] [C1205]
H04M3/42B	. . [N: Customized ring-back tones] [N1012]
H04M3/42C	. . [N: Calling or Called party identification service (not used)] [N0503]
H04M3/42C1	. . . [N: Calling party identification service (not used)] [N0503]
H04M3/42C1N	. . . . [N: Notifying the called party of information on the calling party (details within substation equipment H04M1/57 , signalling details H04Q3/72)] [N0503]

H04M3/42C1N2	. . . . .	[N: where the notification is included in the ringing tone] [N0503]
H04M3/42C1U	. . . . .	[N: Making use of the calling party identifier] [N0611]
H04M3/42C1U2	. . . . .	[N: where the identifier is used to access a profile] [N0611]
H04M3/42C1U4	. . . . .	[N: where the identifier is a Uniform Resource Locator] [N0611]
H04M3/42C2	. . . . .	[N: Called party identification service (not used)] [N0503]
H04M3/42C2N	. . . . .	[N: Notifying the calling party of information on the called or connected party] [N0611]
H04M3/42C2U	. . . . .	[N: Making use of the called party identifier] [N0611]
H04M3/42C2U2	. . . . .	[N: where the identifier is used to access a profile] [N0611]
H04M3/42C2U4	. . . . .	[N: where the identifier is a Uniform Resource Locator] [N0611]
H04M3/42D	. . . . .	[N: Systems providing several special services or facilities from groups H04M3/42A to H04M3/58] [N0108]
H04M3/42E	. . . . .	[N: Administration or customisation of services] [N0108]
H04M3/42E1	. . . . .	[N: by service provider] [N0108]
H04M3/42E2	. . . . .	[N: by subscriber] [N0108]
H04M3/42E2D	. . . . .	[N: via computer interface] [N0611]
H04M3/42E3	. . . . .	[N: Managing service interactions] [N0108]
H04M3/42E5	. . . . .	[N: by downloading data to substation equipment] [N0212]
H04M3/42F	. . . . .	[N: Lines and connections with preferential service] [N0611]
H04M3/42G	. . . . .	[N: Arrangements for calling back a calling subscriber (when the wanted subscriber ceases to be busy H04M3/48)] [N0108]
H04M3/42H	. . . . .	[N: Arrangements at the exchange for service or number selection by voice (at the terminal H04M1/27)] [N0108]
H04M3/42K	. . . . .	[N: Call pickup (comprising simultaneous alerting H04M3/46)] [N1108]
H04M3/42L	. . . . .	[N: Conversation recording systems (at the subscriber's set H04M1/656)] [N0108]
H04M3/42M	. . . . .	[N: 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 H04M3/54 ; selecting arrangements in intelligent networks H04Q3/00D3P)] [N9804] [C0605]
H04M3/42M2	. . . . .	[N: in systems with telephone lines with multiple users] [N0611]
H04M3/42M5	. . . . .	[N: 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] [N0601]
H04M3/42M5P	. . . . .	[N: with the subscriber having a personal network-independent number] [N0601]
H04M3/42M7	. . . . .	[N: where the same subscriber uses different terminals, i.e. nomadism] [N0601]
H04M3/42M7P	. . . . .	[N: whereby the subscriber registers to the terminals for personalised service provision] [N0601]
H04M3/42N	. . . . .	[N: in networks]
H04M3/42N3	. . . . .	[N: with carrierprovider selection by subscriber] [N0611]
H04M3/42N5	. . . . .	[N: with number portability] [N0611]
H04M3/42N7	. . . . .	[N: Number translation services, e.g. premium-rate, freephone or vanity number services] [N0611] [C1205]
H04M3/42P	. . . . .	[N: in private branch exchanges]
H04M3/42P2	. . . . .	[N: PBX's with CTI arrangements] [N0108]
H04M3/42P6	. . . . .	[N: Direct inward dialling] [N0611]

H04M3/42P8	. . . [N: Remote access to features of PBX or home telephone systems-teleworking in a PBX] [N0611]
H04M3/42R	. . [N: Location-based services which utilize the location information of a target] [N0701]
H04M3/42R2	. . . [N: where the information is provided to a monitoring entity such as a potential calling party or a call processing server] [N0701]
H04M3/42S	. . [N: Presence services providing information on the willingness to communicate or the ability to communicate in terms of media capability or network connectivity] [N0701]
H04M3/42S2	. . . [N: where the information is provided to a monitoring entity such as a potential calling party or a call processing server] [N0701]
H04M3/42T	. . [N: Text-based messaging services in telephone networks such as PSTN/ISDN, e.g. User-to-User Signalling or Short Message Service for fixed networks] [N0303] [C0701]
H04M3/42Z	. . [N: where the subscribers are hearing-impaired persons, e.g. telephone devices for the deaf] [N0108] [C0212]
H04M3/424	. . Arrangements for automatic redialling (at the subscriber's set H04M1/27) [N9907]
H04M3/428	. . Arrangements for placing incoming calls on hold [N9907]
H04M3/428B	. . . [N: when the called subscriber is connected to a data network using his telephone line, e.g. dial-up connection, Internet browsing] [N0107]
H04M3/428H	. . . [N: Call holding circuits] [N9907]
H04M3/428M	. . . [N: Notifying, informing or entertaining a held party while on hold, e.g. Music On Hold] [N9907] [C0503]
H04M3/428R	. . . [N: Notifying a held subscriber when his held call is removed from hold] [N0503]
H04M3/428W	. . . [N: Notifying a called subscriber of an incoming call during an ongoing call, e.g. Call Waiting] [N0503]
H04M3/432	. . Arrangements for calling a subscriber at a specific time, e.g. morning call service [N9907]
H04M3/436	. . Arrangements for screening incoming calls, [N: i.e. evaluating the characteristics of a call before deciding whether to answer it (based on the calling party profile H04M3/42C1U; based on location H04M3/42R; based on presence H04M3/42S; diversion H04M3/54)] [N9907] [C1108]
H04M3/436C	. . . [N: based on information specified by the calling party, e.g. priority or subject] [N1108]
H04M3/44	. . Additional connecting arrangements for providing access to frequently-wanted subscribers, e.g. abbreviated dialling (at the subscriber's set H04M1/27; automatic redialling H04M3/424) [C9907]
H04M3/46	. . Arrangements for calling a number of substations in a predetermined sequence until an answer is obtained
H04M3/46M	. . . [N: Arrangements for simultaneously calling a number of substations until an answer is obtained] [N1104]
H04M3/48	. . Arrangements for recalling a calling subscriber when the wanted subscriber ceases to be busy
H04M3/487	. . Arrangements for providing information services, e.g. recorded voice services, time announcement [N9907]
H04M3/487N	. . . [N: Non-interactive information services] [N9907]
H04M3/487N2	. . . . [N: Intercept announcements] [N9907]
H04M3/487N4	. . . . [N: Time announcements] [N9907]
H04M3/487N6	. . . . [N: Advertisement messages] [N9907]

H04M3/493	. . .	Interactive information services, e.g. directory enquiries; [N: Arrangements therefor, e.g. interactive voice response [IVR] systems or voice portals] [N9907] [C1108]
H04M3/493D	. . . .	[N: Directory assistance systems] [N9907]
H04M3/493D2	. . . . .	[N: with operator assistance] [N0611]
H04M3/493D4	. . . . .	[N: Connection initiated by DAS system] [N0611]
H04M3/493S	. . . .	[N: Speech interaction details (speech recognition per se G10L15/00)] [N0108] [C0503]
H04M3/493W	. . . .	[N: comprising a voice browser which renders and interprets e.g. VoiceXML] [N0107] [C1108]
H04M3/50	. .	Centralised arrangements for answering calls; Centralised arrangements for recording messages for absent or busy subscribers (H04M3/487 takes precedence; Centralised dictation systems H04M11/10); [N: Centralised arrangements for recording messages] [C0108]
H04M3/51	. . .	Centralised call answering arrangements requiring operator intervention, [N: e.g. call or contact centers for telemarketing] [N9907] [C1108]
H04M3/51A	. . . .	[N: Secretarial services] [N0108]
H04M3/51E	. . . .	[N: for emergency applications] [N0611]
H04M3/51H	. . . .	[N: with remote located operators] [N0108]
H04M3/51K	. . . .	[N: Operator terminal details] [N0611]
H04M3/51M	. . . .	[N: Details of processing calls and other types of contacts in an unified manner (unified messaging in packet-switching networks H04L12/58U)] [N1108]
H04M3/51N	. . . .	[N: Night service systems] [N9907]
H04M3/51P	. . . .	[N: in combination with automated outdialling systems (devices for signalling identity of wanted subscriber H04M1/26)] [N9907]
H04M3/51R	. . . .	[N: in combination with interactive voice response systems or voice portals e.g. as front-ends] [N9907] [C1108]
H04M3/51S	. . . .	[N: Call or contact centers supervision arrangements] [N0611] [C1108]
H04M3/51T	. . . .	[N: Call or contact centers with computer-telephony arrangements] [N0108] [C1108]
H04M3/51T2	. . . . .	[N: interacting with the Internet] [N0108]
H04M3/52	. . . .	Arrangements for routing dead number calls to operators [C9907]
H04M3/523	. . . .	with call distribution or queueing [N9907]
H04M3/523B	. . . . .	[N: with call back arrangements] [N0611]
H04M3/523D	. . . . .	[N: Call distribution algorithms] [N0108]
H04M3/523D2	. . . . .	[N: Operator skill based call distribution] [N0108]
H04M3/523D4	. . . . .	[N: Uniform load distribution] [N0611]
H04M3/523D6	. . . . .	[N: Dependent on call type or called number (DNIS)] [N0611]
H04M3/523D8	. . . . .	[N: Sequential or circular distribution] [N0611]
H04M3/523N	. . . . .	[N: Interconnection arrangements between ACD systems] [N0108]
H04M3/523T	. . . . .	[N: with waiting time or load prediction arrangements] [N0611]
H04M3/527	. . .	Centralised call answering arrangements not requiring operator intervention [N9907]
H04M3/53	. . .	Centralised arrangements for recording incoming messages [N: i.e. mailbox systems] [N9907] [C0303]
H04M3/53M	. . . .	[N: for recording messages comprising any combination of audio and

				non-audio components] [N0303]
H04M3/53M2	.	.	.	[N: where the non-audio components are still images or video (still image mailbox systems H04N1/32F2 , intermediate storage of video signals for videophones H04N7/14A3)] [N0303]
H04M3/53T	.	.	.	[N: for recording text messages] [N0108]
H04M3/533	.	.	.	Voice mail systems [N9907]
H04M3/533B	.	.	.	[N: Message originator indirectly connected to the message centre, e.g. after detection of busy or absent state of a called party] [N0108]
H04M3/533D	.	.	.	[N: Messaging centre selected by message originator] [N0108]
H04M3/533N	.	.	.	[N: Interconnection arrangements between voice mail systems] [N9907]
H04M3/533R	.	.	.	[N: Message receiving aspects] [N0108]
H04M3/533R1	.	.	.	[N: Message reply] [N0611]
H04M3/533R2	.	.	.	[N: Message type or category, e.g. priority, indication] [N0611]
H04M3/533R3	.	.	.	[N: Message preview] [N0611]
H04M3/533S	.	.	.	[N: Message disposing or creating aspects] [N0108]
H04M3/533S1	.	.	.	[N: Message broadcasting] [N0611]
H04M3/533S2	.	.	.	[N: Message registering commands or announcements; Greetings] [N0611]
H04M3/533S2N	.	.	.	{7 dots} [N: dependent on calling party] [N0611]
H04M3/537	.	.	.	Arrangements for indicating the presence of a recorded message, [N: whereby the presence information might include a preview or summary of the message] [N9907] [C1108]
H04M3/54	.	.	.	Arrangements for diverting calls for one subscriber to another predetermined subscriber [N: (based on the calling party profile H04M3/42C1U ; based on location H04M3/42R ; based on presence H04M3/42S ; to voice mail H04M3/533B)] [C1108]
H04M3/54C	.	.	.	[N: based on information specified by the calling party] [N1108]
H04M3/54D	.	.	.	[N: Call deflection] [N1108]
H04M3/54L	.	.	.	[N: with loop avoiding arrangements] [N0611]
H04M3/54P	.	.	.	[N: in private branch exchanges]
H04M3/54R	.	.	.	[N: with remote control] [N0611]
H04M3/56	.	.	.	Arrangements for connecting several subscribers to a common circuit, i.e. affording conference facilities ([N: computer conferences H04L12/18D]; video conference systems H04N7/15) [C1107]
H04M3/56A	.	.	.	[N: by multiplexing]
H04M3/56D	.	.	.	[N: where the conference facilities are distributed] [N1107]
H04M3/56G	.	.	.	[N: User guidance or feature selection] [N1107]
H04M3/56G2	.	.	.	[N: whereby the feature is a sub-conference] [N1107]
H04M3/56G4	.	.	.	[N: relating to time schedule aspects] [N1107]
H04M3/56G6	.	.	.	[N: relating to a participants right to speak (protocols for floor control H04L29/06M4C2 , H04L29/06M4C4 , H04L29/06M4C6)] [N1107]
H04M3/56M	.	.	.	[N: Multimedia conference systems] [N9509]
H04M3/56P	.	.	.	[N: audio processing specific to telephonic conferencing, e.g. spatial distribution, mixing of participants (echo suppression in two-way loud-speaking telephone systems H04M9/02 ; sound field processing per se H04S7/00E)] [N1107]
H04M3/56P2	.	.	.	[N: using the instant speaker's algorithm (speech detection per se G10L11/02)] [N1107]

- H04M3/58
 - . . 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 H04M1/80](#)) [C9907]
- H04M3/60
 - . Semi-automatic systems, i.e. in which the numerical selection of the outgoing line is under the control of an operator
- H04M3/62
 - . . Keyboard equipment [N: in key telephone systems [H04M9/00K1](#)]
- H04M3/64
 - . . Arrangements for signalling the number or class of the calling line to the operator ([between operators in inter-exchange working H04M5/18](#))
- H04M5/00** **Manual exchanges** ([substation equipment in general H04M1/00](#))
- H04M5/02
 - . Constructional details ([jacks, jack-plugs H01R17/00, H01R21/00](#))
- H04M5/04
 - . Arrangements for indicating calls or supervising connections for calling or clearing
- H04M5/06
 - . . affording automatic call distribution
- H04M5/08
 - . using connecting means other than cords
- H04M5/10
 - . using separate plug for each subscriber
- H04M5/12
 - . Ringing or otherwise calling substations
- H04M5/14
 - . Applications of speech amplifiers
- H04M5/16
 - . with means for reducing interference; with means for reducing effects due to line faults
- H04M5/18
 - . Arrangements for signalling the class or number of called or calling line from one exchange to another
- H04M5/20
 - . . Number-indicating arrangements for incoming lines
- H04M7/00** **Interconnection arrangements between switching centres** ([transmission arrangements in general H04B](#); [N: interconnection arrangements between PSTN/ISDN switching centres [H04Q3/00](#)]) [C0107]
- H04M7/00B
 - . [N: Interconnection between telephone networks and data networks]
 - [N: **WARNING**[C0804]
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 [H04M7/00D](#) or [H04M7/12H](#)]
- H04M7/00B2
 - . . [N: where voice calls cross both networks]
 - [N: **WARNING**[C0804]
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 [H04M7/00D](#) or [H04M7/12H](#)]
- H04M7/00B4
 - . . [N: where voice calls remain entirely in the telephone network]
 - [N: **WARNING**[C0804]

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 [H04M7/00D](#) or [H04M7/12H](#)
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- H04M7/00C . [N: 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] [N0701] [C1205]
- H04M7/00C2 . . [N: First party call control architectures] [N0701]
- H04M7/00C4 . . [N: Computer Telephony Resource Boards] [N0701]
- H04M7/00C6 . . [N: Details of Application Programming Interfaces] [N0701]
- H04M7/00D . [N: Services and arrangements where telephone services are combined with data services (arrangements which combine a telephonic equipment and a computer H04M7/00C)] [N0701]
- H04M7/00D2 . . [N: Collaboration services where a computer is used for data transfer and the telephone is used for telephonic communication] [N0701]
- H04M7/00D4 . . [N: Click to dial services] [N0701]
- H04M7/00D6 . . [N: Notification or handling of incoming calls by a computer] [N0701]
- H04M7/00D8 . . [N: where the data service is an information service] [N0701]
- H04M7/00D10 . . [N: 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 [H04M7/00M26](#))] [N0701] [M1012]
- H04M7/00D12 . . [N: where the data service is a text-based messaging service (H04M7/00D16 takes precedence)] [N0701]
- H04M7/00D12D . . . [N: where the text-based messaging service is an instant messaging service] [N0701]
- H04M7/00D12S . . . [N: where the text-based messaging service is a Short Message Service] [N0701]
- H04M7/00D14 . . [N: where the data service is a multimedia messaging service] [N0701]
- H04M7/00D16 . . [N: where the data service is an electronic mail service] [N0701]
- H04M7/00D18 . . [N: 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] [N0701]
- H04M7/00M . [N: 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 ([H04L65/00](#) takes precedence; aspects not specific to the type of network [H04M3/00](#); special services in those networks [H04M3/42](#))] [N9803] [C1205]
- H04M7/00M6 . . [N: where the network is a peer-to-peer network] [N0701]
- H04M7/00M8 . . [N: Details of access arrangements to the networks (where the access arrangement is a PSTN/ISDN access H04M7/12H2L)] [N0701]
- H04M7/00M8R . . . [N: comprising a residential gateway, e.g. those which provide an adapter for POTS or ISDN terminals] [N0701]
- H04M7/00M14 . . [N: Speech codec negotiation ([H04L65/10S1](#) takes precedence)] [N0701] [C1205]
- H04M7/00M16 . . [N: Details of addressing, directories or routing tables] [N0701]
- H04M7/00M22 . . [N: Security; Fraud detection; Fraud prevention] [N0701]
- H04M7/00M24 . . [N: Network operation, administration, maintenance, or provisioning] [N0701]

- H04M7/00M24M . . . [N: Network monitoring; Error detection; Error recovery; Network testing] [N0701]
- H04M7/00M24P . . . [N: Network planning or provisioning] [N0701]
- H04M7/00P . [N: in systems involving PBX or KTS networks] [N0108]
- H04M7/00S . [N: signalling arrangements in networks] [N0108]
- H04M7/00T . [N: Trunk circuits]
- H04M7/06 . using auxiliary connections for control or supervision [N: , e.g. where the auxiliary connection is a signalling system number 7 link] [C0701]
 [N: **WARNING**[C0802]
 Not complete, see also other subgroups of [H04M7/00](#)]
- H04M7/06N . . [N: where the telephone network is a network other than PSTN/ISDN] [N0701]
- H04M7/06P . . [N: where the auxiliary connection is via an Internet Protocol network (interworking of signalling system number 7 (SS7) with Internet Protocol-based session control protocols [H04M7/12H12H](#), [H04M7/12H12S](#))] [N0701]
- H04M7/08 . for phantom working [N: (phantom working in transmission of digital information [H04L5/20](#))]
- H04M7/12 . for working between exchanges having different types of switching equipment, e.g. power-driven and step by step, decimal and non-decimal, [N: circuit-switched and packet-switched, i.e. gateway arrangements] [C0701]
 [N: **WARNING**[C0802]
 Not complete, see also other subgroups of [H04M7/00](#)]
- H04M7/12H . . [N: where the types of switching equipment comprises PSTN/ISDN equipment and switching equipment of networks other than PSTN/ISDN, e.g. Internet Protocol networks] [N0701]
- H04M7/12H2 . . . [N: Details of network access arrangements or protocols] [N0701]
- H04M7/12H2C [N: where a cable TV network is used as an access to the PSTN/ISDN] [N0701]
- H04M7/12H2L [N: where the PSTN/ISDN access is used as an access to networks other than PSTN/ISDN (access arrangements to networks other than PSTN/ISDN H04M7/00M8; access arrangements to public data networks H04L12/28P1)] [N0701]
- H04M7/12H4 . . . [N: Details of core network interconnection arrangements] [N0701]
- H04M7/12H4M [N: where the packet-switched network is an Internet Protocol Multimedia System-type network] [N0701]
- H04M7/12H4W [N: where one of the core networks is a wireless network] [N0701] [C1205]
- H04M7/12H6 . . . [N: where PSTN/ISDN interconnects two networks other than PSTN/ISDN] [N0701]
- H04M7/12H8 . . . [N: where a network other than PSTN/ISDN interconnects two PSTN/ISDN networks] [N0701]
- H04M7/12H10 . . . [N: Details of gateway equipment] [N0701]
- H04M7/12H10G [N: where the switching fabric and the switching logic are decomposed such as in Media Gateway Control] [N0701]

- H04M7/12H12 . . . [N: Interworking of session control protocols] [N0701]
- H04M7/12H12H [N: where the session control protocols comprise H.323 and SS7] [N0701]
- H04M7/12H12S [N: where the session control protocols comprise SIP and SS7] [N0701]
- H04M7/12H14 . . . [N: Methods and means to improve the telephone service quality, e.g. reservation, prioritisation or admission control] [N0701]
- H04M7/12H16 . . . [N: Details of addressing, directories or routing tables] [N0701]
- H04M7/12H18 . . . [N: Details of finding and selecting a gateway for a particular call] [N0701]
- H04M7/12H20 . . . [N: Details of providing call progress tones or announcements] [N0701]
- H04M7/12H22 . . . [N: Details of dual tone multiple frequency signalling] [N0701]

- H04M7/14 . [N: in systems involving main and subordinate switching centres]

[N: **WARNING**[C0802]

Not complete, see also other subgroups of [H04M7/00](#)
]

- H04M7/16 . in systems employing carrier frequencies

H04M9/00 Interconnection arrangements not involving centralised switching

- H04M9/00A . [N: Two-way communication systems between a limited number of parties]
- H04M9/00K . [N: with subscriber controlled access to a line, i.e. key telephone systems]
- H04M9/00K1 . . [N: 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** [H04M3/62](#))]
- H04M9/00K3 . . [N: with subscriber controlled access to an exchange line]
- H04M9/00K3L . . . [N: Exchange line circuits (**subscriber line circuits** [H04M3/00L](#))]
- H04M9/00K3R . . . [N: wherein the key telephone sets are star-connected to a central unit by a limited number of lines]
- H04M9/00K5 . . [N: Multiplex systems]
- H04M9/02 . involving a common line for all parties
- H04M9/02A . . [N: Multiplex systems]
- H04M9/02A1 . . . [N: Time division multiplex systems, e.g. loop systems]
- H04M9/02A2 . . . [N: Frequency division multiplex systems]
- H04M9/04 . involving a separate line for each pair of parties
- H04M9/06 . involving combinations of interconnecting lines
- H04M9/08 . 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** [H04B3/20](#))
- H04M9/08C . . [N: using echo cancellers (**echo cancellers per se** [H04B3/23](#))]
- H04M9/08D . . [N: using digital techniques ([H04M9/08C](#) takes precedence)]
- H04M9/08F . . [N: using different frequency bands for transmitting and receiving paths (**for line transmission in general** [H04B3/21](#)); using phase shifting arrangements]

H04M9/10	<ul style="list-style-type: none"> with switching of direction of transmission by voice frequency
H04M11/00	Telephonic communication systems adapted for combination with other electrical systems
H04M11/00A	<ul style="list-style-type: none"> [N: with telemetering systems (telemetering in general G08C)]
H04M11/00A1	<ul style="list-style-type: none"> [N: using recorded signals, e.g. speech]
H04M11/00B	<ul style="list-style-type: none"> [N: with remote control systems (remote control in general G08C)]
H04M11/02	<ul style="list-style-type: none"> with bell or annunciator systems (such systems in general G08)
H04M11/02A	<ul style="list-style-type: none"> [N: Paging systems (personal calling arrangements or devices G08B3/10B; selective calling networks H04Q7/08)] [C9704]
H04M11/02B	<ul style="list-style-type: none"> [N: Door telephones (adapted for television H04N7/18D3)]
H04M11/02C	<ul style="list-style-type: none"> [N: Annunciator systems for hospitals]
H04M11/04	<ul style="list-style-type: none"> with fire, police, burglar, or other alarm systems (such systems in general G08)
H04M11/04B	<ul style="list-style-type: none"> [N: using recorded signals, e.g. speech]
H04M11/06	<ul style="list-style-type: none"> Simultaneous speech and telegraphic or other data transmission over the same conductors (telegraphy in general H04L)
H04M11/06B	<ul style="list-style-type: none"> [N: using different frequency bands for speech and other data]
H04M11/06C	<ul style="list-style-type: none"> [N: Data transmission during pauses in telephone conversation]
H04M11/06D	<ul style="list-style-type: none"> [N: Telephone sets adapted for data transmission]
H04M11/06E	<ul style="list-style-type: none"> [N: using time division multiplex techniques; integrated services digital networks H04Q11/04S]
H04M11/08	<ul style="list-style-type: none"> adapted for optional reception of entertainment or informative matter (systems in which the information is continuously available on a carrier over the whole network H04H20/81)
H04M11/08B	<ul style="list-style-type: none"> [N: using a television receiver, e.g. viewdata system]
H04M11/10	<ul style="list-style-type: none"> with dictation recording and playback systems (such systems in general G11B)
H04M13/00	Party-line systems (substation equipment H04M1/00 ; exchange equipment H04M3/00 , H04M5/00 ; metering arrangements H04M15/36)
H04M15/00	Arrangements for metering, time-control or time indication [N: ; Metering, charging or billing arrangements for voice wireline or wireless communications, e.g. VoIP] [N1205]
H04M15/02	<ul style="list-style-type: none"> Severing connection after predetermined time <p>[N: WARNING [N1206] This subgroup is no longer used for classification as from 01.05.2012. The backlog of this subgroup is being continuously reclassified to H04M15/88G]</p>
H04M15/04	<ul style="list-style-type: none"> Recording calls [N: , or communications] in printed, perforated or other permanent form [N1205]

- H04M15/06 . . Recording class or number of calling [N: , i.e. A-party] or called party [N: , i.e. B-party] [N1205]
- H04M15/07 . [N: Split billing, i.e. both A-party and B-party charged for the communication] [N1205]
- H04M15/08 . Metering calls to called party [N: , i.e. B-party charged for the communication] [N1205]
- H04M15/09 . [N: Third party charged communications] [N1205]
- H04M15/10 . Metering calls from calling party; [N: , i.e. A-party charged for the communication] [N1205]
- H04M15/12 . . Discriminative metering [N: , charging or billing] [N1205]
- H04M15/14 . . . according to class of calling party
- H04M15/16 . . . according to connection obtained
- H04M15/18 . . . according to duration of the call [N: , or the communication] [N1205]
- H04M15/20 Operator`s time recording or indicating arrangements
- H04M15/22 . . . according to time of day
- H04M15/24 . . . Preventing metering of tax-free calls to certain lines, e.g. to fire or ambulance stations
- H04M15/26 . . with a meter [N: or performing charging or billing] at the exchange controlled by an operator [N1205]
- H04M15/28 . with meter at substation [N: or with calculation of charges at terminal] [N1205]
- H04M15/30 . . the meter [N: or calculation of charges] not being controlled from an exchange [N1205]
- H04M15/31 . [N: Distributed metering or calculation of charges] [N1205]
- H04M15/32 . [N: Charging, billing or] metering arrangements for satellites or concentrators which connect one or more exchange lines with a group of local lines [N1205]
- H04M15/34 . [N: Charging, billing or] metering arrangements for private branch exchanges [N1205]
- H04M15/36 . [N: Charging, billing or] metering arrangements for party-lines [N1205]
- H04M15/38 . [N: Charging, billing or] metering by apparatus other than mechanical step-by-step counter type [N1205]
- H04M15/39 . [N: Arrangements for preventing metering, charging or billing] [N1205]
- H04M15/41 . [N: Billing record details, i.e. parameters, identifiers, structure of call data record [CDR]] [N1205]
- H04M15/42 . [N: Dynamic individual rates per user] [N1205]
- H04M15/43 . [N: Billing software details] [N1205]
- H04M15/44 . [N: Augmented, consolidated or itemized billing statement or bill presentation] [N1205]
- H04M15/46 . [N: Real-time negotiation between users and providers or operators] [N1205]
- H04M15/47 . [N: Fraud detection or prevention means] [N1205]

- H04M15/48 . [N: Secure or trusted billing, e.g. trusted elements or encryption] [N1205]
- H04M15/49 . [N: Connection to several service providers] [N1205]
- H04M15/50 . [N: for cross-charging network operators] [N1205]
- H04M15/51 . [N: for resellers, retailers or service providers] [N1205]
- H04M15/52 . [N: for operator independent billing system] [N1205]
- H04M15/53 . [N: using mediation] [N1205]
- H04M15/54 . [N: for revenue sharing] [N1205]
- H04M15/55 . [N: for hybrid networks] [N1205]
- H04M15/56 . [N: for VoIP communications] [N1205]
- H04M15/57 . [N: for integrated multimedia messaging subsystem [IMS]] [N1205]
- H04M15/58 . [N: based on statistics of usage or network monitoring] [N1205]
- H04M15/59 . [N: based on real time] [N1205]
- H04M15/60 . [N: based on actual use of network resources] [N1205]
- H04M15/61 . [N: based on the service used] [N1205]
- H04M15/62 . [N: based on trigger specification] [N1205]
- H04M15/63 . [N: based on the content carried by the session initiation protocol [SIP] messages] [N1205]
- H04M15/64 . [N: On-line charging system [OCS]] [N1205]
- H04M15/65 . [N: Off-line charging system] [N1205]
- H04M15/66 . [N: Policy and charging system] [N1205]
- H04M15/67 . [N: Transmitting arrangements for sending billing related information] [N1205]
- H04M15/68 . [N: Payment of value-added services] [N1205]
- H04M15/70 . [N: Administration or customization aspects; Counter-checking correct charges] [N1205]
- H04M15/705 . . [N: Account settings, e.g. limits or numbers or payment] [N1205]
- H04M15/71 . . [N: Modifying recharging resources] [N1205]
- H04M15/715 . . [N: Activating new subscriber or card] [N1205]
- H04M15/72 . . [N: by the user] [N1205]
- H04M15/72A . . . [N: using the Internet] [N1205]

H04M15/72B	. . . [N: using the user's device] [N1205]
H04M15/72S	. . [N: by the operator] [N1205]
H04M15/73	. . [N: Validating charges] [N1205]
H04M15/73S	. . [N: Re-crediting user] [N1205]
H04M15/74	. . [N: Backing up] [N1205]
H04M15/74S	. . [N: Customizing according to wishes of subscriber, e.g. friends or family] [N1205]
H04M15/75	. . [N: Account location specifications] [N1205]
H04M15/75A	. . . [N: Card based account, e.g. smart card, SIM card or USIM] [N1205]
H04M15/75B	. . . [N: Terminal based account] [N1205]
H04M15/75C	. . . [N: Network based account] [N1205]
H04M15/75S	. . [N: Account identification] [N1205]
H04M15/755A	. . . [N: via service number, e.g. calling card] [N1205]
H04M15/755B	. . . [N: by SIM, e.g. smart card account in SCP, SDP or SN] [N1205]
H04M15/76	. . [N: Synchronization of distributed accounts] [N1205]
H04M15/76S	. . [N: Linked or grouped accounts, e.g. of users or devices] [N1205]
H04M15/765A	. . . [N: shared by users] [N1205]
H04M15/765B	. . . [N: shared by technologies] [N1205]
H04M15/765C	. . . [N: for closed subscriber group [CSG]] [N1205]
H04M15/77	. . [N: involving multiple accounts per user] [N1205]
H04M15/77A	. . . [N: per terminal or location, e.g. mobile device with multiple directory numbers] [N1205]
H04M15/77B	. . . [N: per service, e.g. prepaid or post-pay] [N1205]
H04M15/77C	. . . [N: per technology, e.g. PSTN or wireless] [N1205]
H04M15/77D	. . . [N: per card] [N1205]
H04M15/77S	. . [N: Account specifications on parallel communications] [N1205]
H04M15/78	. . [N: Redistributing amount between accounts] [N1205]
H04M15/78A	. . . [N: dynamically] [N1205]
H04M15/78B	. . . [N: by user request] [N1205]
H04M15/78S	. . [N: Reserving amount on the account] [N1205]
H04M15/79	. . [N: Virtual purses] [N1205]
H04M15/80	. [N: Rating or billing plans; Tariff determination aspects] [N1205]
H04M15/80A	. . [N: Flat-fee] [N1205]
H04M15/80B	. . [N: using class of subscriber] [N1205]
H04M15/80C	. . [N: based on quality of service [QoS]] [N1205]
H04M15/80D	. . [N: Determining tariff or charge band] [N1205]
H04M15/80E	. . [N: based on network load situation] [N1205]
H04M15/80F	. . [N: location-dependent, e.g. business or home] [N1205]
H04M15/80G	. . [N: Roaming or handoff] [N1205]
H04M15/80H	. . [N: Least cost routing] [N1205]
H04M15/80H1	. . . [N: Bidding] [N1205]
H04M15/80H2	. . . [N: Selecting cheaper transport technology for a given service] [N1205]
H04M15/80H3	. . . [N: Selecting least cost route depending on origin or type of service] [N1205]

H04M15/80K	. . [N: According to the number of recipients] [N1205]
H04M15/80K1	. . . [N: Group, conference or multi-party call] [N1205]
H04M15/80K2	. . . [N: Group MMS or SMS; Point-to-multi-point services or broadcast services] [N1205]
H04M15/80L	. . [N: involving reduced rates or discounts, e.g. time-of-day reductions or volume discounts] [N1205]
H04M15/80M	. . [N: involving increased rates, e.g. spam messaging billing differentiation] [N1205]
H04M15/80N	. . [N: Trial service, i.e. free of charge service for trial purposes] [N1205]
H04M15/81	. [N: Dynamic pricing, e.g. change of tariff during call] [N1205]
H04M15/82	. [N: Criteria or parameters used for performing billing operations] [N1205]
H04M15/82B	. . [N: Time based data metric aspects, e.g. VoIP or circuit switched packet data] [N1205]
H04M15/82C	. . [N: Data or packet based] [N1205]
H04M15/82D	. . [N: Message based] [N1205]
H04M15/82E	. . [N: Session based] [N1205]
H04M15/82F	. . [N: Access based] [N1205]
H04M15/82G	. . [N: Transaction based] [N1205]
H04M15/82H	. . [N: based on the number of used channels, e.g. bundling channels, frequencies or CDMA codes] [N1205]
H04M15/82J	. . [N: Unit based] [N1205]
H04M15/82K	. . [N: Pulse based] [N1205]
H04M15/82L	. . [N: Based on the number of used services, e.g. call forwarding or call barring] [N1205]
H04M15/82M	. . [N: Event based] [N1205]
H04M15/82P	. . [N: Money or currency based] [N1205]
H04M15/82Q	. . [N: Charging for signaling or unsuccessful connection] [N1205]
H04M15/83	. [N: Notification aspects] [N1205]
H04M15/835	. . [N: Time or frequency of notifications, e.g. Advice of Charge [AoC]] [N1205]
H04M15/835A	. . . [N: before establishing a communication] [N1205]
H04M15/835B	. . . [N: during the communication] [N1205]
H04M15/835C	. . . [N: after the end of the communication] [N1205]
H04M15/835D	. . . [N: in regular intervals] [N1205]
H04M15/835E	. . . [N: Dynamic change of the length or frequency of the notification interval] [N1205]
H04M15/84	. . [N: Types of notifications] [N1205]
H04M15/84A	. . . [N: Announcement, e.g. IVR dialogue] [N1205]
H04M15/84B	. . . [N: Message, e.g. SMS] [N1205]
H04M15/84C	. . . [N: optical, e.g. icon] [N1205]
H04M15/84D	. . . [N: Tone, e.g. beeper] [N1205]
H04M15/85	. . [N: characterised by the type of condition triggering a notification] [N1205]
H04M15/85A	. . . [N: Determined tariff] [N1205]
H04M15/85B	. . . [N: Low balance or limit reached] [N1205]

H04M15/85C	. . . [N: Calculate maximum communication time or volume] [N1205]
H04M15/85D	. . . [N: Available credit] [N1205]
H04M15/85E	. . . [N: Successful event] [N1205]
H04M15/85F	. . . [N: Unsuccessful event] [N1205]
H04M15/85G	. . . [N: Cumulative charges] [N1205]
H04M15/85H	. . . [N: Request users acknowledgement prior to use] [N1205]
H04M15/86	. . [N: Recipients of the notification] [N1205]
H04M15/86A	. . . [N: multiple parties, e.g. multi party AOC] [N1205]
H04M15/86B	. . . [N: a predetermined or undetermined destination, e.g. notifying a prepaid accounting server of a successful delivery of a service] [N1205]
H04M15/88	. [N: Provision for limiting connection, or expenditure] [N1205]
H04M15/88A	. . [N: for continuing the call beyond the limit using allow grace] [N1205]
H04M15/88B	. . [N: for continuing the call beyond the limit using an alternative, e.g. alternative account] [N1205]
H04M15/88C	. . [N: linked escalation limits, i.e. establish, first or second limit] [N1205]
H04M15/88D	. . [N: limit per application] [N1205]
H04M15/88E	. . [N: limit per terminal] [N1205]
H04M15/88F	. . [N: limit per user or user related number] [N1205]
H04M15/88G	. . [N: severing connection after predetermined time or data] [N1205]
H04M15/90	. [N: using Intelligent Networks [IN] or Advanced Intelligent Networks [AIN]] [N1205]
H04M15/93	. [N: using near field or similar technologies] [N1205]
H04M17/00	Prepayment [N: of wireline communication systems, wireless communication systems or] telephone systems (using a coded card to authorise calls from a telephone set H04M1/675) [N1205]
H04M17/00D	. [N: Disposable prepaid communication devices] [N1205]
H04M17/01	. [N: Cocot systems, i.e. private ownership of payphones] [N1205]
H04M17/02	. Coin-freed or check-freed systems, [N: e.g. mobile- or card-operated phones, public telephones or booths] [N1205]
H04M17/02B	. . [N: Circuit arrangements]
H04M17/02C	. . [N: Constructional features]
H04M17/10	. [N: Account details or usage] [N1205]
H04M17/10A	. . [N: using SIMs (USIMs) or calling cards] [N1205]
H04M17/10B	. . [N: using commercial credit or debit cards] [N1205]
H04M17/20	. [N: with provision for recharging the prepaid account or card, or for credit establishment] [N1205]
H04M17/20A	. . [N: automatic recharging with predetermined amount at threshold] [N1205]
H04M17/20B	. . [N: selecting interactively a payment method] [N1205]
H04M17/20B1	. . . [N: cash-based recharging, i.e. physical input of coins or bank notes] [N1205]

H04M17/20C	. . [N: on-line recharging e.g. cashless] [N1205]
H04M17/20C1	. . . [N: by calling a service number, e.g. interactive voice response [IVR] or menu] [N1205]
H04M17/20C2	. . . [N: by sending a message, e.g. SMS, MMS or EMS] [N1205]
H04M17/20C3	. . . [N: using signaling, e.g. USSD, UUS or DTMF] [N1205]
H04M17/20C4	. . . [N: using WAP or Internet , i.e. including electronic payment, e.g. e-cash] [N1205]
H04M17/30	. [N: using a code] [N1205]
H04M17/30A	. . [N: Code input or reading] [N1205]
H04M17/30A1	. . . [N: from communication terminal display] [N1205]
H04M17/30A2	. . . [N: from material cards, i.e. magnetic stripe card] [N1205]
H04M17/30A3	. . . [N: Optical code recognition [OCR], e.g. bar code reader] [N1205]
H04M17/30A4	. . . [N: Wireless codes, e.g. Bluetooth or RFID] [N1205]
H04M17/30A5	. . . [N: using public code readers, e.g. public payment or recharge point] [N1205]
H04M17/30B	. . [N: Code type e.g. alphanumeric code, bar code.] [N1205]
H04M17/30C	. . [N: Code management] [N1205]
H04M17/35	. [N: Pay as you go] [N1205]
H04M19/00	Current supply arrangements for telephone systems (for selecting-equipment H04Q1/28)
H04M19/00B	. [N: Current supply source at the exchanger providing current to substations]
H04M19/00B2	. . [N: Arrangements for compensation of the DC flux in line transformers]
H04M19/00B4	. . [N: Feeding arrangements without the use of line transformers]
H04M19/00B6	. . [N: Circuits for increasing the range of current supply source]
H04M19/00B8	. . [N: Using DC/DC converters (DC/DC converters per se H02M3/28)]
H04M19/02	. providing ringing current or supervisory tones, e.g. dialling tone, busy tone
H04M19/02B	. . [N: by reversing the polarity of the current at the exchange]
H04M19/02C	. . [N: Arrangements for interrupting the ringing current]
H04M19/04	. . ringing-current generated at substation
H04M19/04D	. . . [N: Encoding the ringing signal, i.e. providing distinctive or selective ringing capability] [N1108]
H04M19/04L	. . . [N: with variable loudness of the ringing tone, e.g. variable envelope or amplitude of ring signal] [N1108]
H04M19/04L2	. . . . [N: according to the level of ambient noise] [N1108]
H04M19/04P	. . . [N: Call privacy arrangements, e.g. timely inhibiting the ring signal] [N1108]
H04M19/04T	. . . [N: Vibrating means for incoming calls] [N1108]
H04M19/04V	. . . [N: Arrangements providing optical indication of the incoming call, e.g. flasher circuits] [N1108]
H04M19/06	. Current supply source at subordinate switching centre charged from main exchange
H04M19/08	. Current supply source at substation (generating ringing current H04M19/04)

H04M99/00

Subject matter not provided for in other groups of this subclass [N0704]