

## H04M

### TELEPHONIC COMMUNICATION (circuits for controlling other apparatus via a telephone cable and not involving telephone switching apparatus [G08](#))

#### Definition statement

*This place covers:*

- Subscriber equipment (fixed and mobile phones), e.g. Constructional features of telephone sets, User interfaces for telephones.
- Telecommunication systems including subscriber equipment and exchanges, e.g.
- Interconnection arrangements between switching centres,
- Interconnection arrangements not involving centralized switching,
- Metering arrangements,
- Time-controlling arrangements,
- Time-indicating arrangements,
- Party line systems,
- Prepayment telephone systems,
- Current supply arrangements for telephone systems,
- Computer telephony integration (CTI),
- SPIT and SPAM prevention in telephony;
- Telephonic communication systems combined with other electrical systems;
- Testing arrangements peculiar to telephonic communication systems.

#### Relationships with other classification places

With regard to mobile telephony, [H04M](#) covers communication systems using wireless extensions, i.e. wireless links without selective communication, e.g. cordless telephones, which are covered by group [H04M 1/72](#), whereas [H04W](#) covers communication networks for selectively establishing one or a plurality of wireless communication links between a desired number of users or between users and network equipments, for the purpose of transferring information via these wireless communication links.

With regard to VoIP (Voice over Internet Protocol), voice is considered in this context to be a specific form of "digital information". Since the Internet Protocol and IP networks are classified in [H04L](#) ([H04L 12/00](#), data switching networks and real-time session management in data packet switching networks [H04L 65/1066](#), Session management in data packet switching networks [H04L 67/14](#)), the transmission of voice over IP networks should be classified in [H04L](#).

When VoIP is used to emulate or simulate services, the service, as presented to the user, is still classified in [H04M](#). Any implementation details are however classified in [H04L](#), for example SPIT and SPAM prevention in VoIP should be classified in [H04M 3/436](#) or [H04M 1/663](#).

VoIP is not covered by any single class, subclass, group or subgroup but rather classified as evolution of existing technologies. Therefore, aspects of VoIP are not fully classified in [H04M](#) and [H04L](#), but also in other classes which have been used for classification of aspects related to telephonic communication, [H04M](#) and transmission of digital information, [H04L](#) such as by the Internet protocol.

#### References

##### Limiting references

*This place does not cover:*

Circuits for controlling other apparatus via a telephone cable and not involving telephone switching apparatus	<a href="#">G08</a>
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### Informative references

Attention is drawn to the following places, which may be of interest for search:

Counting mechanisms	<a href="#">G06M</a>
Information storage based on relative movement between record carrier and transducer	<a href="#">G11B</a>
Arrangements of electric cables or lines between relatively-movable parts	<a href="#">H02G 11/00</a>
Multiplex transmission between switching centres	<a href="#">H04J</a>
Selecting	<a href="#">H04Q</a>
Transducers	<a href="#">H04R</a>
Wireless communication networks	<a href="#">H04W</a>

### Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Exchange	Synonym for telephone switch.
Satellite	A kind of exchange the operation of which depends upon control signals received from a supervisory exchange.
Subscriber	General term for a user of terminal equipment, e.g. for the user of a telephone set, or for any equipment used by subscribers, e.g. telephones for public use.
Substation	Subscriber or monitoring equipment which may connect a single subscriber to a line without choice as to subscriber.
Switching centres	Include exchanges and satellites.
Voice mail system	A centralized system for managing telephone messages for a large group of users.

### Synonyms and Keywords

In patent documents, the following abbreviations are often used:

PSTN	Public Switched Telephony Network.
ISDN	Integrated Services Digital Network.
ISUP	ISDN User Part.
SIP	Session Initiation Protocol.
H.323	A standard protocol used for Packet-Based Multimedia Communications Systems.
CTI	Computer telephony integration. A technology that allows interactions on a telephone and a computer to be integrated or co-ordinated. Common application interfaces and protocols for monitoring and controlling calls comprise Computer Supported Telecommunications Applications, CSTA, Java Telephony Application Programming Interface, JTAPI, Telephony Server Application Programming Interface, TSAPI, or Telephony Application Programming Interface, TAPI.
Gatekeeper	A gatekeeper provides a number of services to terminals, gateways and devices, e.g. endpoint registration, address resolution, admission control and user authentication.

Call agent	A call agent handles specific services to users e.g. alert the called party, send and receive voice data.
IMS; IP Multimedia Subsystem	An architectural framework for delivering internet protocol, IP, multimedia to a mobile user.
Softswitch	A central device in a telephone network which connects calls from one phone line to another, e.g. control connections at the junction point between circuit and packet networks.
PBX	Private Branch Exchanges, e.g. for making connections among the internal telephones of a private organization.
XDSL	Digital Subscriber Line. A family of technologies that provides digital data transmission over the wires of a local telephone network.
Party line system	An arrangement in which two or more customers are connected directly to the same link or circuit.
SPAM	The abuse of electronic messaging systems to send unsolicited bulk messages indiscriminately.
SPIT	Spam over Internet Telephony, i.e. unwanted, automatically dialled, pre-recorded phone calls using Voice over Internet Protocol, VoIP.

## **H04M 1/00**

**Substation equipment, e.g. for use by subscribers (subscriber services or facilities provided at exchanges [H04M 3/00](#); prepayment telephone coin boxes [H04M 17/00](#); current supply arrangements [H04M 19/08](#))**

### **Definition statement**

*This place covers:*

Substation equipment, e.g. for use by subscribers;

Arrangements for indicating or recording called number or number of calling subscriber at the substation equipment;

Arrangements for answering calls and for recording messages and conversations at the substation equipment;

Substation extension, e.g. cordless telephones;

Arrangements for testing;

User guidance features in telephone sets;

Devices for signalling identity of wanted subscriber, e.g. telephone directories;

Substation equipment including speech amplifiers;

Arrangements for preventing unauthorized or fraudulent calling.

User interfaces for telephones applications.

### **Relationships with other classification places**

Arrangements for services at the substation equipment are classified here. Arrangements for services at exchanges are classified at [H04M 3/00](#)

Relationships with other classification places

Public telephone booth [E04H 1/14](#).

Subscriber network interface devices [H04Q 1/028](#).

Terminal devices adapted for wireless communication networks [H04W 88/02](#) (not for constructional features of portable telephones).

Portable transceivers [H04B 1/3827](#)

## References

### Limiting references

*This place does not cover:*

Subscriber services or facilities provided at exchanges	<a href="#">H04M 3/00</a>
Prepayment telephone coin boxes	<a href="#">H04M 17/00</a>
Current supply arrangements	<a href="#">H04M 19/08</a>

## H04M 1/003

{Telephone sets using electrooptical means in the transmission path}

### Relationships with other classification places

Transmission systems employing electromagnetic waves other than radio waves: [H04B 10/00](#)

## H04M 1/02

### Constructional features of telephone sets

## References

### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Portable telephone sets	<a href="#">H04M 1/0202-</a> <a href="#">H04M 1/0279</a>
Casings, cabinets or drawers for electric apparatus in general	<a href="#">H05K 5/00</a>

## H04M 1/0202

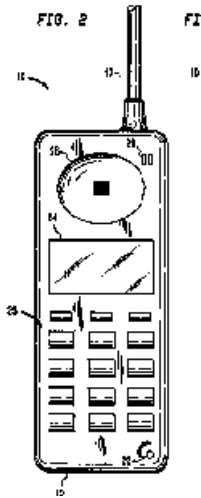
{Portable telephone sets, e.g. cordless phones, mobile phones or bar type handsets (constructional features of telephone transmitters or receivers, e.g. of speakers or microphones [H04M 1/03](#))}

### Definition statement

*This place covers:*

Constructional features of portable telephones. It is irrelevant whether they are mobile phones or handsets of a cordless phone having a local base station (e.g. DECT) at the user's premises. This group is intended to contain only candy-bar type telephone having no moving parts. For portable telephones having moving parts see below.

Example:



### Relationships with other classification places

For portable computers: [G06F 1/1613](#)

For portable transceivers per se: [H04B 1/3827](#)

For wristwatch telephones: [H04B 1/385](#)

For SIM card holding means: [H04B 1/3816](#)

For constructional features of portable transmitters: [H04B 1/034](#)

For constructional features of casing for electrical apparatus in general: [H05K 5/00](#)

For constructional features of portable and battery operated apparatuses: [H05K 5/0086](#)

For antenna support and mounting means for mobile phones: [H01Q 1/241](#)

Toy telephones: [A63H 33/3016](#)

### References

#### Limiting references

*This place does not cover:*

Constructional features of telephone transmitters or receivers, e.g. telephone handsets	<a href="#">H04M 1/03</a>
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#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Construction or mounting dials	<a href="#">H04M 1/23</a>
Arrangements for reducing RF exposure to the user	<a href="#">H04B 1/3838</a>

### Synonyms and Keywords

*In patent documents, the following words/expressions are often used as synonyms:*

- mobile, cellular,
- cordless, wireless, portable, hand-held,

- smartphone, cellphone, handy,
- appliance, terminal, station

## H04M 1/0203

{Protective covers or auxiliary enclosures for portable telephones (for storing [A45C 11/002](#))}

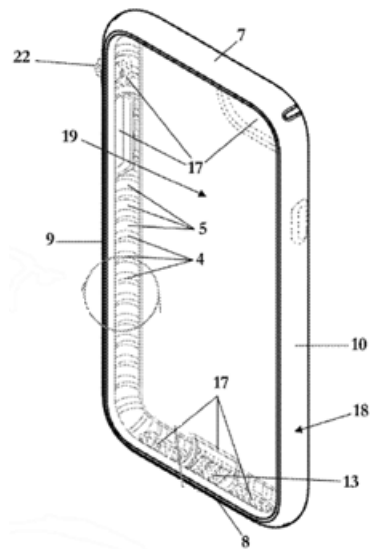
### Definition statement

*This place covers:*

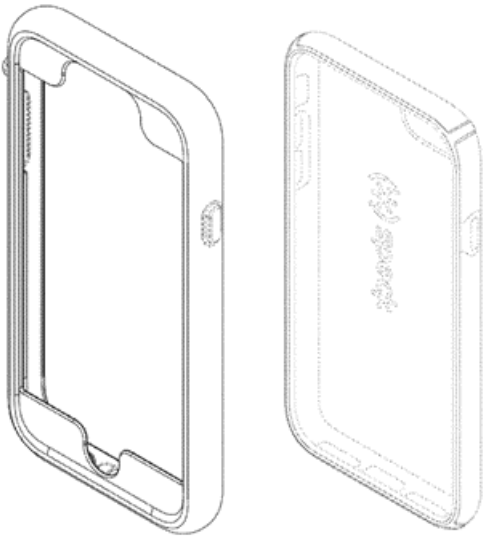
Protective covers or auxiliary enclosures for mobile telephones holding the device during use without hampering said use. The covers or enclosures for mobile telephones are in principle detachable, but intended to remain on the mobile telephone during use. The cover or enclosure provides features, e.g. openings, notches or bumpers, that enable the use of the mobile phone. The protection can be various, e.g. to hazardous environments, for improving heat dissipation or resistance to shocks.

Illustrative examples of subject matter classified in this place:

1.



2.



### Relationships with other classification places

Protective covers or auxiliary enclosures for mobile telephones that are intended to hold the device during use are classified in [H04M 1/0203](#) while receptacles for storing portable audio devices, portable handheld communication devices or portable computing devices where the device must be removed for use are classified in [A45C 11/001](#), [A45C 11/002](#) and [A45C 11/003](#), respectively.

In the context of subclass [A45C](#), storing is understood as to refer to putting or keeping something in a receptacle for future use.

Enclosures for carrying portable computers with peripheral devices, like a printer or a charger, are classified in [G06F 1/1628](#).

Holders or carriers being worn by a user for portable audio devices, portable handheld communication devices and portable computing devices to facilitate transporting or carrying, where the device is not in use or being passively used, are classified in groups [A45F 5/1508](#), [A45F 5/1516](#) and [A45F 5/1525](#), respectively.

Protective covers or auxiliary enclosures for portable computers that are intended to hold the device during use without hampering said use are classified in [G06F 1/1629](#).

Constructional features, like venting or EMI shielding means, of electronic housings not characterised by the inner electronic arrangements are classified in [H05K 5/00](#).

Supports for positioning or steadying a device relative to a person with the intent of using the device are classified in [F16M 13/04](#).

### References

#### Limiting references

*This place does not cover:*

Receptacles for storing portable handheld communication devices, e.g. pagers or smart phones	<a href="#">A45C 11/002</a>
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**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Telephone sets specially adapted for use in ships, mines or other places exposed to adverse environment	<a href="#">H04M 1/18</a>
Receptacles for storing portable audio devices like headphones or digital music players	<a href="#">A45C 11/001</a>
Receptacles for storing portable computing devices, e.g. laptops, tablets or calculators	<a href="#">A45C 11/003</a>
Holders or carriers for portable audio devices	<a href="#">A45F 5/1508</a>
Holders or carriers for portable handheld communication devices	<a href="#">A45F 5/1516</a>
Holders or carriers for portable computing devices	<a href="#">A45F 5/1525</a>
Supports for positioning or steadying a device relative to a person	<a href="#">F16M 13/04</a>
Protective covers or auxiliary enclosures for portable computers	<a href="#">G06F 1/1629</a>
Arrangements for carrying or protecting portable transceivers	<a href="#">H04B 1/3888</a>
Casings, cabinets or drawers for electric apparatus	<a href="#">H05K 5/00</a>

**Special rules of classification**

Features relating to further aspects concerning hygiene, e.g. integrated sanitizers or antiviral aspects are identified by allocating further classification in [H04M 1/17](#).

Features relating to further improving the user comfort by providing a decorative aspect are identified by allocating further classification in [H04M 1/0283](#).

Fastening means of holding devices supporting portable telephones are classified in [H04M 1/04](#).

**H04M 1/0206**

**{Portable telephones comprising a plurality of mechanically joined movable body parts, e.g. hinged housings}**

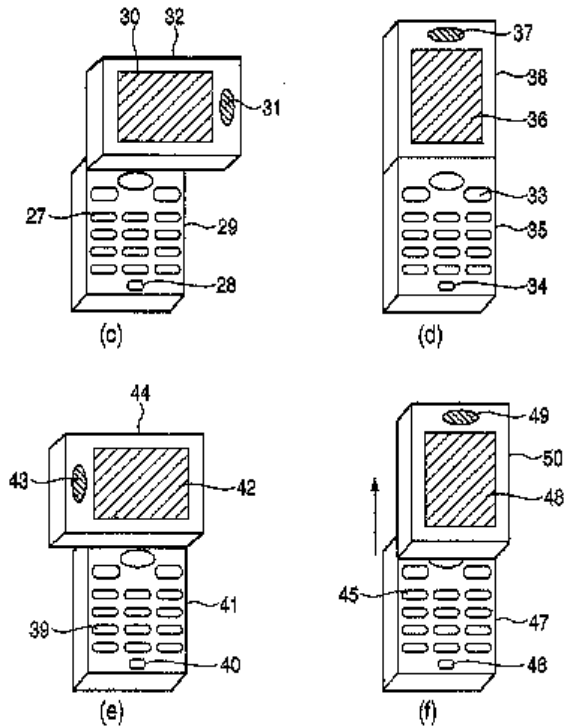
**Definition statement**

*This place covers:*

Main aspect is the motion of body parts. This group is intended for documents that do not fit in any of the lower level groups.



Example EP1843554



### Relationships with other classification places

For portable computers: [G06F 1/1615](#)

### Special rules of classification

Documents are only classified in this class when none of the lower classes applies.

## H04M 1/0208

{characterized by the relative motions of the body parts}

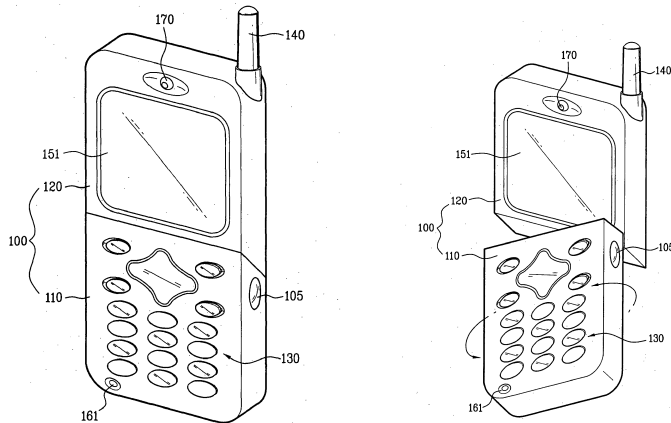
### Definition statement

*This place covers:*

Neither rotatable nor foldable in the sense of the definitions of the classes [H04M 1/0225](#) or [H04M 1/0214](#): the axis of the movement is neither perpendicular nor parallel to the plane defined by the bodies in the closed position.

This group is for portable telephones having moving parts and that do not fit in any of the groups [H04M 1/021](#), [H04M 1/0214](#), [H04M 1/0225](#) or [H04M 1/0235](#).

Example: EP1659700



## H04M 1/021

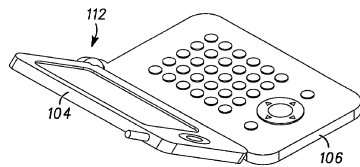
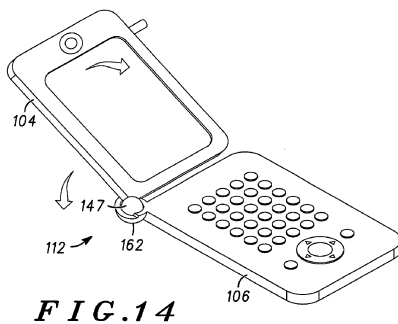
{using combined folding and rotation motions (combined with translation movement [H04M 1/0235](#))}

### Definition statement

*This place covers:*

Only foldable and rotatable phones without mechanical details of the hinge would be classified here (when combined with translation movement [H04M 1/0235](#)).

Example: US2004/0203485



### References

#### Limiting references

*This place does not cover:*

Slidable or telescopic telephones	<a href="#">H04M 1/0235</a>
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## H04M 1/0212

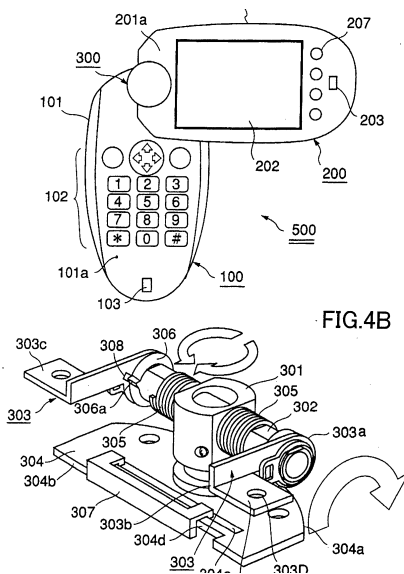
{with a two degrees of freedom mechanism, i.e. folding around a first axis and rotating around a second axis perpendicular to the first}

### Definition statement

*This place covers:*

This group is for documents disclosing details of the hinge mechanism that allow two degrees of freedom in the sense defined in the group [H04M 1/021](#), i.e. folding around a first axis and rotating around a second axis, which is perpendicular to the first one.

Example:EP1298890



## H04M 1/0214

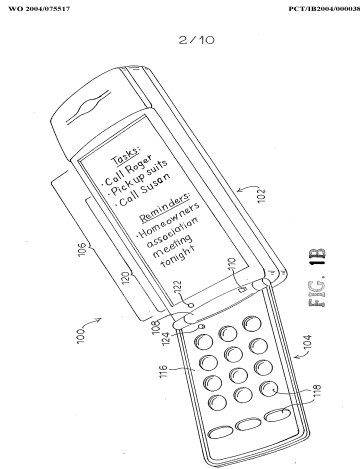
{Foldable telephones, i.e. with body parts pivoting to an open position around an axis parallel to the plane they define in closed position (combined with translation movement [H04M 1/0235](#))}

### Definition statement

*This place covers:*

Only foldable and portable phone without mechanical details of the hinge.

Example:EP1595386 :



### Relationships with other classification places

Foldable portable computers: [G06F 1/1616](#).

Hinges for doors or windows [E05D](#).

Hinged covers or doors [H02B 1/38](#).

Hinges for casing of electrical apparatuses [H05K 5/0226](#).

### References

#### Limiting references

*This place does not cover:*

Slidable or telescopic telephones	<a href="#">H04M 1/0235</a>
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#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Using combined folding and rotation motions	<a href="#">H04M 1/021</a>
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### Special rules of classification

Indexing Codes will be converted to index classes and considered as additional information

## H04M 1/0216

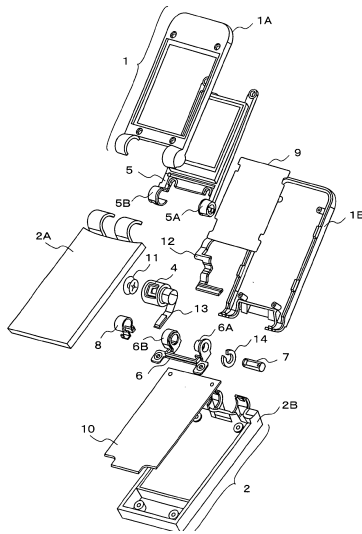
{Foldable in one direction, i.e. using a one degree of freedom hinge}

### Definition statement

*This place covers:*

This group contains constructional details concerning the hinge. If the document does not provide any details concerning the hinge, the document should be classified in the group [H04M 1/0214](#).

Example:EP1641224



### Relationships with other classification places

For portable computers: [G06F 1/1681](#)

Hinges for doors and windows: [E05D](#)

Flexible line connectors wound around the rotation axis for electrical connection of the two folding parts: [H01R 35/00](#)

Hinges including optical fibres between different housings: [G02B 6/3604](#)

## H04M 1/0218

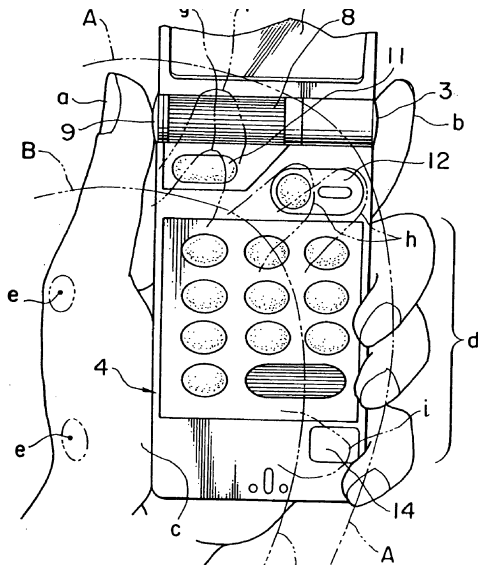
{The hinge comprising input and/or output user interface means}

### Definition statement

*This place covers:*

This group is for hinges (folding in one direction) that contain input/out means like push buttons, a thumb wheel or other navigational tools. Additionally, folding portable telephones having cameras integrated in the hinge are classified here as well.

Example: US2005221865



## H04M 1/022

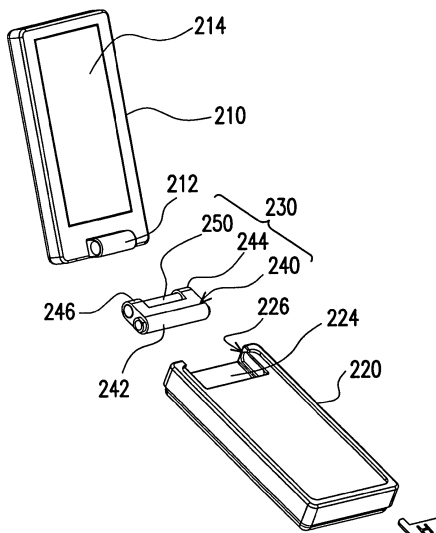
{The hinge comprising two parallel pivoting axes}

### Definition statement

*This place covers:*

This group is for folding portable telephones wherein the hinge comprises two parallel axes.

Example: EP1510905



## H04M 1/0222

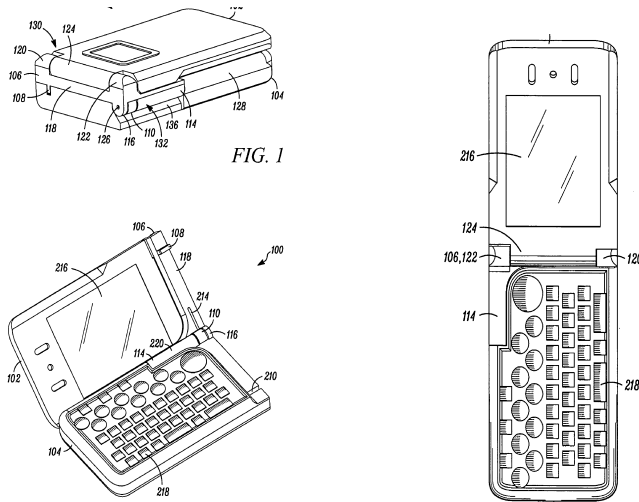
{Foldable in two directions, i.e. using a two degree of freedom hinge}

### Definition statement

*This place covers:*

Portable communication devices foldable along two directional axis which are perpendicular to each other (Dual-axis hinge).

Example: US2006112519



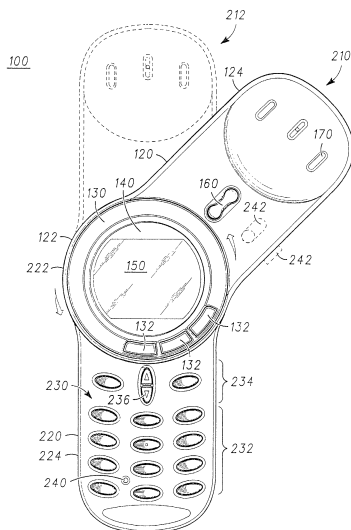
## H04M 1/0225

{Rotatable telephones, i.e. the body parts pivoting to an open position around an axis perpendicular to the plane they define in closed position (combined with translation movement [H04M 1/0235](#))}

### Definition statement

*This place covers:*

This group covers rotatable telephones whose body parts rotate relative to each other in the same plane as in the following Example: EP1349350



### Relationships with other classification places

For portable computers: [G06F 1/1622](#)

## References

### Limiting references

*This place does not cover:*

Slidable or telescopic telephones	<a href="#">H04M 1/0235</a>
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## H04M 1/0227

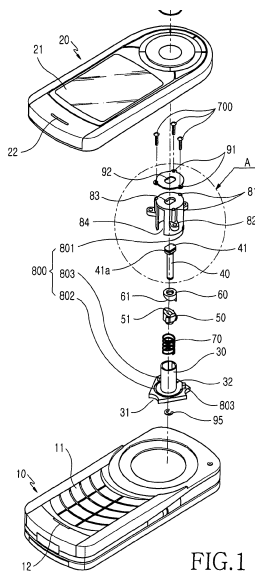
{Rotatable in one plane, i.e. using a one degree of freedom hinge}

### Definition statement

*This place covers:*

This group contains constructional details concerning the hinge. If the document does not provide any details concerning the hinge, the document should be classified in the group [H04M 1/0225](#).

For example: EP1615406



### Relationships with other classification places

For portable computers: [G06F 1/1681](#)

## H04M 1/0229

{The hinge comprising input and/or output user interface means}

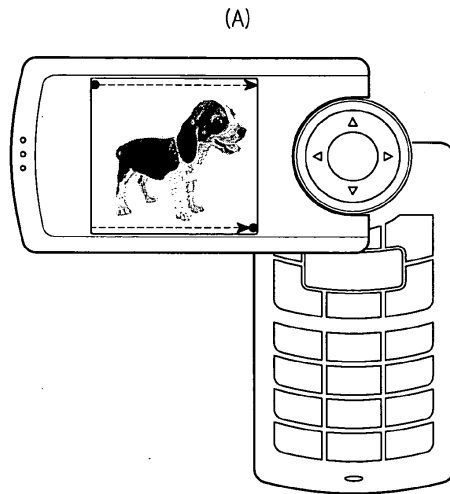
### Definition statement

*This place covers:*

This group is for hinges (rotating in one direction) that contain input/out means like push buttons, a thumb wheel or other navigational tools. Additionally, rotating portable telephones having cameras integrated in the hinge are classified here as well.



For example: US2005280731



## H04M 1/0231

{Including a rotatable keypad body part}

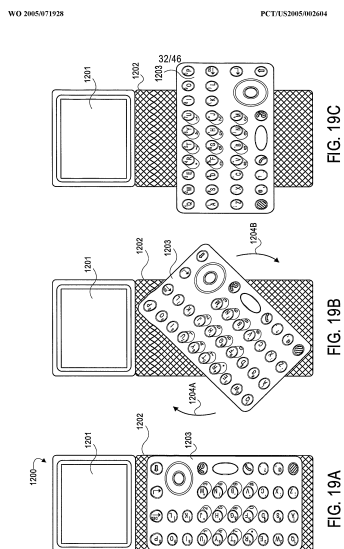
### Definition statement

*This place covers:*

This group is intended for rotating portable telephones wherein one of the rotating parts is a keyboard. If the document contains details of the hinge, the document is additionally classified in [H04M 1/0227](#).

If there are a plurality of keyboards, the indexing code [H04M 2250/18](#) is allocated as well.

For example: WO2005071928



## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Construction or mounting of dials	<a href="#">H04M 1/23</a>
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## H04M 1/0233

{Including a rotatable display body part}

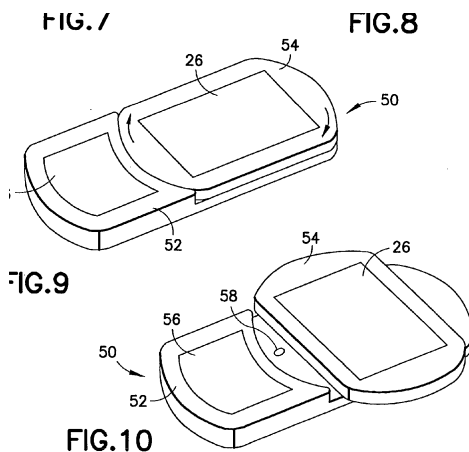
### Definition statement

*This place covers:*

This group is intended for rotating portable telephones wherein one of the rotating parts is a display. If the document contains details of the hinge, the document is additionally classified in [H04M 1/0227](#).

If there are a plurality of displays, the indexing code [H04M 2250/16](#) is allocated as well.

For example: US2005088075



### Relationships with other classification places

For portable computers: [G06F 1/1622](#)

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

For mounting a display module on a telephone set	<a href="#">H04M 1/0266</a>
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## H04M 1/0235

{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}

### Definition statement

*This place covers:*

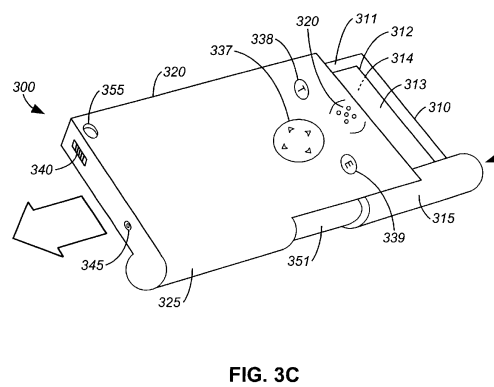
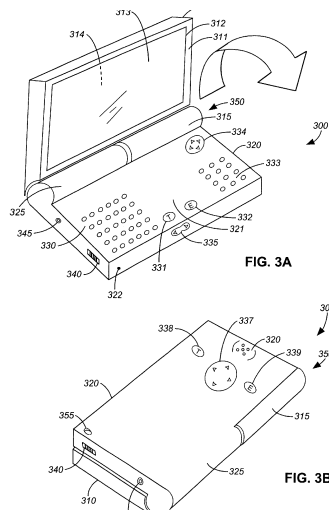
Slidable telephones without mechanical details of the hinge.

Some examples of movement combinations:

EP1540836: Foldable and slidable.

Classes: [H04M 1/0235](#): Main aspect.

[H04M 1/0214](#): Foldable as additional information.



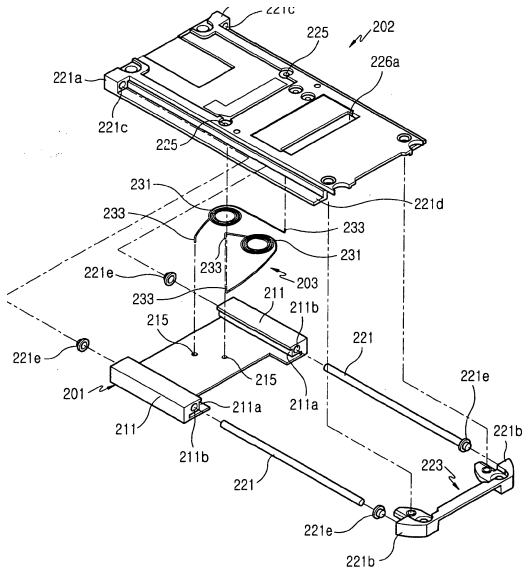
WO2005071928: Rotatable and slidable.

Classes:

[H04M 1/0235](#): Main aspect.



For example: EP1648145



### Relationships with other classification places

For portable computers: [G06F 1/1681](#)

## H04M 1/0239

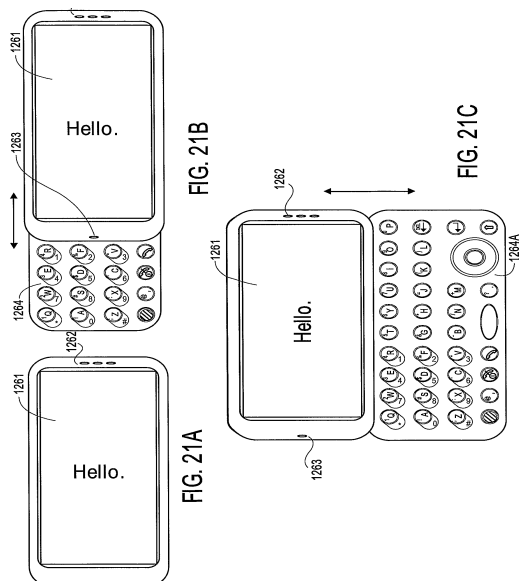
{Sliding mechanism with two degree of freedom, e.g. translation in two different directions}

### Definition statement

*This place covers:*

This group contains portable telephones wherein the housing parts can slide in two different directions (typically one perpendicular to the other one). If the document discloses mechanical details of the hinge, the code [H04M 1/0237](#) is additionally allocated.

For example: WO2005071928



## H04M 1/0241

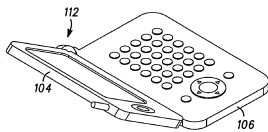
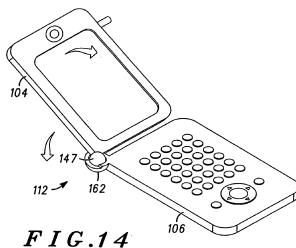
{using relative motion of the body parts to change the operational status of the telephone set, e.g. switching on/off, answering incoming call}

### Definition statement

*This place covers:*

Portable telephones having moving parts (folding, rotating, sliding) whereby the position of the moving parts is detected and is used for performing an action (e.g. selecting an operating mode, answering a call, switch on/off a display or its backlight).

For example: US2005136853



'The method comprises the steps of detecting a relative position of the first electronic element relative to the second electronic element, and selecting an operational mode of the device based on the relative position'

Classification:

[H04M 1/0241](#): Relative position.

[H04M 1/0212](#): Details of foldable and rotatable hinge as additional information.

### Relationships with other classification places

For portable computers	<a href="#">G06F 1/1675</a> , <a href="#">G06F 1/1677</a>
------------------------	--

### Special rules of classification

When the main aspect is the relative position of the body parts, then the type of movement would be classified as Indexing Code or additional information.

Foldable and rotatable phones with relative position detectors are classified here, as their functionality depends on a combination of both open/close positions and the relative angle between housings.

## H04M 1/0243

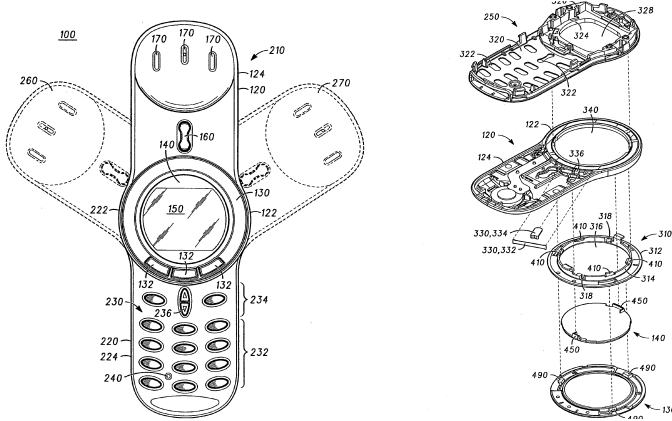
{using the relative angle between housings}

### Definition statement

*This place covers:*

Mainly for rotatable phones, which apart from close ( $0^\circ$ ) and open ( $90^\circ$  or  $180^\circ$ ) positions have other 'intermediate' positions, with different functionalities.

Example: US2006035685



'the second housing ( 120 ) may have multiple positions relative to the first housing ( 220 ) in which each position activates a particular function of the device ( 100 ).'

Classification:

[H04M 1/0243](#): Relative angle.

[H04M 1/0227](#): Important details of rotatable hinge as additional information.

However, there are also those foldable telephones which detect not only an open/close condition, but the whole range:

Example: EP1601165

Fig. 3

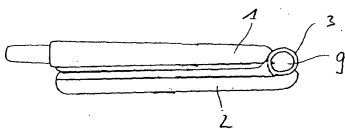
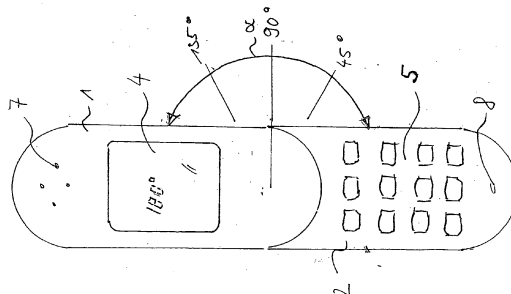
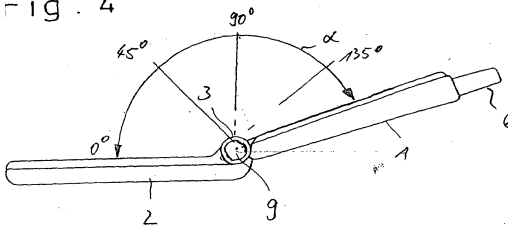


Fig. 4



the relative angle of aperture controls foldable or rotatable phone. Classification:

[H04M 1/0243](#): Relative angle.

[H04M 1/0214](#): Foldable phone as additional information.

[H04M 1/0225](#): Rotatable phone as additional information.

## H04M 1/0245

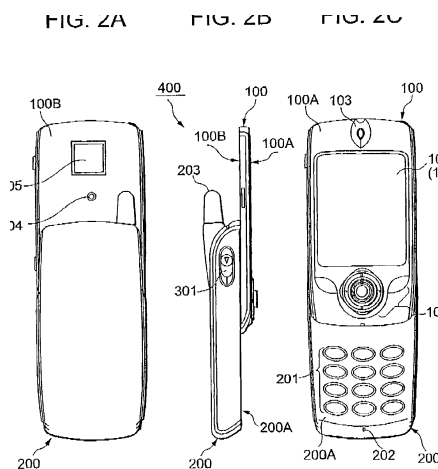
{using open/close detection}

### Definition statement

*This place covers:*

Mainly for foldable and slidable phone.

Example US2003064688



Slidable telephone with position detectors to control its functionality. Classification:

[H04M 1/0245](#): Open/close condition.

[H04M 1/0235](#): Slidable phone without important constructional hinge details as additional information.

### Relationships with other classification places

For portable computers: [G06F 1/1677](#)

## H04M 1/0247

{comprising more than two body parts}

### Definition statement

*This place covers:*

Portable telephones having at least three movable parts (folding, rotating, sliding). The type of movement is classified as additional information.





Example: EP2180668

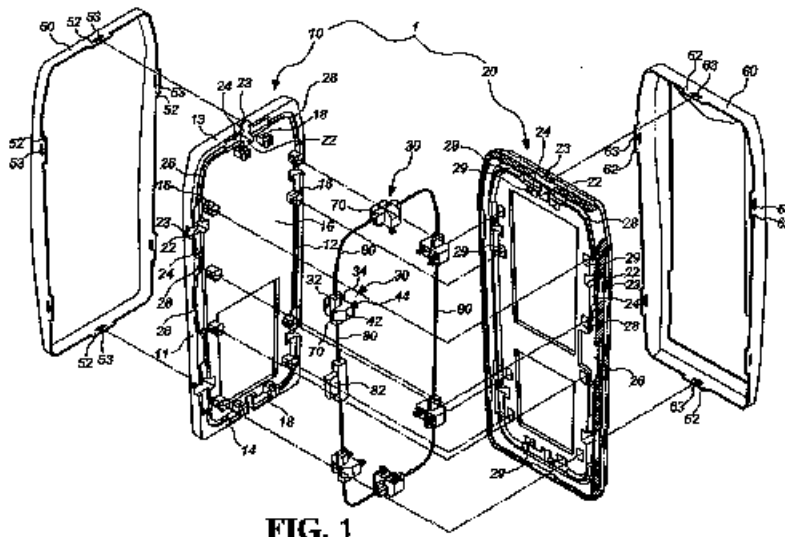


FIG. 1

### Relationships with other classification places

Casing and cabinets comprising several parts forming a closed housing: [H05K 5/00](#)

### H04M 1/0252

{by means of a snap-on mechanism}

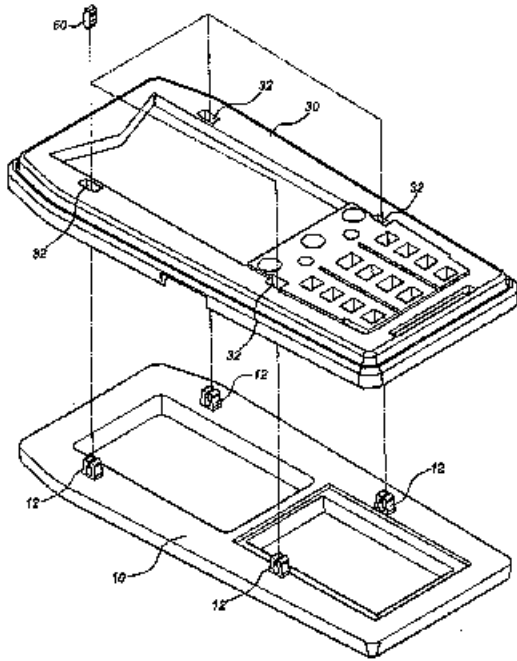
### Definition statement

*This place covers:*

When the connection is done by pressing the housing portions together (press-fit or snap-on mechanism).

Also for applications where a special tool is required to separate the housing.

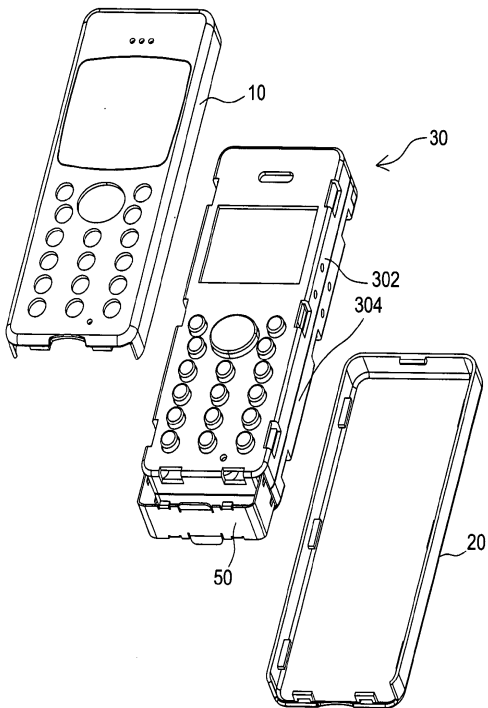
Example: EP2219349



**FIG. 1**

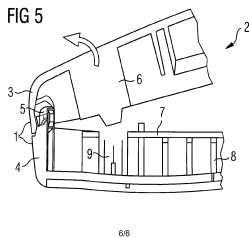
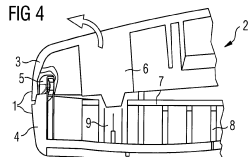
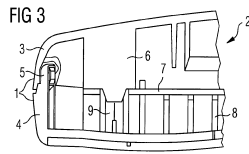
Other examples:

US2004053649



DE10314171

DE 103 14 171 A1 2004.10.14



## H04M 1/0254

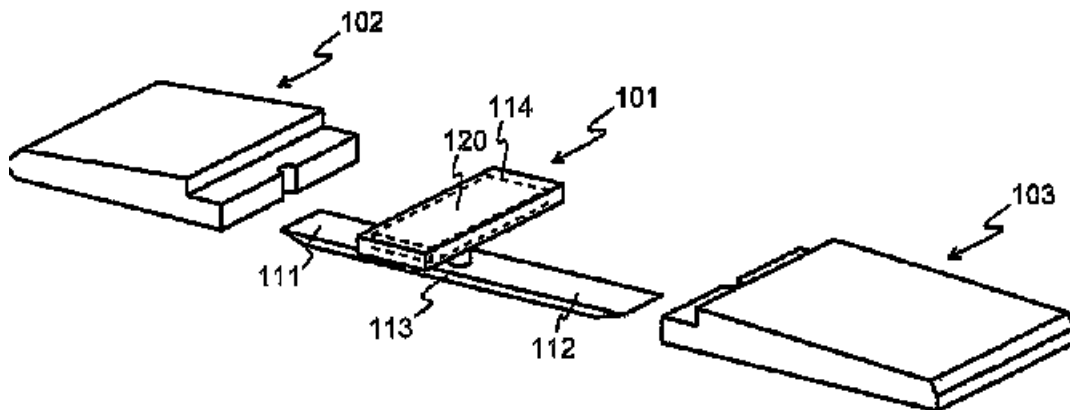
{comprising one or a plurality of mechanically detachable modules}

### Definition statement

*This place covers:*

Mechanical assembly of a portable communication device comprising a plurality of detachable modules.

Example: WO2008017728. A communication device comprises a first structural module (101) with a power source (120), as well as second (102), and third (103) structural modules



### Relationships with other classification places

For personal computers: [G06F 1/1656](#)

Relationships with other classification places

Detachable keyboards for portable computers: [G06F 1/1669](#)

### Special rules of classification

For a detachable accessory providing an expanded functionality to the communication device when connected to the same: [H04M 1/72409](#).

## H04M 1/0256

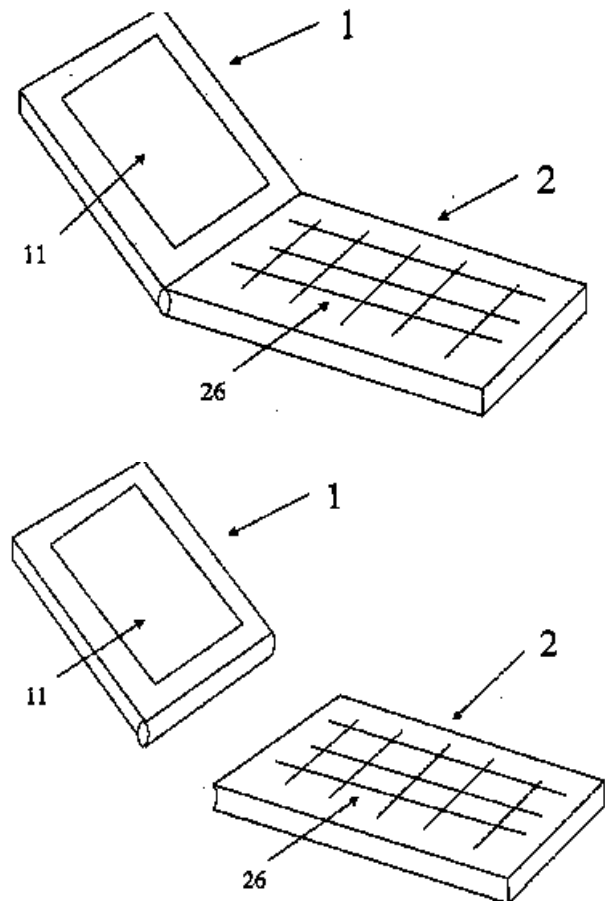
{wherein the modules are operable in the detached state, e.g. one module for the user interface and one module for the transceiver}

### Definition statement

*This place covers:*

Mechanical assembly of a portable communication device comprising a plurality of detachable modules which may communicate between each other via a wireless link when they are detached from each other

Example: US2008167080. An improved portable mobile phone is disclosed wherein the mobile phone comprises two modules and the mobile phone can function properly when the two modules are physically connected as well as when the two modules are detached



### Special rules of classification

For an accessory providing an expandable functionality to the communication device and communicating with the same by using a short range radio link as the Bluetooth interface: [H04M 1/72412](#).

## H04M 1/0258

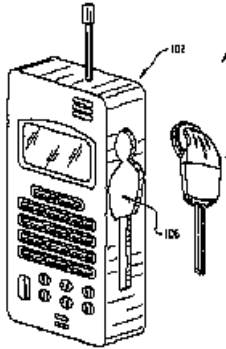
{for a headset device}

### Definition statement

*This place covers:*

The headset is fitted in a special compartment of the device when not in use.

Example :US2008090626



### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Constructional features of headsets for use on head, throat or breast	<a href="#">H04M 1/05</a>
Headsets for earphones to a mobile phone for hands-free use	<a href="#">H04M 1/6058</a>

## H04M 1/026

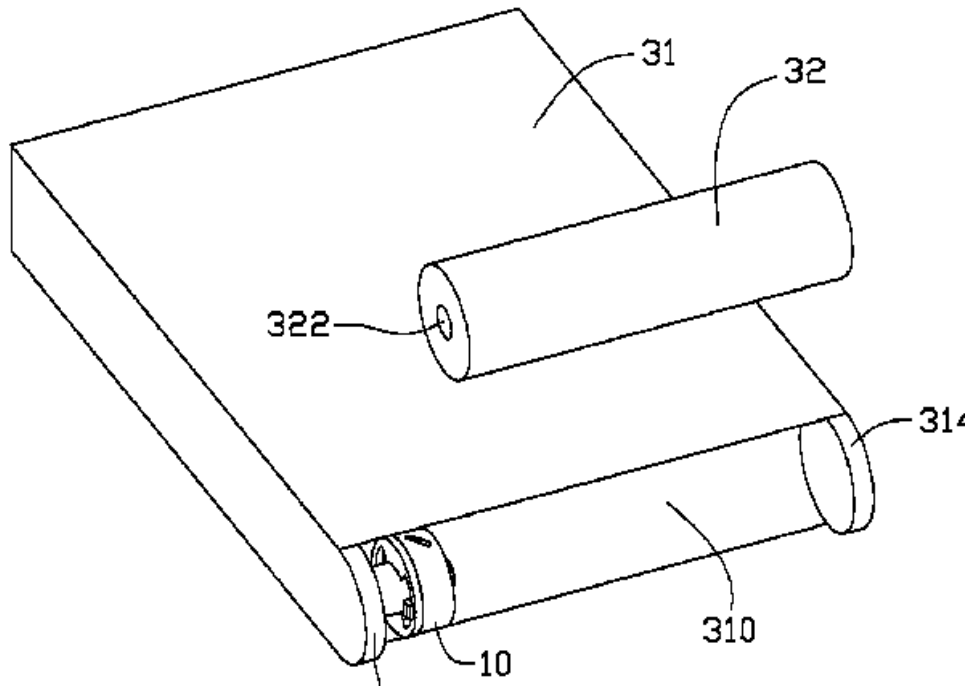
{Details of the structure or mounting of specific components}

### Definition statement

*This place covers:*

Mounting of specific components other than acoustic transducers like microphones and speakers.

The latching mechanism 10 is configured for mounting an accessory member 32 to a housing 31 of a portable electronic device 30.



## References

### *Informative references*

*Attention is drawn to the following places, which may be of interest for search:*

Constructional features of telephone transmitters or receivers, e.g. of speakers or microphones	<a href="#">H04M 1/03</a>
For portable computers	<a href="#">G06F 1/1633</a>

## H04M 1/0262

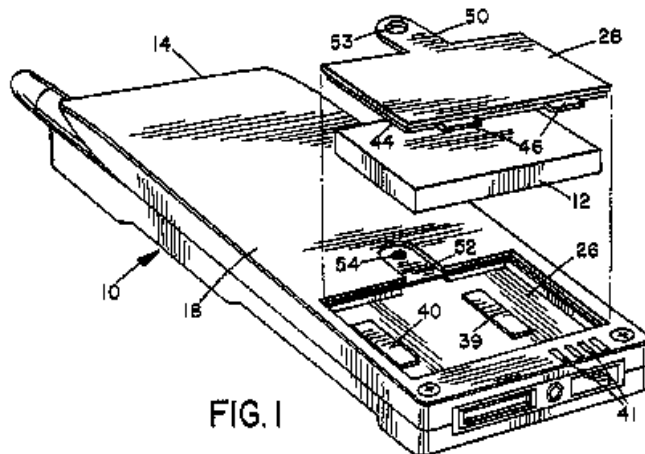
{for a battery compartment}

### Definition statement

*This place covers:*

Mounting of a battery module in a portable communication device

Example: WO9966697



**Relationships with other classification places**

For portable computers	<a href="#">G06F 1/1635</a>
For general aspect of mounting batteries in a portable device housing	<a href="#">H01M 50/20</a>
For battery mounting in a portable transceiver	<a href="#">H04B 1/3883</a>
Portable or battery operated apparatus	<a href="#">H05K 5/0086</a>

**H04M 1/0264**

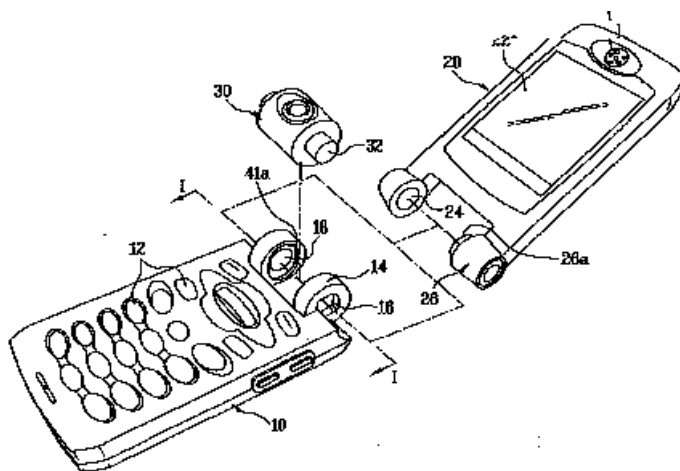
{for a camera module assembly}

**Definition statement**

*This place covers:*

Mounting of a camera module in a portable communication device.

Example EP1267576. A camera module (30) is rotatably assembled between the inner sides of the rotary hinge support portions.



**Relationships with other classification places**

For a camera module in portable computers: [G06F 1/1686](#)



Relationships with other classification places

For constructional details of videotelephones: [H04N 7/142](#)

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Photo or video cameras per se	<a href="#">G03B</a>
Television cameras	<a href="#">H04N 23/00</a>

**H04M 1/0266**

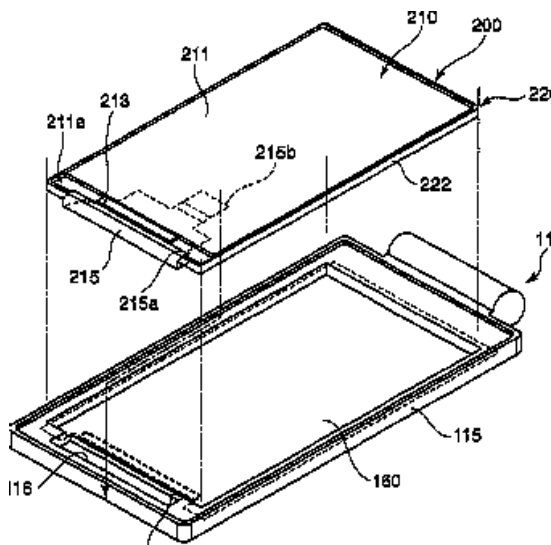
{for a display module assembly}

**Definition statement**

*This place covers:*

Mounting of a display module in a portable communication device

In the device (100), the flat-board-like display unit (200) provided with a display drive section (213) that drives a liquid crystal display section (211) is attached to a first case (110) with a metal rear plate (160) there between.



**References**

**Informative references**

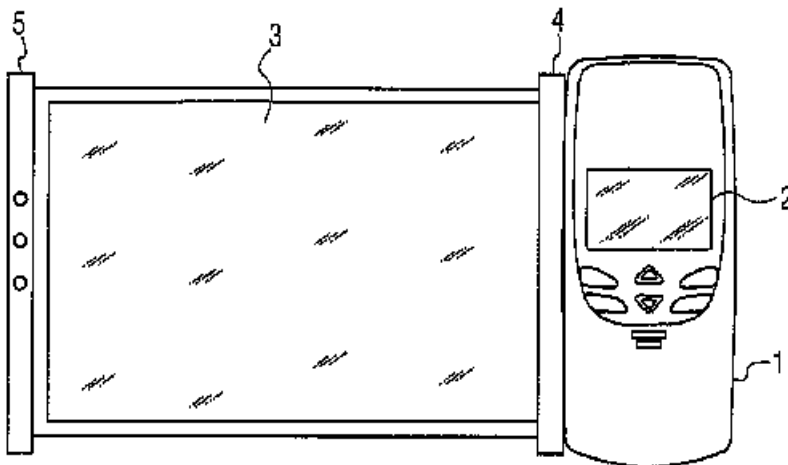
Attention is drawn to the following places, which may be of interest for search:

Mechanical mounting details of display modules for fixed telephones	<a href="#">H04M 1/0295</a>
For portable computers	<a href="#">G06F 1/1633</a>

**H04M 1/0268****{including a flexible display panel}****Definition statement***This place covers:*

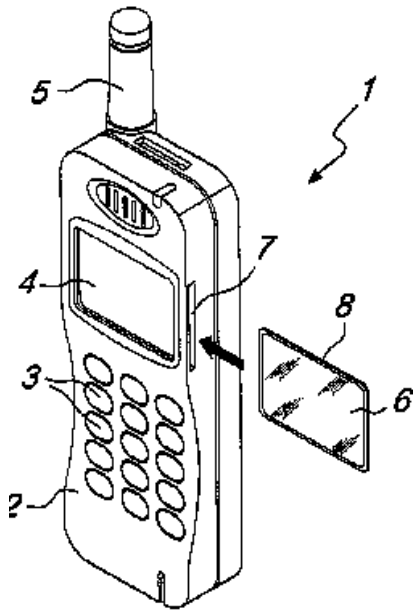
The display being extendable and retractable.

Example :WO2005114309. The display device has an inner housing with inner slot through which a bend region of a rollable display device portion is disposed.

**Relationships with other classification places**For personal computers: [G06F 1/1652](#)**H04M 1/027****{including magnifying means}****Definition statement***This place covers:*

A corrective lens (6), adapted to magnify the characters shown on the display, being associated with the display.

Example EP1643734



### Relationships with other classification places

For magnifying glasses per se: [G02B 25/002](#)

### H04M 1/0274

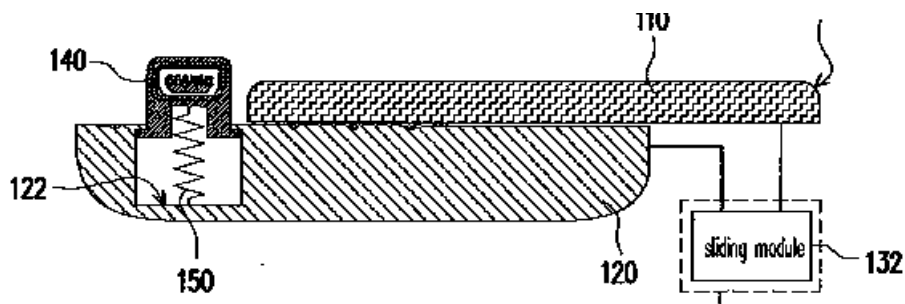
{for an electrical connector module}

### Definition statement

*This place covers:*

Mounting of an electrical connector in a portable communication device for connecting an accessory or external apparatus.

Example EP2239928. A portable electronic device includes a first slidable body (110), a second body (120), a motion assembly (132), a connector (140), and an ejector (150)



### Relationships with other classification places

Connectors per se: [H01R](#)

## H04M 1/0277

{for a printed circuit board assembly}

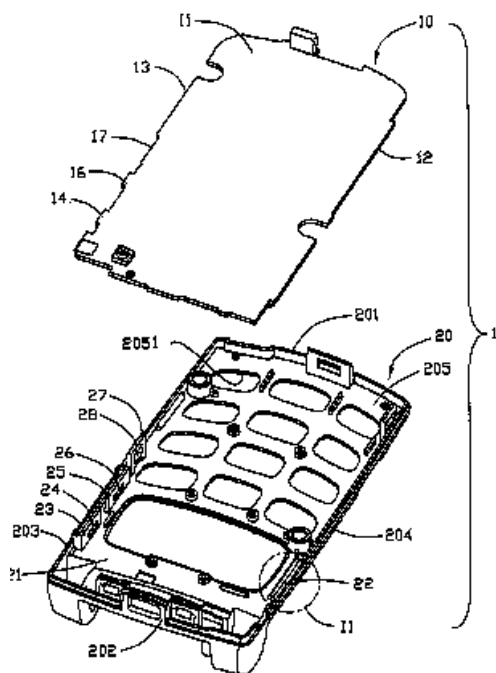
### Definition statement

*This place covers:*

Means for securing a printed circuit boards to the inside of a portable telephone.

Examples:

US6728112. A fastening module (1) for a printed circuit board (10) of a portable electronic device includes the printed circuit board and a casing (20). The casing includes at least one supporting plate (23, 25) and at least one clamp (22).



US6041120

U.S. Patent Mar. 21, 2000 Sheet 2 of 2 6,041,120

FIG. 2.

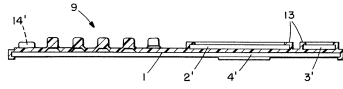
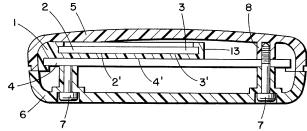


FIG. 3.



### Relationships with other classification places

Manufacturing printed circuits and assembling with electrical components: [H05K 3/00](#)

### H04M 1/0279

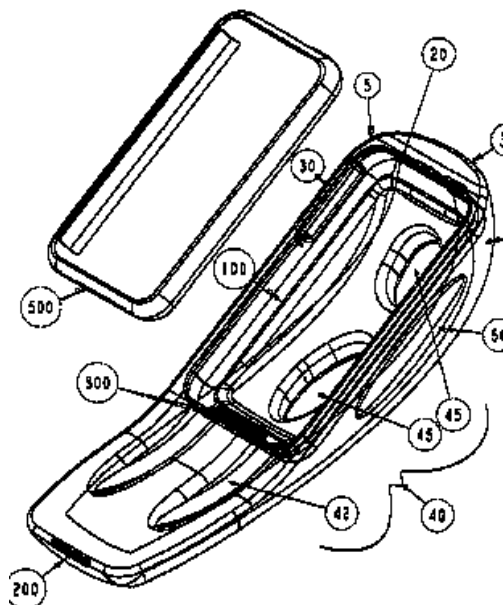
{Improving the user comfort or ergonomics}

### Definition statement

*This place covers:*

Portable telephones having means for improving the user comfort or ergonomics.

Example US2010210329. Hand held, ergonomic grip having a portable telephone device removably coupled thereto



## Relationships with other classification places

Personal computers with ergonomic disposition of keys: [G06F 1/1664](#)

Ergonomic functions for miniature keyboards : [H01H 13/84](#)

## H04M 1/0281

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

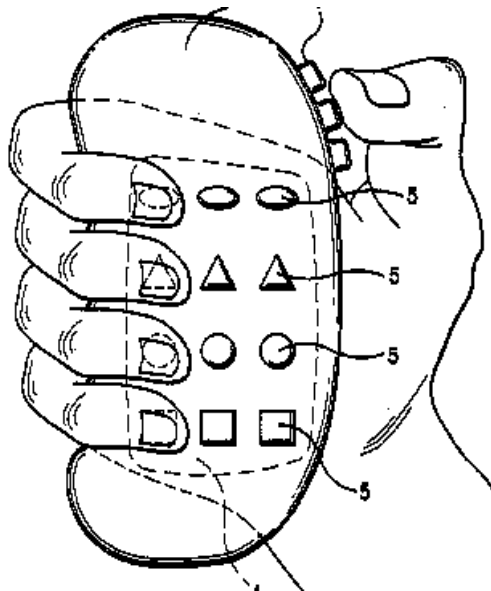
### Definition statement

*This place covers:*

Constructional features allowing single hand use. Also for applications dealing with constructional aspects allowing right or left hand use.

An ergonomic housing that is shaped to fit comfortably in the palm of a human hand.

Example US6164853



## H04M 1/0283

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

### Definition statement

*This place covers:*

User replaceable covers having a decorative function. If after changing the cover there is a change in the functionality see also [H04M 1/7246](#).

This class also includes handsets made of precious metals or with other aesthetic improvements.

Housing with decorative pattern area.

Example US2010085690

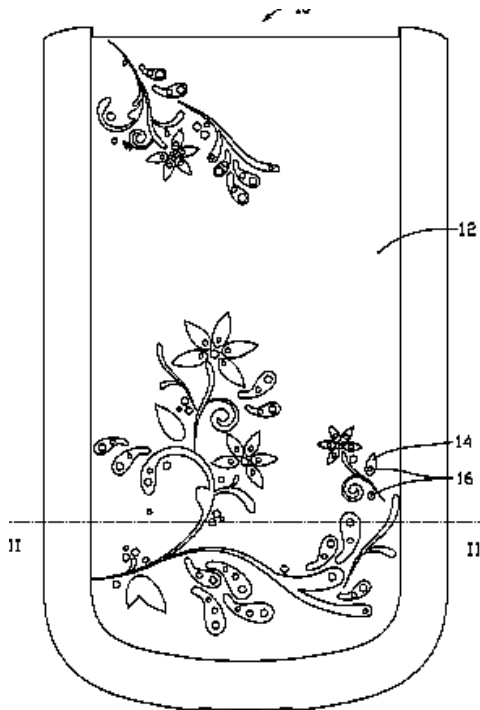


FIG. 1

**Special rules of classification**

[H04M 1/7246](#) when the exchange of a faceplate modifies the functionality of the device

**H04M 1/0285**

{Pen-type handsets}

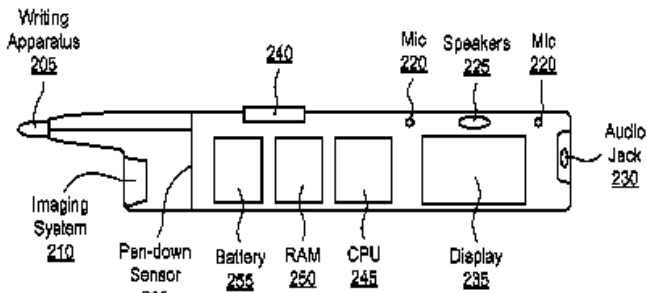
**Definition statement**

*This place covers:*

Portable telephone having a pen shape or form factor.

Examples:

US2009251338.



DE19922777

ZEICHNUNGEN SEITE 1

Nummer: DE 199 22 777 A1  
 Int. Cl. 7: H04B 1/28  
 Offenlegungstag: 23. November 2000

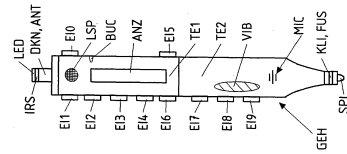


Fig. 2

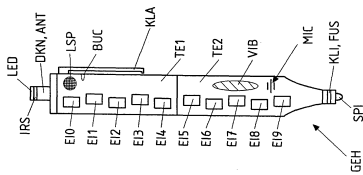


Fig. 1

002 047430

**Relationships with other classification places**

Pen or stylus-type devices: [G06F 3/03545](#)

**H04M 1/0289**

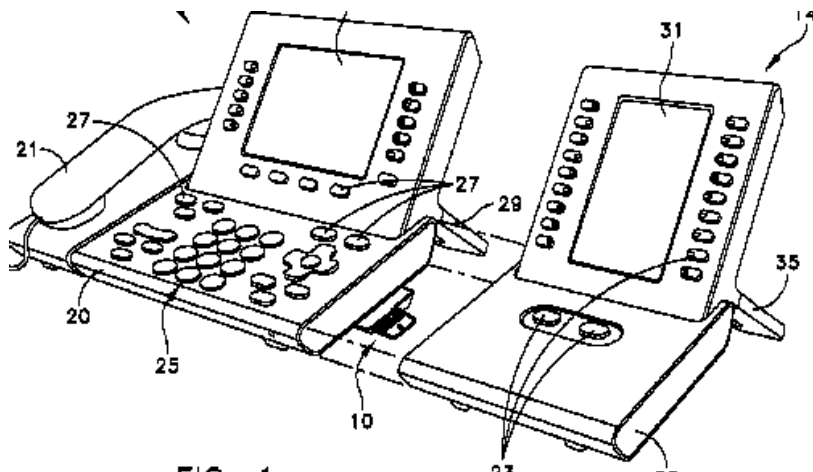
{Telephone sets for operators}

**Definition statement**

*This place covers:*

Mechanical arrangements for connecting expansion modules to telephone sets

Example US7500880





## H04M 1/0291

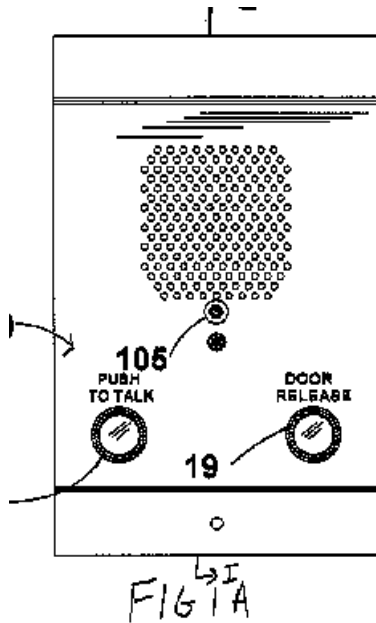
### {Door telephones}

#### Definition statement

*This place covers:*

Constructional features of a door telephone, intercom, or interphone.

Example US2004091092.



#### Relationships with other classification places

Video door telephones: [H04N 7/186](#)

Door telephone systems: [H04M 11/025](#)

## H04M 1/0293

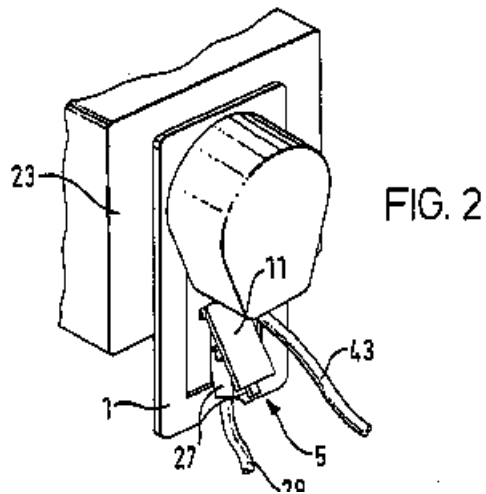
### {Terminal boxes for telephone sets}

#### Definition statement

*This place covers:*

Constructional features of junction boxes (23) for connecting a telephone set to a telephone line.

Example US2003040223.



### Relationships with other classification places

Conductive connections between two or more conductive members: [H01R](#)

### H04M 1/0295

{Mechanical mounting details of display modules}

### References

#### Informative references

Attention is drawn to the following places, which may be of interest for search:

Mechanical mounting details of display modules for portable telephones	<a href="#">H04M 1/0266</a>
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### H04M 1/0297

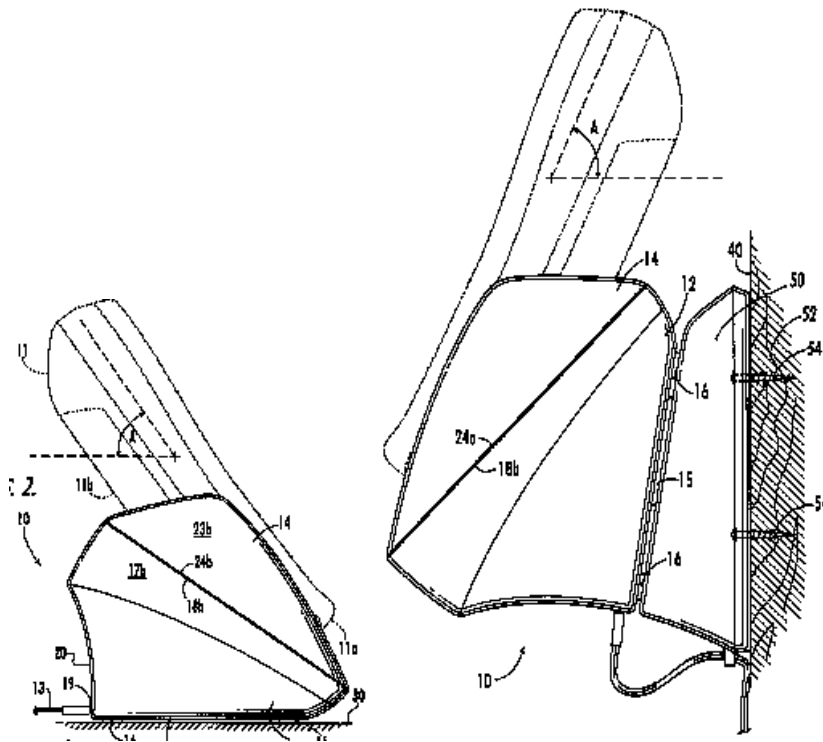
{Telephone sets adapted to be mounted on a desk or on a wall}

### Definition statement

*This place covers:*

Convertible desk-to-wall support for handheld devices.

Example US6130521



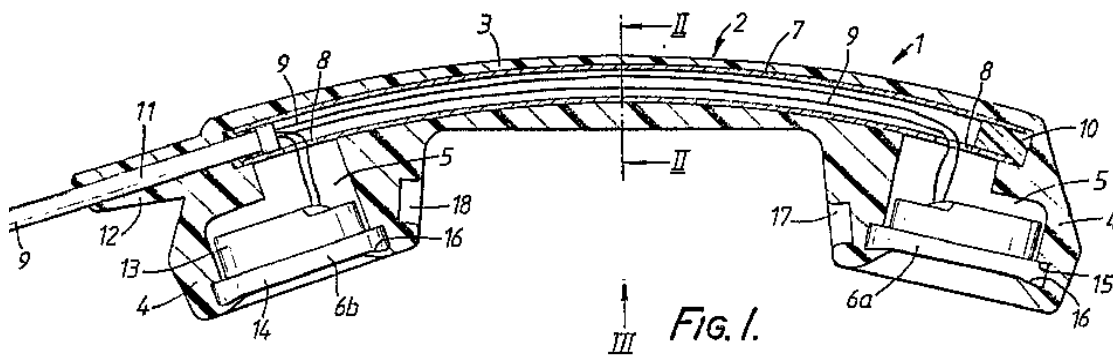
## H04M 1/03

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

#### Definition statement

*This place covers:*

Mounting of a microphone and a loudspeaker in the telephone handset.



#### Relationships with other classification places

Acoustic transducers per se: [H04R 1/00](#)

Mounting of acoustic transducers in a portable computer: [G06F 1/1688](#)

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Transducers in general	<a href="#">H04R 1/00</a>
------------------------	---------------------------

## Special rules of classification

Mounting of an additional speaker/microphone in a fixed telephone set for handsfree use [H04M 1/62](#).

## H04M 1/035

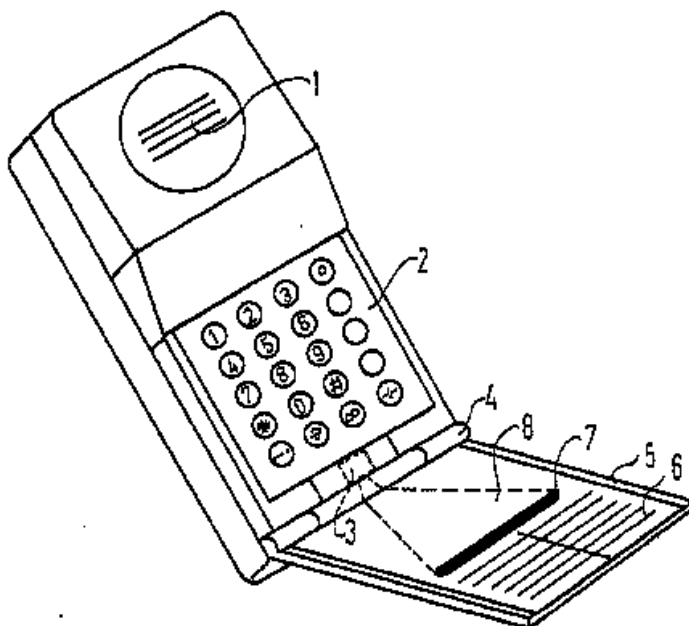
**{Improving the acoustic characteristics by means of constructional features of the housing, e.g. ribs, walls, resonating chambers or cavities}**

### Definition statement

*This place covers:*

Means for improving or changing the acoustic characteristics of acoustic transducers (microphones, loudspeakers). Resonating chambers being provided on the back of the transducer, sound channels in housings.

For example EP0275996 : a sound passage opening (7) is disposed on the inside of the lid, connecting with at least one sound feeding channel (8) inside the lid for guiding sound waves to the microphone (3):



## H04M 1/04

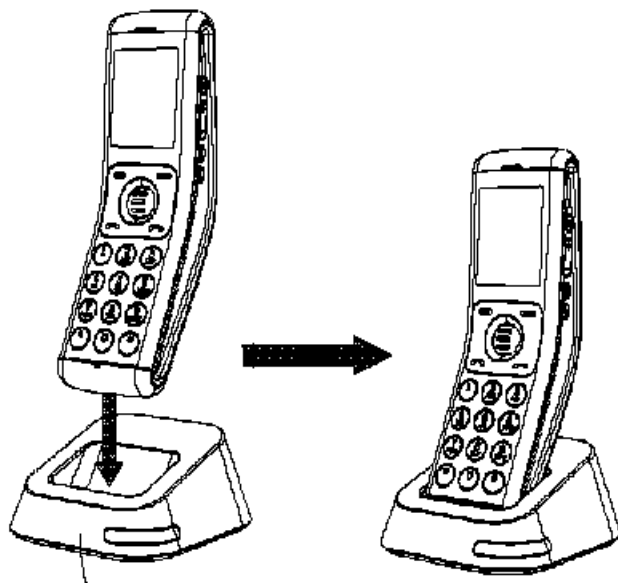
**Supports for telephone transmitters or receivers**

### Definition statement

*This place covers:*

Constructional features, e.g. fastening means of a holster, holding device or docking station supporting a portable telephone.

Illustrative example of subject matter classified in this place:



### Relationships with other classification places

Supports for portable telephones covering constructional features of holsters, holding devices or docking stations that are supporting portable telephones directly or indirectly through connection means are classified in [H04M 1/04](#) while supports for a hand-held apparatus or articles in general are classified in [F16M 13/00](#).

Supports for positioning or steadying a device relative to a person with the intent of using the device are classified in [F16M 13/04](#).

Stands or trestles as supports for articles placed thereon in general are classified in [F16M 11/00](#).

Holders or carriers being worn by a user for portable audio devices, portable handheld communication devices and portable computing devices to facilitate transporting or carrying, where the device is not in use or being passively used, are classified in groups [A45F 5/1508](#), [A45F 5/1516](#) and [A45F 5/1525](#), respectively.

Protective covers or auxiliary enclosures for portable computers that are intended to hold the device during use without hampering said use are classified in [G06F 1/1629](#).

### References

#### Informative references

Attention is drawn to the following places, which may be of interest for search:

Protective covers or auxiliary enclosures for portable telephones	<a href="#">H04M 1/0203</a>
Supports for a fixed telephone set	<a href="#">H04M 1/11</a>
Holders or carriers for portable audio devices	<a href="#">A45F 5/1508</a>
Holders or carriers for portable handheld communication devices	<a href="#">A45F 5/1516</a>
Holders or carriers for portable computing devices	<a href="#">A45F 5/1525</a>
Docking stations designed for portable telephones in vehicles	<a href="#">B60R 11/0241</a>
Stands or trestles as supports for apparatus or articles placed thereon	<a href="#">F16M 11/00</a>

Other supports for positioning apparatus or articles; Means for steadying hand-held apparatus or articles	<a href="#">F16M 13/00</a>
Supports integral with the apparatus or articles to be supported	<a href="#">F16M 13/005</a>
Protective covers or auxiliary enclosures for portable computers	<a href="#">G06F 1/1629</a>
Docking stations designed for portable computers	<a href="#">G06F 1/1632</a>
Battery charging apparatuses	<a href="#">H02J 7/00</a>
Arrangements for carrying or protecting portable transceivers	<a href="#">H04B 1/3888</a>
Transducers in general	<a href="#">H04R 1/00</a>

### Special rules of classification

Protective covers or auxiliary enclosures for mobile phones that are intended to hold the device during use without hampering the telephonic functions are classified in [H04M 1/0203](#).

When the docking station provides additional functionality to the portable telephone, [H04M 1/72409](#) should be used.

### Glossary of terms

*In this place, the following terms or expressions are used with the meaning indicated:*

stand	a rack, base or piece of furniture for holding, supporting or displaying something
support	element that bears the weight to keep something in position, e.g. to keep it upright

## H04M 1/05

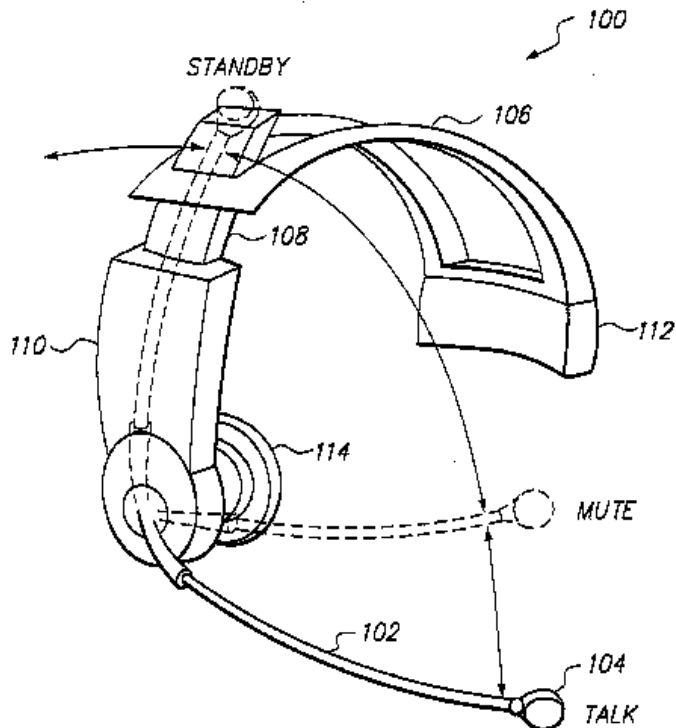
### pecially adapted for use on head, throat or breast

#### Definition statement

*This place covers:*

Constructional features of devices for adapting a telephone handset for use on head, throat or breast.

Constructional features of headsets or earphones adapted for telephone communication



### Relationships with other classification places

Constructional features of earpieces per se and attachments for the same: [H04R 1/08](#), [H04R 1/10](#)

Portable transceivers carried on the body: [H04B 1/385](#)

Head-up displays: [G02B 27/01](#)

Hearing aids per se: [H04R 25/00](#)

### References

#### Informative references

Attention is drawn to the following places, which may be of interest for search:

Portable telephones adapted for handsfree use	<a href="#">H04M 1/6041</a>
---	-----------------------------

### Synonyms and Keywords

In patent documents, the following words/expressions are often used as synonyms:

- earphones
- earpiece
- earset
- earplug
- headphone
- headset
- microtelephone
- hearing aid

## H04M 1/06

### Hooks; Cradles

#### Definition statement

*This place covers:*

For fixed telephone sets only.

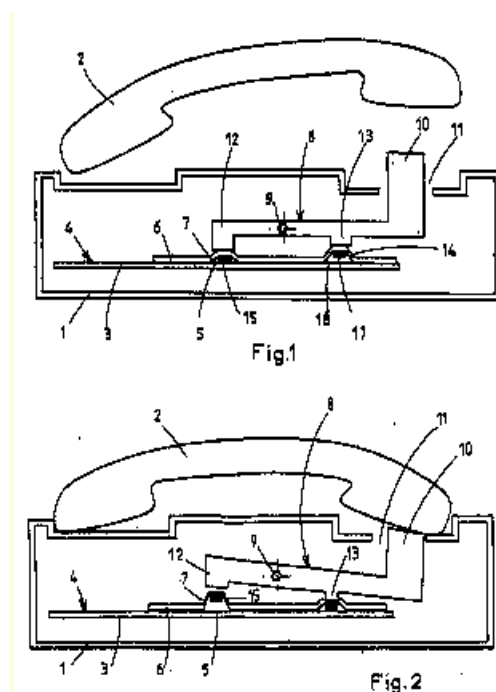
## H04M 1/08

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

#### Definition statement

*This place covers:*

Telephone cradle switch. Example: EP1005208



#### Special rules of classification

for an answering machine [H04M 1/6545](#).

## H04M 1/11

Supports for sets, e.g. incorporating armrests

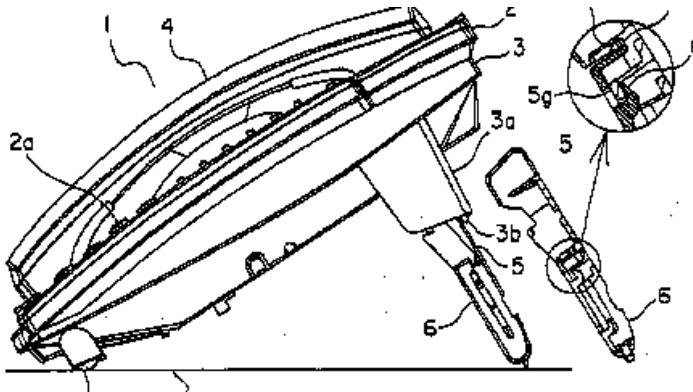
#### Definition statement

*This place covers:*

Supports for fixed telephone sets (meaning the whole telephone set housing).



Example:EP1467541



### Relationships with other classification places

Stands or trestles as supports for apparatus or articles placed thereon: [F16M 11/00](#)

## H04M 1/12

### Adjustable supports, e.g. extensible

#### Definition statement

*This place covers:*

Telescopic arm and carrying platform for the telephone set

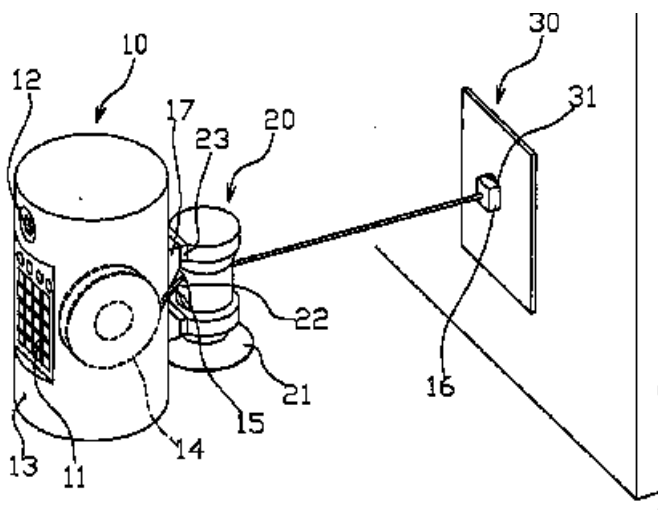
## H04M 1/15

### Protecting or guiding telephone cords

#### Definition statement

*This place covers:*

Means for storing or protecting a telephone cord. Typically for fixed telephone sets. Documents relating to portable telephones having means for storing or protecting the cord of a headset are also classified in this group.



### Relationships with other classification places

For guiding electric cables in general: [H02G 11/00](#)

Devices for handling or storing cables: [B65H 75/44](#)

## H04M 1/17

**Hygienic or sanitary devices on telephone equipment (for mouthpieces or earpieces [H04R 1/12](#))**

### Definition statement

*This place covers:*

Features of telephone equipment to improve hygiene, e.g. integrated sanitizers, antiviral smartphone covers or speaker covers to prevent transmission of airborne particles.

### References

#### Limiting references

*This place does not cover:*

Sanitary or hygienic devices for mouthpieces or earpieces	<a href="#">H04R 1/12</a>
---	---------------------------

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Protective covers or auxiliary enclosures for portable telephones	<a href="#">H04M 1/0203</a>
Methods or apparatus for disinfecting or sterilising materials or objects other than foodstuffs or contact lenses; Accessories therefor	<a href="#">A61L 2/00</a>

## H04M 1/18

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

### Definition statement

*This place covers:*

Fixed telephone sets or mobile phones specially adapted for use in adverse conditions, e.g. providing protection against dust, water, extreme temperatures, chemical fumes or gases, fire or explosions.

### References

#### Limiting references

*This place does not cover:*

Arrangements of transmitters, receivers, or complete sets to prevent eavesdropping	<a href="#">H04M 1/19</a>
--	---------------------------

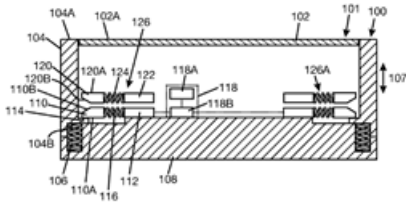
#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

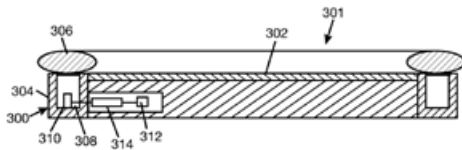
Modified payphones	<a href="#">H04M 17/026</a>
Telephone cabinets or booths per se	<a href="#">E04H 1/14</a>
Protective enclosures for remote control devices	<a href="#">H01H 9/0242</a>



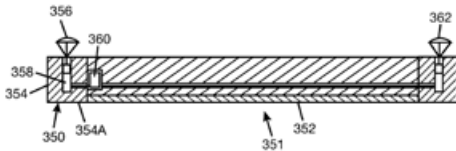
2.



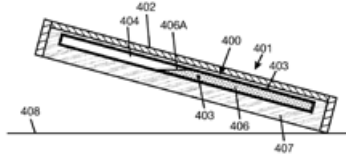
3.



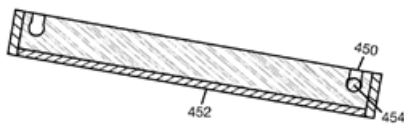
4.



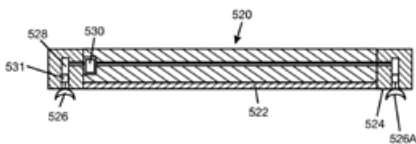
5.



6.



7.



Figures 2-7 illustrate several structural features for actively protecting a cover glass of a display device, when detecting that the device is in free fall. The example includes extending a bezel (104) around the display by springs or shape memory alloy, deploying an airbag (306) or parachute (356), changing the angular momentum by moving of a fluid in an internal chamber (404) or a set of balls in a track (450), so that the device lands on its side as well as deploying a suction cup (526).

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Protective covers or auxiliary enclosures for portable telephones	<a href="#">H04M 1/0203</a>
---	-----------------------------

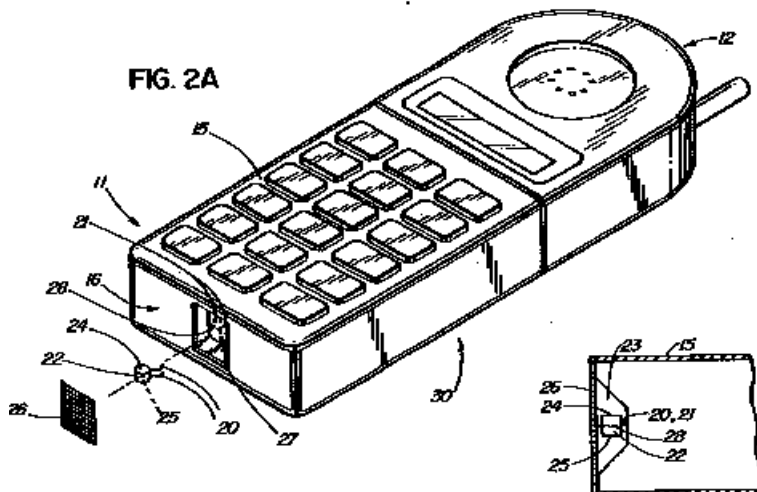
**H04M 1/19**

Arrangements of transmitters, receivers, or complete sets to prevent eavesdropping, to attenuate local noise or to prevent undesired transmission; Mouthpieces or receivers specially adapted therefor (circuit arrangements for preventing eavesdropping [H04M 1/68](#); telephone cabinets [E04H 1/14](#))

**Definition statement**

This place covers:

All mechanical means for preventing noise from reaching the microphone (Directional microphones).



**Relationships with other classification places**

Voice analysis or recognition and noise suppression per se: [G10L](#)

**References**

**Limiting references**

This place does not cover:

Circuit arrangements for preventing eavesdropping	<a href="#">H04M 1/68</a>
Telephone cabinets	<a href="#">E04H 1/14</a>

## H04M 1/20

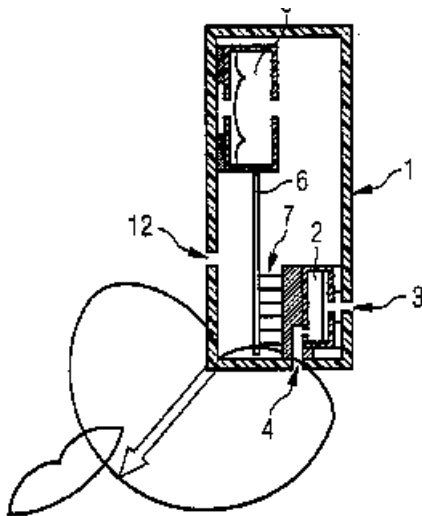
Arrangements for preventing acoustic feed-back ([H04M 1/62](#) takes precedence)

### Definition statement

*This place covers:*

Telephone sets with mechanical arrangements for preventing acoustic feedback between microphone and loudspeaker.

Example WO0049788. The telephone handset has a microphone (2) with a unidirectional direction characteristic



### Relationships with other classification places

Electrical and circuit aspects of echo cancellers for two way loudspeaking telephone sets: [H04M 9/08](#)

Echo cancellers per se on line transmission systems: [H04B 3/20](#)

### References

#### Limiting references

*This place does not cover:*

Constructional arrangements	<a href="#">H04M 1/62</a>
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## H04M 1/21

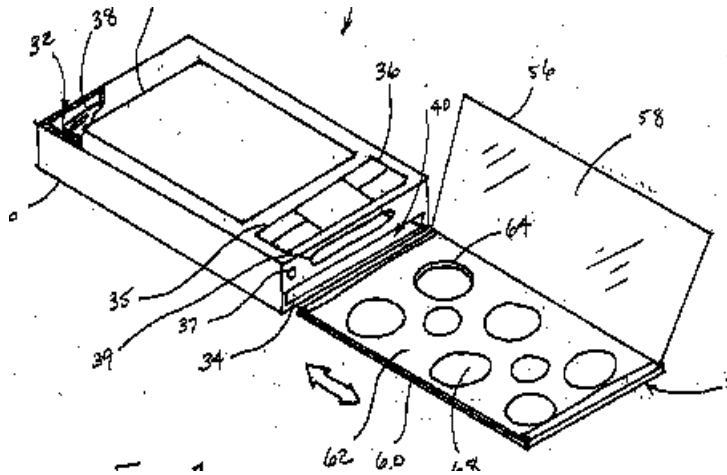
Combinations with auxiliary equipment, e.g. with clocks or memoranda pads

### Definition statement

*This place covers:*

Structural integration of gadgets physically associated with the telephone (watches, agendas, bottle openers, thermometers, razor) which do not modify the functionality of the telephone. Personal electronics device with cosmetics compartment

Example US2009166247.



## H04M 1/215

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

### Definition statement

*This place covers:*

The auxiliary equipment is connected without modifications to the telephone's circuit.

## H04M 1/2155

{Acoustic coupling}

### Definition statement

*This place covers:*

Acoustic couplers for modems.

### Relationships with other classification places

Communication by means of acoustic waves: [H04B 11/00](#)

## H04M 1/22

Illumination; Arrangements for improving the visibility of characters on dials

### Definition statement

*This place covers:*

Light source in combination with a fixed or portable telephone.

Includes also the backlighting of displays.

### Relationships with other classification places

Illumination of keys per se: [H01H 13/023](#)

Illumination for keyboards: [H01H 13/83](#)

Illumination devices in combination with telephones: [F21V 33/0052](#)

Control of back illumination for visual indicators: [G09G 3/3406](#)

Combination of camera with lighting apparatus: [G03B 15/03](#)

## H04M 1/23

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

### Definition statement

*This place covers:*

This group relates to the mounting of a keyboard in the telephone set housing.

### Relationships with other classification places

Constructional structure of an array of key-operated switches per se e.g. keyboard: [H01H 13/70](#)

Keys with feedback: [H01H 13/84](#)

For personal computers: [G06F 1/1662](#)

With ergonomic disposition of keys: [G06F 1/1664](#)

Detachable keyboards for portable computers: [G06F 1/1669](#)

### Special rules of classification

[H04M 1/22](#) takes precedence for improving visibility.

## 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](#))}**

### Relationships with other classification places

Constructional details of pointing devices for personal computers: [G06F 3/033](#).

## H04M 1/236

**{including keys on side or rear faces}**

### Relationships with other classification places

Special purposes keys or auxiliary keyboards for personal computers: [G06F 1/1671](#)

## H04M 1/24

**Arrangements for testing**

### Definition statement

*This place covers:*

Testing arrangements located in the subscriber set.

### Relationships with other classification places

Subscriber line supervision and monitoring circuits at the exchange: [H04M 3/2272](#).

Automatic routine testing for subscriber lines: [H04M 3/30](#)



Relationships with other classification places

For wireless networks: [H04W 24/06](#), [H04W 24/08](#)

For line transmission systems in general: [H04B 3/46](#)

Testing/monitoring in general: [H04B 17/00](#)

Testing of printed circuit boards: [G01R 31/2801](#)

Testing transducers: [H04R 29/00](#)

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Measuring electric values	<a href="#">G01R</a>
Testing transducers	<a href="#">H04R 29/00</a>

## H04M 1/247

**Telephone sets including user guidance or feature selection means facilitating their use (user interfaces specially adapted for cordless or mobile telephones [H04M 1/724](#))**

### Definition statement

*This place covers:*

This group is only meant for fixed telephone sets.

Enhanced GUI for activating services provided by the exchange by using special function keys.

### Relationships with other classification places

Systems providing special services or facilities to subscribers: [H04M 3/42](#)

Interaction techniques with a graphical user interface per se: [G06F 3/048](#)

## References

### Limiting references

*This place does not cover:*

User interfaces specially adapted for cordless or mobile telephones	<a href="#">H04M 1/724</a>
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## 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](#))}**

### Definition statement

*This place covers:*

Subscriber interaction with the exchange to configure the features of the telephone set

## References

### Limiting references

*This place does not cover:*

Systems providing special services or facilities to subscribers	<a href="#">H04M 3/42</a>
Administration or customisation of services:	<a href="#">H04M 3/42136</a>
By downloading data to substation equipment	<a href="#">H04M 3/42178</a>

## H04M 1/2472

{with programmable function keys}

### Definition statement

*This place covers:*

Downloading features or services related to certain keys and requested by the subscriber from the exchange.

### Relationships with other classification places

By downloading data to the subscriber set

[H04M 3/42178](#)

## H04M 1/2473

{Telephone terminals interfacing a personal computer, e.g. using an API (Application Programming Interface) (details of API [H04M 7/0021](#))}

### Definition statement

*This place covers:*

Extended functionality of a telephone set when combined with a personal computer on the subscriber side.

### Relationships with other classification places

Arrangements which combine a telephonic equipment with a computer

[H04M 7/0012](#)

Details of Application programming interfaces

[H04M 7/0021](#)

Private branch exchange with computer telephony integration (CTI)

[H04M 3/42323](#)

**H04M 1/2474**

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

**Definition statement**

*This place covers:*

This group and subgroups are only meant for fixed telephone sets.

**Relationships with other classification places**

Analogous equipment in the exchange: [H04M 3/42391](#)

Devices for conversing with the deaf-blind: [G09B 21/04](#)

**References****Limiting references**

*This place does not cover:*

User interfaces for cordless or mobile telephones specially adapted for disabled users	<a href="#">H04M 1/72475</a>
Network based special services or facilities for hearing-impaired persons	<a href="#">H04M 3/42391</a>
Devices for conversing with the deaf-blind	<a href="#">G09B 21/04</a>

**H04M 1/2475**

{for a hearing impaired user}

**Relationships with other classification places**

Hearing-aids per se

[H04R 25/00](#)

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Deaf-aid sets	<a href="#">H04R 25/00</a>
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**H04M 1/2477**

{for selecting a function from a menu display ([H04M 1/2474](#) takes precedence)}

**Definition statement**

*This place covers:*

This group is only meant for fixed telephone sets.

User interaction with a menu display for selecting telephonic applications.

## Relationships with other classification places

Interaction techniques with a graphical user interface per se

[G06F 3/048](#)

## References

### Limiting references

*This place does not cover:*

Same subject-matter for mobile phones.	<a href="#">H04M 1/72469</a>
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## Special rules of classification

[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](#))}

## Relationships with other classification places

Text-based messaging services in telephone networks such as PSTN or ISDN

[H04M 3/42382](#)

Centralised arrangements for recording text messages

[H04M 3/5322](#)

Centralised arrangements providing data services like text-based messaging, instant messaging, short message service, electronic mail, or multimedia messaging

[H04M 7/0042](#)

For accessing Internet

[H04M 7/006](#)

Interactive information services

[H04M 3/493](#)

## H04M 1/253

### Telephone sets using digital voice transmission

#### Definition statement

*This place covers:*

This group has not properly evolved as the ISDN telephone sets have been classified in the group [H04Q 11/0471](#) from their origin onwards.

## Relationships with other classification places

ISDN terminal access circuits

[H04Q 11/0471](#)

Analogue to digital conversion

[H03M 1/00](#)

Telephonic communication systems adapted for simultaneous speech and data transmission

[H04M 11/06](#)

## 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](#); implementation or adaptation of Internet protocol [IP], of transmission control protocol [TCP] or of user datagram protocol [UDP] [H04L 69/16](#))}

### Definition statement

*This place covers:*

Telephone terminals adapted for voice communication over an internet protocol (IP).

With regard to VoIP (Voice over Internet Protocol), voice is considered in this context to be a specific form of "digital information". Since the Internet Protocol and IP networks are classified in [H04L](#) ([H04L 12/00](#), data switching networks and [H04L 41/00](#) - [H04L 69/00](#), real-time communication in data packet switching networks [H04L 65/00](#)), the transmission of voice over IP networks should be classified in [H04L](#).

When VoIP is used to emulate or simulate services, the service, as presented to the user, is still classified in [H04M](#). Any implementation details are however classified in [H04L](#), for example SPIT and SPAM prevention in VoIP should be classified in [H04M 3/436](#).

## Relationships with other classification places

Networks other than PSTN/ISDN providing telephone services and including a packet-switched transport layer such as the internet protocol multimedia system [H04M 7/006](#)

Implementation or adaptation of Internet protocol [IP], of transmission control protocol [TCP] or of user datagram protocol [UDP] [H04L 69/16](#)

Network arrangements, protocols or services for supporting real-time applications in data packet communication [H04L 65/00](#)

End user terminal functionalities specially adapted for real-time communication [H04L 65/1059](#)

## References

### Limiting references

*This place does not cover:*

Voice over Internet Protocol (VoIP) network equipment and services	<a href="#">H04M 7/006</a>
Internet protocols	<a href="#">H04L 69/16</a>

## H04M 1/26

**Devices for calling a subscriber ([H04M 1/66](#) takes precedence)**

### Definition statement

*This place covers:*

General methods and devices for initiating a telephone call.

### References

#### Limiting references

*This place does not cover:*

With means for preventing unauthorized or fraudulent calling	<a href="#">H04M 1/66</a>
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#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Constructional features	<a href="#">H04M 1/23</a>
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## H04M 1/27

**Devices whereby a plurality of signals may be stored simultaneously**

### Definition statement

*This place covers:*

Telephone terminals adapted for abbreviated dialling by storing a directory consisting of a plurality of telephone numbers.

### Relationships with other classification places

Centralized directories assistance

[H04M 3/4931](#)

### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Devices disposed in the exchange with arrangements for automatic redialing	<a href="#">H04M 3/424</a>
With additional connecting arrangements for providing access to frequently wanted subscribers	<a href="#">H04M 3/44</a>

## H04M 1/271

**{controlled by voice recognition}**

### Definition statement

*This place covers:*

The telephone number is retrieved from the directory by voice recognition.

## Relationships with other classification places

Voice recognition per se

[G10L 15/00](#)

Access to centralized directories by speech interaction

[H04M 3/4936](#)

## H04M 1/272

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

### Definition statement

*This place covers:*

Telephone terminal storing only one telephone number.

## H04M 1/274

**with provision for storing more than one subscriber number at a time {, e.g. using toothed disc}**

### Definition statement

*This place covers:*

Electromechanical arrangements.

## H04M 1/2745

**using static electronic memories, e.g. chips**

## References

### Application-oriented references

*Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:*

For facsimile machines	<a href="#">H04N 1/32037</a>
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### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Addressing and accessing memory systems	<a href="#">G06F 12/00</a>
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## H04M 1/2746

**Sorting, e.g. according to history or frequency of use**

### Definition statement

*This place covers:*

Sorting telephone directory items according to their frequency of use or other criteria.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Arrangements for providing access to frequently wanted subscribers at the exchange	<a href="#">H04M 3/44</a>
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## H04M 1/2747

### Scrolling on a display

#### Definition statement

*This place covers:*

Retrieving a telephone number by scrolling a list of items, e.g. names or corresponding telephone numbers, on a display.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Devices for scrolling or navigating through a menu display	<a href="#">G06F 3/033</a>
Scrolling or panning	<a href="#">G06F 3/0485</a>
using a touch-screen or digitiser, e.g. input of commands through traced gestures	<a href="#">G06F 3/0488</a>

## H04M 1/27475

### using interactive graphical means or pictorial representations

#### Definition statement

*This place covers:*

Selecting a called party by means of a pictorial representation of the called party or by using interactive graphical means for accessing a directory on a display.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Interaction techniques for graphical user interfaces per se	<a href="#">G06F 3/048</a>
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## H04M 1/2748

### by matching character strings

#### Definition statement

*This place covers:*

Retrieving a telephone number by matching character strings, e.g. the first letters of the name of a party to be called, with the entries of a directory.



## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Characters input methods by using selection from displayed items or retrieval techniques based on prediction	<a href="#">G06F 3/023</a>
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## H04M 1/27485

### Appending a prefix to or inserting a pause into a dialling sequence

#### Definition statement

*This place covers:*

Calling a subscriber in a different area or country by appending an area code or international prefix to the telephone number before dialling.

## H04M 1/2749

### Automatic dialling or redialling systems, e.g. on off-hook or redial on busy

#### Definition statement

*This place covers:*

Automatic dialling or redialling systems, also for automatic dialling of a list of telephone numbers.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Arrangements for calling back a calling subscriber	<a href="#">H04M 3/42195</a>
When the wanted subscriber ceases to be busy	<a href="#">H04M 3/48</a>

## H04M 1/27495

implemented by means of discrete electronic components, i.e. neither programmable nor microprocessor-controlled ([H04M 1/27457](#)-[H04M 1/2749](#) take precedence)

## References

### Limiting references

*This place does not cover:*

Management of directories	<a href="#">H04M 1/27457</a>
Sorting, e.g. according to history or frequency of use	<a href="#">H04M 1/2746</a>
Predictive input, predictive dialling by comparing the dialled sequence with the content of a telephone directory	<a href="#">H04M 1/27463</a>
Methods of retrieving data	<a href="#">H04M 1/27467</a>
Appending a prefix or inserting a pause to a dialling sequence	<a href="#">H04M 1/27485</a>
Automatic call origination and retry systems	<a href="#">H04M 1/2749</a>

**H04M 1/275**

implemented by means of portable electronic directories

**Definition statement**

*This place covers:*

Using portable electronic directories, e.g. smart card storing a telephone directory and including acoustic coupling means for generating DTMF tone sequences corresponding to telephone numbers stored in the memory.

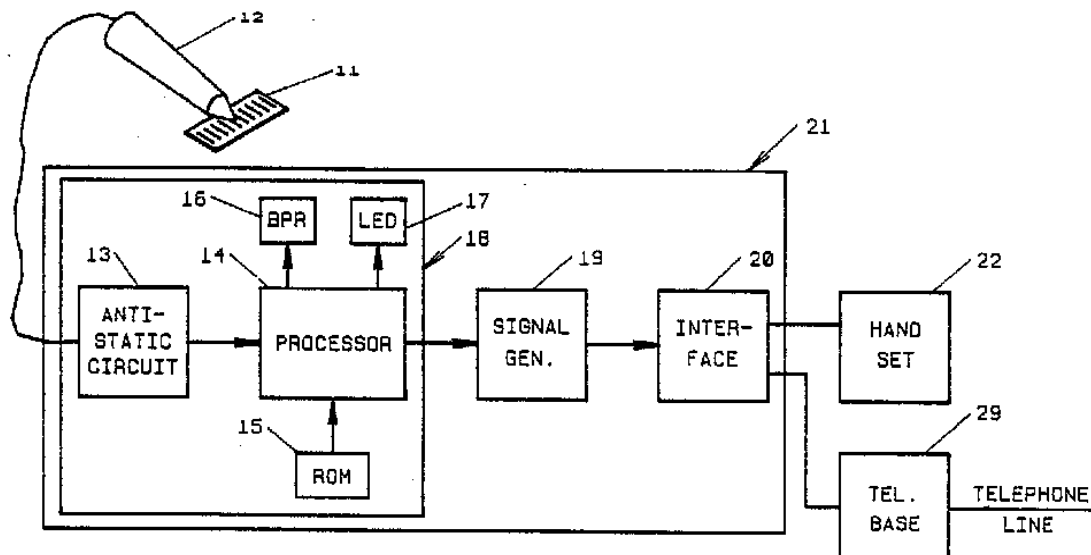
**H04M 1/2755**

by optical scanning

**Definition statement**

*This place covers:*

Using optical scanning, e.g. for scanning bar codes corresponding to telephone numbers.

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Constructional details of hand-held scanners	<a href="#">G06K 7/10386</a> , <a href="#">G06K 2007/10524</a>
Arrangements for transferring data from a sensing device to distant stations	<a href="#">G06K 17/0022</a>
Methods or arrangements for reading or recognising printed characters having additional code marks or containing code marks	<a href="#">G06V 30/224</a>

**H04M 1/2757****by data transmission, e.g. downloading****Definition statement***This place covers:*

Telephone terminals whose directory is downloaded from another terminal or from the network.

**H04M 1/2765****{implemented by means of portable magnetic cards}****Definition statement***This place covers:*

Cards with magnetic band and without processor.

**H04M 1/312****{pulses produced by electronic circuits}****Definition statement***This place covers:*

The dialling sequence is generated as a succession of pulses.

**Relationships with other classification places**Electronic circuits for generating pulses per se: [H03K 3/00](#)**H04M 1/315****Clutches; Spring assemblies; Speed regulators, e.g. centrifugal brakes  
([H04M 1/32](#) – [H04M 1/40](#) take precedence)****Special rules of classification**[H04M 1/32](#) - [H04M 1/40](#) take precedence.**H04M 1/50****by generating or selecting currents of predetermined frequencies or  
combinations of frequencies****Definition statement***This place covers:*

Circuits for generating the dialling sequence as a succession of DTMF tones.

**Relationships with other classification places**Circuits for detecting sequences of DTMF tones: [H04Q 1/45](#)

## H04M 1/53

### Generation of additional signals, e.g. additional pulses

#### Definition statement

*This place covers:*

E.g. Hook flash (access to additional service of the exchange by pushing the hook switch).

#### Relationships with other classification places

Arrangements in the exchange for transferring calls based on the information specified by the calling party: [H04M 3/54](#), [H04M 3/58](#)

## H04M 1/54

### Arrangements wherein a dial or the like generates identifying signals, e.g. in party-line systems

#### Relationships with other classification places

Party-line systems per se: [H04M 13/00](#)

## H04M 1/56

### Arrangements for indicating or recording the called number at the calling subscriber's set

#### Relationships with other classification places

Notifying the calling party with information concerning the called party: [H04M 3/42093](#)

## 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](#))

#### Definition statement

*This place covers:*

Providing the called party with information about the calling party before the call is answered or during the call.

#### Relationships with other classification places

Notifying the called party with information on the calling party: [H04M 3/42042](#)

Where the information is included in the ringing tone: [H04M 3/42051](#)

For distinctive ringing: [H04M 19/04](#)

Identification of class of calling subscriber at the exchange: [H04Q 3/70](#)

Arrangements at a manual exchange: [H04M 5/18](#)

#### Special rules of classification

Blocking transmission of caller ID, [H04M 1/571](#).

**H04M 1/573****{Line monitoring circuits for detecting caller identification}****Definition statement***This place covers:*

Line interface circuits for detecting the identification code of the calling party (For instance transmitted within the ringing signal).

**H04M 1/576****{associated with a pictorial or graphical representation}****Definition statement***This place covers:*

A picture of the calling party is displayed.

**H04M 1/578****{associated with a synthesized vocal announcement}****Definition statement***This place covers:*

A vocal announcement provides the identity of the calling party.

**Relationships with other classification places**

For distinctive ringing tones: [H04M 19/04](#) with [H04M 19/041](#)

**H04M 1/58****Anti-side-tone circuits****Definition statement***This place covers:*

Circuit of a telephone line interface, which couples part of the signal from the handset microphone to the loudspeaker of the same handset through the hybrid circuit.

**Relationships with other classification places**

Hybrid circuit arrangements for transceivers: [H04B 1/58](#)

Hybrid circuits for line transmission systems in general: [H04B 3/03](#)

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Hybrid circuits for carrier-frequency operation	<a href="#">H04B 1/00</a>
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## H04M 1/585

{implemented without inductive element}

### Definition statement

*This place covers:*

Anti-side tone circuit implemented only with electronic components.

### Relationships with other classification places

For transceivers: [H04B 1/586](#)

## H04M 1/60

including speech amplifiers

### Definition statement

*This place covers:*

Speech amplifiers within the telephone set.

### Relationships with other classification places

Control of amplification in general: [H03G](#)

## H04M 1/6008

{in the transmitter circuit}

### Definition statement

*This place covers:*

Speech amplifiers related to the transmitter (microphone) circuit.

## H04M 1/6016

{in the receiver circuit}

### Definition statement

*This place covers:*

Speech amplifiers related to the receiver (loudspeaker) circuit.

## H04M 1/6025

{implemented as integrated speech networks}

### Definition statement

*This place covers:*

For integrated circuits performing a two-way speech circuit function.

## H04M 1/6033

{for providing handsfree use or a loudspeaker mode in telephone sets (arrangements for preventing acoustic echo [H04M 9/08](#))}

### Definition statement

*This place covers:*

Handsfree use of a fixed telephone set with external microphone and loudspeaker.

### Relationships with other classification places

Two-way loud-speaking systems with means for suppressing echoes and acoustic feedback:

[H04M 9/08](#)

Public address systems: [H04R 27/00](#)

### References

#### Limiting references

*This place does not cover:*

Two-way loud-speaking telephone systems with means for conditioning the signal	<a href="#">H04M 9/08</a>
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#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Constructional arrangements	<a href="#">H04M 1/62</a>
-----------------------------	---------------------------

## H04M 1/6041

{Portable telephones adapted for handsfree use}

### Definition statement

*This place covers:*

General arrangements for providing handsfree use of a mobile phone.

### Relationships with other classification places

Arrangements for holding mobile phones in vehicles: [B60R 11/0241](#)

## H04M 1/605

{involving control of the receiver volume to provide a dual operational mode at close or far distance from the user}

### Definition statement

*This place covers:*

Sensing the distance between the user and the device to control the operation mode and the amplification factor of the received and/or transmitted signal.

**H04M 1/6058**

{involving the use of a headset accessory device connected to the portable telephone}

**Definition statement**

*This place covers:*

Cable connection of a headset or earphone to the mobile phone for handsfree use.

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Constructional features of headset devices	<a href="#">H04M 1/05</a>
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**H04M 1/6066**

{including a wireless connection}

**Definition statement**

*This place covers:*

Wireless connection between the mobile terminal and the headset.

**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](#))}

**Definition statement**

*This place covers:*

Arrangements for handsfree use of a mobile terminal in a vehicle.

**Relationships with other classification places**

Arrangements for holding telephones in a vehicle: [B60R 11/0241](#)

**Special rules of classification**

[H04M 1/6058](#) and [H04M 1/6066](#) take precedence.

**H04M 1/6083**

{by interfacing with the vehicle audio system}

**Definition statement**

*This place covers:*

Coupling the mobile terminal with the on board audio or navigation system of the vehicle.

**Relationships with other classification places**

Navigation systems	<a href="#">G01C 21/00</a>
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**H04M 1/6091****{including a wireless interface}****Definition statement***This place covers:*

Wireless interface between the on board audio or navigation system and the mobile terminal.

**Relationships with other classification places**Navigation systems: [G01C 21/00](#)**H04M 1/62****Constructional arrangements****Definition statement***This place covers:*

Only for fixed telephone set.

Constructional arrangements of the loudspeaker and the microphone in the telephone housing to enable handsfree use of the telephone.

**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](#))****Definition statement***This place covers:*

When a call is placed to an unattended telephone set, an outgoing message OGM or pre-recorded speech announcement is played back to the calling party who is not invited in this case to record a response to the announcement.

**Relationships with other classification places**Centralized arrangements for answering calls: [H04M 3/50](#)Centralized dictation systems: [H04M 11/10](#)**Special rules of classification**

Only for playing back a speech announcement to the calling party without recording an answer from the calling party.

**H04M 1/642****{storing speech in digital form}****Relationships with other classification places**Information storage per se: [G11C](#).

**H04M 1/645****{with speech synthesis}****Definition statement***This place covers:*

A synthesized speech announcement is played back to the calling party.

**H04M 1/647****{using magnetic tape ([H04M 1/642](#) takes precedence)}****Special rules of classification**[H04M 1/642](#) takes precedence.**H04M 1/65****Recording arrangements {for recording a message from the calling party (in the exchange [H04M 3/50](#))}****Definition statement***This place covers:*

When a call is placed to an unattended telephone set, an outgoing message OGM or pre-recorded speech announcement is played back to the calling party who is invited in this case to record a response to the announcement, which response is also called incoming message .

**Relationships with other classification places**Centralized arrangements for recording incoming messages: [H04M 3/53](#)Voice mail systems: [H04M 3/533](#)**Special rules of classification**

For playing back a speech announcement to the calling party and recording the calling party's answer.

**H04M 1/6505****{storing speech in digital form}****Relationships with other classification places**Information storage per se: [G11C](#)**H04M 1/651****{with speech synthesis}****Definition statement***This place covers:*

A synthesized speech announcement is played back to the calling party

## H04M 1/6515

{using magnetic tape ([H04M 1/6505](#) takes precedence)}

### Special rules of classification

[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)

### Definition statement

*This place covers:*

Means for enabling the subscriber to listen to the messages which have been recorded by its telephone set during its absence by remote control.

### Special rules of classification

[H04M 1/658](#) takes precedence.

## H04M 1/654

Telephone line monitoring circuits therefor, e.g. ring detectors

### Definition statement

*This place covers:*

Specific line monitoring circuits for answering machines.

### Relationships with other classification places

Telephone line interface circuits in general: [H04M 1/738](#)

Telephone line monitoring and detecting circuits in general: [H04M 1/82](#)

## H04M 1/6545

{mechanically actuating hook switch, e.g. lifting handset}

### Definition statement

*This place covers:*

Answering machines with mechanical means for lifting the handset and activating the hook switch to close the line loop in response to an incoming call.

### References

#### Informative references

Attention is drawn to the following places, which may be of interest for search:

Hook switches	<a href="#">H04M 1/08</a>
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**H04M 1/656****for recording conversations****Definition statement**

*This place covers:*

Arrangements for recording parts or the whole speech communication in the subscriber set.

**Relationships with other classification places**

Conversation recording systems at the exchange: [H04M 3/42221](#)

**H04M 1/658****Means for redirecting recorded messages to other extensions or equipment****Definition statement**

*This place covers:*

Means for forwarding a recorded message from an unattended telephone set to a remote location corresponding to a pre-stored telephone number.

**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](#))****Definition statement**

*This place covers:*

Telephone sets adapted for preventing unauthorized calls (incoming or outgoing calls).

**References****Limiting references**

*This place does not cover:*

Verifying user identity or authority in secret or secure digital communications	<a href="#">H04L 9/32</a>
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**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Restricting the functionality or the communication capability of mobile telephones under specific circumstances	<a href="#">H04M 1/72463</a>
Call monitoring, e.g. for law enforcement purposes; Call tracing; Detection or prevention of malicious calls by the exchange	<a href="#">H04M 3/2281</a>

## H04M 1/663

### Preventing unauthorised calls to a telephone set

#### Definition statement

*This place covers:*

Screening or filtering incoming calls (for instance depending on the caller identification).

#### Relationships with other classification places

Arrangements for screening incoming calls at the exchange: [H04M 3/436](#), [H04M 3/4365](#)

## H04M 1/665

### by checking the validity of a code

#### Definition statement

*This place covers:*

The calling party has to dial a special code prior to the dialling of the telephone number (for instance a certain DTMF sequence). This special code is checked at the called telephone set to accept or deny the communication.

#### Relationships with other classification places

Graded services arrangements in the exchange by using authorisation codes or passwords: [H04M 3/382](#)

## H04M 1/667

### Preventing unauthorised calls from a telephone set ([H04M 1/677](#) takes precedence)

#### Definition statement

*This place covers:*

Mostly mechanical means preventing the use of a telephone set for outgoing calls.

#### Special rules of classification

[H04M 1/677](#) takes precedence.

## H04M 1/67

### by electronic means

#### Definition statement

*This place covers:*

Circuits or functional arrangements to disable or lock the telephone set for outgoing calls. This group also includes fingerprint or biometric recognition systems to enable the use of the telephone set.

#### Relationships with other classification places

Systems for eye/iris/retina acquisition: [G06V 40/19](#)

Access control by means of physical/biometric data: [G07C 9/37](#)

Electronic locks using biometric data for granting access: [G07C 9/00563](#)

## H04M 1/673

**the user being required to key in a code**

### Definition statement

*This place covers:*

The user has to key in a special code to unlock the telephone set for outgoing calls.

### Relationships with other classification places

Graded services arrangements in the exchange by using authorisation codes or passwords	<a href="#">H04M 3/382</a>
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## H04M 1/675

**the user being required to insert a coded card, e.g. a smart card carrying an integrated circuit chip**

### Definition statement

*This place covers:*

The user is requested to insert a smart card in the telephone set to activate the telephone set.

### Relationships with other classification places

Graded services arrangements in the exchange by using subscriber identification cards: [H04M 3/387](#)

### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

IC card mounting means in a portable telephone	<a href="#">H04B 1/3816</a>
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## H04M 1/677

**Preventing the dialling or sending of predetermined telephone numbers or selected types of telephone numbers, e.g. long distance numbers**

### Definition statement

*This place covers:*

For instance preventing long distance calls by analysing the dialling sequence at the telephone set.

Arrangements with few programmed keys corresponding to a limited set of telephone numbers for local calls (special telephones for children).

## H04M 1/68

### Circuit arrangements for preventing eavesdropping

#### Definition statement

*This place covers:*

Arrangements provided on the path between the local telephone and the junction box.

#### Relationships with other classification places

Eavesdropping prevention in the exchange: [H04M 3/205](#)

## H04M 1/70

### Lock-out or secrecy arrangements in party-line systems

#### Definition statement

*This place covers:*

For preventing subscribers sharing the same telephone line in rural areas to listen to someone else conversation.

#### Relationships with other classification places

Lock-out or secrecy provision provided by the exchange in party-line systems	<a href="#">H04M 3/16</a>
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## H04M 1/715

### using two or more extensions per line (cordless telephones [H04M 1/725](#))

#### Definition statement

*This place covers:*

Arrangements of two or more telephone sets connected to the network via the same line.

#### References

##### Limiting references

*This place does not cover:*

Cordless telephones	<a href="#">H04M 1/725</a>
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## H04M 1/72

### Mobile telephones; Cordless telephones, i.e. devices for establishing wireless links to base stations without route selection

#### Definition statement

*This place covers:*

Mobile telephones, i.e. cellular or wireless telephones.

Cordless telephones, i.e. devices for establishing wireless links to base stations without route selection, e.g. DECT® telephones.

Telephones adapted for both mobile and cordless operation.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Interconnection arrangements not involving centralised switching	<a href="#">H04M 9/00</a>
--	---------------------------

## H04M 1/724

### User interfaces specially adapted for cordless or mobile telephones

#### Definition statement

This place covers:

User interfaces specially adapted for the interaction of the user with mobile or cordless telephones.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Graphical user interface for managing generic applications	<a href="#">G06F 3/048</a>
Sound input; Sound output	<a href="#">G06F 3/16</a>
User interface programs per se	<a href="#">G06F 9/451</a>
Measuring or estimating received signal strength	<a href="#">H04B 17/318</a>
Selecting a network or communication service	<a href="#">H04W 48/18</a>

## H04M 1/72403

### with means for local support of applications that increase the functionality

#### Definition statement

This place covers:

User interfaces with means for locally supporting a plurality of applications that provide extended functionality, further to the main telephone mode.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Operating the device by selecting functions from two or more displayed items, e.g. menus or icons	<a href="#">H04M 1/72469</a>
Medical applications	<a href="#">A61B</a>
Protection of digital contents (Digital rights management: DRM)	<a href="#">G06F 21/00</a>
Characterised by the use of a wireless device	<a href="#">G06Q 20/32</a>
Electronic marketing and advertising	<a href="#">G06Q 30/00</a>
Electronic payment applications	<a href="#">G07F 7/00</a>



Broadcast applications for mobile receivers	<a href="#">H04H 20/57</a>
Television applications	<a href="#">H04N 5/00</a>
Video phones	<a href="#">H04N 7/14</a>
Two way subscription systems	<a href="#">H04N 7/173</a>

## H04M 1/72406

### by software upgrading or downloading

#### Definition statement

*This place covers:*

Extended functionality obtained by software upgrading or downloading.

#### References

##### Informative references

Attention is drawn to the following places, which may be of interest for search:

Software deployment	<a href="#">G06F 8/60</a>
Arrangement for program loading or initiating	<a href="#">G06F 9/445</a>

## H04M 1/72409

### by interfacing with external accessories (hands-free [H04M 1/60](#))

#### Definition statement

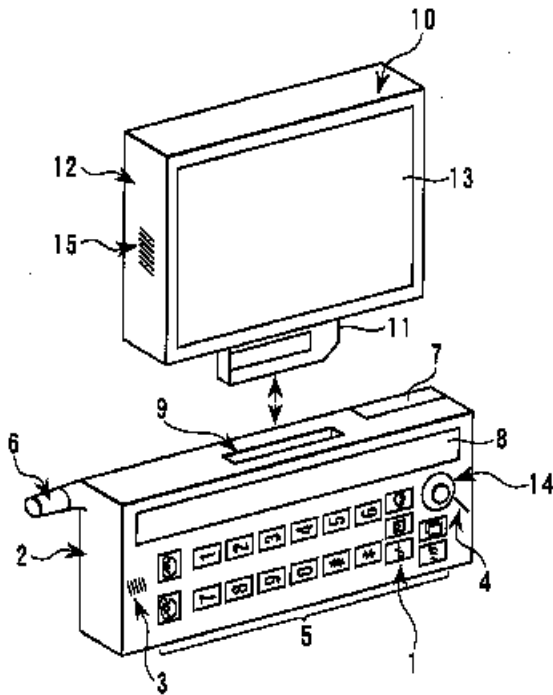
*This place covers:*

Extended functionality obtained by connecting external accessories.

For example:

Definition statement

An expansion display unit (10) is provided with a display section (13) having a display surface larger than the display section (8) of the mobile terminal.



**References**

**Limiting references**

*This place does not cover:*

For hands-free use	<a href="#">H04M 1/60</a>
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**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

For mechanical assembly details	<a href="#">H04M 1/02</a>
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**H04M 1/72412**

**using two-way short-range wireless interfaces**

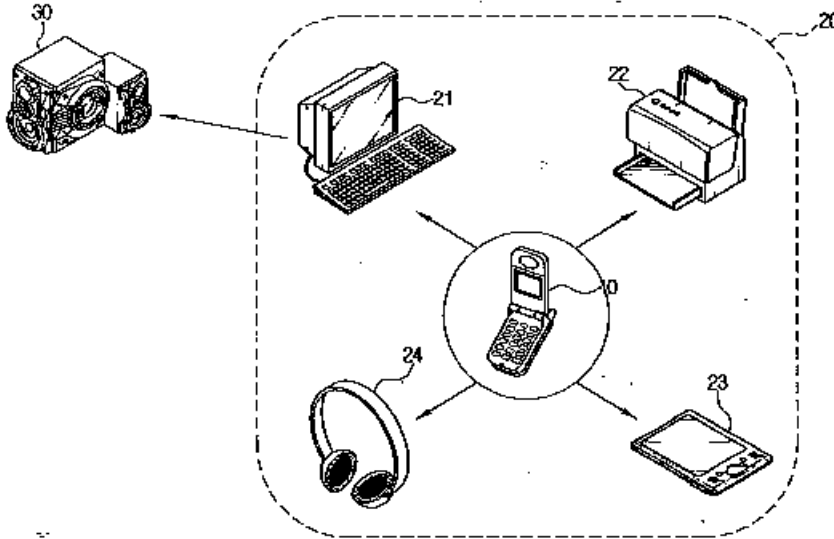
**Definition statement**

*This place covers:*

Extended functionality obtained by connecting external accessories via short-range radio links, e.g. Bluetooth®.

Illustrative example of the subject matter classified in [H04M 1/72412](#):

A mobile phone 10 operating as a master performs a request to establish a piconet with a computer 21, a printer 22, a PDA 23, and a headset 24 located in an operating range 20 allowing direct connection. The computer 21 can form another piconet with a speaker 30.



## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Wireless connection of a headset for handsfree use of a mobile terminal	<a href="#">H04M 1/6066</a>
Near field transmission systems	<a href="#">H04B 5/00</a>
Discovery or management thereof, e.g. service location protocol [SLP] or web services	<a href="#">H04L 67/51</a>
Services using short range communication	<a href="#">H04W 4/80</a>
Discovery of other network devices in proximity of a mobile terminal	<a href="#">H04W 8/005</a>

## H04M 1/72415

### for remote control of appliances

#### Definition statement

*This place covers:*

Mobile or cordless telephones adapted for remote control of other appliances. For example, an appliance to be controlled is selected from a list of appliances (26) on the cellular device display (22).

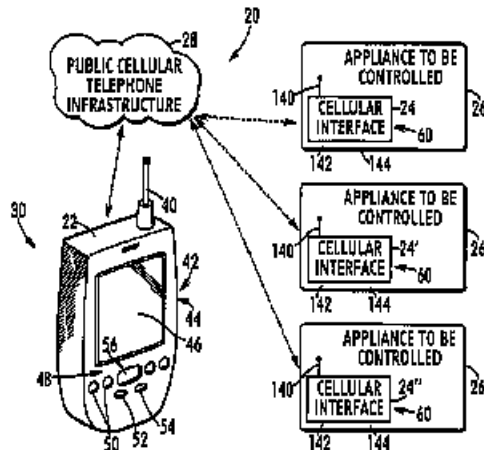


FIG. 1

#### References

##### Informative references

Attention is drawn to the following places, which may be of interest for search:

Telephonic communication systems adapted for combination with remote control systems	<a href="#">H04M 11/007</a>
Arrangements for transmitting signals using a radio link	<a href="#">G08C 17/02</a>
Home automation networks	<a href="#">H04L 12/2803</a>
Remotely managing devices over a network	<a href="#">H04L 67/125</a>
Proprietary protocols involving control of end-device applications	<a href="#">H04L 67/125</a>
Arrangements in telecontrol or telemetry systems for selectively calling a substation from a main station	<a href="#">H04Q 9/00</a>

## H04M 1/72418

### for supporting emergency services

#### Definition statement

*This place covers:*

Mobile or cordless telephones with applications supporting an emergency service.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Telephonic communication systems in combination with alarm systems	<a href="#">H04M 11/04</a>
Alarm systems using wireless transmission	<a href="#">G08B 25/10</a>

## H04M 1/72427

### for supporting games or graphical animations

#### Definition statement

*This place covers:*

Mobile or cordless telephones with user interfaces for interacting with game applications or for supporting graphical animations, e.g. avatars, themes or wallpapers, background screens or screen savers.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Aspects of games using an electronically generated display in general	<a href="#">A63F 13/00</a>
Digital output to display device	<a href="#">G06F 3/14</a>
Display control per se	<a href="#">G09G 3/00</a>

## H04M 1/7243

### with interactive means for internal management of messages

#### Definition statement

*This place covers:*

User interfaces for interacting with messaging applications (e.g. voice or text messaging, SMS or MMS) in mobile or cordless telephones.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Telephone answering machines for answering a telephone call	<a href="#">H04M 1/64</a> , <a href="#">H04M 1/65</a>
Mail systems for messages comprising audio and non-audio components	<a href="#">H04M 3/5307</a>
Computer-aided management of electronic mailing [e-mailing]	<a href="#">G06Q 10/107</a>
Message switching systems	<a href="#">H04L 51/00</a>
Instant messaging	<a href="#">H04L 51/04</a>

**H04M 1/72433**

for voice messaging, e.g. dictaphones (for answering incoming calls  
[H04M 1/64](#))

**References****Limiting references**

*This place does not cover:*

For answering incoming calls	<a href="#">H04M 1/64</a>
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**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Voice mail systems	<a href="#">H04M 3/533</a>
Dictation recording and playback systems	<a href="#">H04M 11/10</a>

**H04M 1/72436**

for text messaging, e.g. short messaging services [SMS] or e-mails

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Computer-aided management of electronic mailing [e-mailing]	<a href="#">G06Q 10/107</a>
Instant messaging	<a href="#">H04L 51/04</a>
Short messaging services	<a href="#">H04W 4/14</a>

**H04M 1/72439**

for image or video messaging

**Definition statement**

*This place covers:*

User interfaces for interacting with image or video messaging applications, e.g. for picture transmission as attachment to a message.

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Transmission of still pictures with a mobile phone	<a href="#">H04N 1/00307</a>
Videophones	<a href="#">H04N 7/14</a>

**H04M 1/72445****for supporting Internet browser applications****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Interactive information services including a voice browser	<a href="#">H04M 3/4938</a>
Retrieval of information from the web e.g. using browsers	<a href="#">G06F 16/95</a>

**H04M 1/72448****with means for adapting the functionality of the device according to specific conditions****Definition statement***This place covers:*

Customisation of a mobile terminal or modification of user settings.

**References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Telephone sets including user guidance or feature selection means facilitating their use	<a href="#">H04M 1/247</a>
Communication control, user profiles	<a href="#">H04L 67/306</a>

**H04M 1/72451****according to schedules, e.g. using calendar applications****Definition statement***This place covers:*

Adapting the functionality of mobile or cordless telephones according to schedules, e.g. using calendar applications.

**References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Office automation, time management, e.g. reminders or meetings	<a href="#">G06Q 10/109</a>
Network applications for presence management	<a href="#">H04L 67/54</a>

**H04M 1/72454****according to context-related or environment-related conditions****Definition statement***This place covers:*

Adapting the functionality of cordless or mobile telephones according to events detected by a context application or according to their physical environment, e.g. by using sensors.

**H04M 1/72457****according to geographic location****Definition statement***This place covers:*

Adapting the functionality of mobile or cordless telephones according to their locations.

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Network applications adapted for the location of the user terminal	<a href="#">H04L 67/52</a>
User location related services provided by wireless communication networks	<a href="#">H04W 4/02</a>

**H04M 1/7246****by connection of exchangeable housing parts****Definition statement***This place covers:*

Adapting terminal functionality by connection of exchangeable housing parts, e.g. by using interchangeable faceplates

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

For changing aesthetic appearance	<a href="#">H04M 1/0283</a>
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**H04M 1/72463****to restrict the functionality of the device****Definition statement***This place covers:*

Partial suppression of functionality, e.g. of ringing in theatres or hospitals.



## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Electronic means for preventing unauthorised calls	<a href="#">H04M 1/67</a>
Network access restriction based on user location	<a href="#">H04W 48/04</a>

## H04M 1/72469

for operating the device by selecting functions from two or more displayed items, e.g. menus or icons

### Definition statement

This place covers:

For operating the device by selecting telephonic functions on menu displays, e.g. simple accept/reject icons.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

User interaction with a menu display for generic applications	<a href="#">G06F 3/048</a>
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## Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Telephonic functions	Any functions connected with the primary reason for having telephones, e.g. diverting incoming or outgoing calls to voicemail, forwarding incoming or outgoing calls to another device, sending a response message, listing all available modes for communicating with desired call parties.
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## H04M 1/72475

pecially adapted for disabled users

### Definition statement

This place covers:

Portable communication devices adapted for disabled people.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Fixed telephone sets for disabled persons	<a href="#">H04M 1/2474</a>
Devices for conversing with the deaf-blind	<a href="#">G09B 21/04</a>

**H04M 1/72478****for hearing-impaired users****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Hearing-aids per se	<a href="#">H04R 25/00</a>
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**H04M 1/72481****for visually impaired users****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Arrangements for improving visibility of characters on dials	<a href="#">H04M 1/22</a>
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**H04M 1/725****Cordless telephones (user interfaces specially adapted therefor [H04M 1/724](#))****Definition statement***This place covers:*

Cordless telephones used as extension of a telephone base station by communicating via a wireless link with the base station.

**Relationships with other classification places**

With regard to mobile telephony, [H04M](#) covers communication systems using wireless extensions, i.e. wireless links without selective communication, e.g. cordless telephones, which are covered by group [H04M 1/72](#), whereas [H04W](#) covers communication networks for selectively establishing one or a plurality of wireless communication links between a desired number of users or between users and network equipment, for the purpose of transferring information via these wireless communication links.

**References****Limiting references***This place does not cover:*

User interfaces specially adapted for cordless telephones	<a href="#">H04M 1/724</a>
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**H04M 1/72502****with one base station connected to a single line****Definition statement***This place covers:*

Cordless telephones registered with the same and unique base station.

## **H04M 1/72505**

### **Radio link set-up procedures**

#### **Definition statement**

*This place covers:*

Radio link set-up procedure between a cordless phone and the base station.

## **H04M 1/72508**

### **using a control channel**

#### **Definition statement**

*This place covers:*

Radio link set-up procedure by using a control channel.

## **H04M 1/72511**

### **Searching for available channels**

#### **Definition statement**

*This place covers:*

Radio link set-up procedure by selecting and using an idle communication channel.

## **H04M 1/72513**

### **On hold, intercom or transfer communication modes**

#### **Definition statement**

*This place covers:*

Placing calls on hold.

Intercom functions between at least two cordless telephones registered with the same base station.

Direct communication links between two handsets without intervention of the base station. Transfer communication modes to redirect calls to other telephones.

## **H04M 1/727**

### **Identification code transfer arrangements**

#### **Definition statement**

*This place covers:*

For registration of a cordless telephone with a base station.

## H04M 1/73

### Battery saving arrangements

#### Definition statement

*This place covers:*

For cordless telephones only.

#### Relationships with other classification places

For mobile and cellular phones: [H04W 52/02](#)

For personal computers: [G06F 1/3203](#)

#### References

##### Informative references

Attention is drawn to the following places, which may be of interest for search:

Switching on/off the receiving circuit	<a href="#">H04B 1/1615</a>
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## H04M 1/733

with a plurality of base stations connected to a plurality of lines {(for selection in cordless PBX [H04W 84/16](#))}

#### Definition statement

*This place covers:*

This group refers to the head group [H04M 1/725](#) and relates only to cordless telephones

#### Relationships with other classification places

Wireless PBX: [H04W 84/16](#)

## H04M 1/737

Characterised by transmission of electromagnetic waves other than radio waves, e.g. infrared waves

#### Definition statement

*This place covers:*

For cordless telephones.

## H04M 1/738

Interface circuits for coupling substations to external telephone lines ([H04M 1/78](#) takes precedence)

#### Definition statement

*This place covers:*

Line interface circuits for fixed telephone sets.

## Relationships with other classification places

Analogous interface circuits for subscriber telephone lines at the exchange: [H04M 3/005](#)

Modems and ADSL lines: [H04M 11/06](#)

## References

### Limiting references

*This place does not cover:*

Circuit arrangements in which low-frequency speech signals proceed in one direction on the line  
[H04M 1/78](#)

## H04M 1/74

**with means for reducing interference; with means for reducing effects due to line faults**

### Definition statement

*This place covers:*

Arrangements located at the subscriber side.

## Relationships with other classification places

Indicating faults in circuits or apparatuses at the exchange: [H04M 3/08](#)

Reducing interference in line transmission systems: [H04B 3/28](#), [H04B 3/30](#)

## H04M 1/745

**{Protection devices or circuits for voltages surges on the line}**

### Definition statement

*This place covers:*

Circuit arrangements located at the subscriber side.

## Relationships with other classification places

Analogous equipments at the exchange, [H04M 3/18](#)

Emergency protective circuit arrangements in general for limiting excess current or voltage without disconnection, [H02H 9/00](#)

## H04M 1/76

**Compensating for differences in line impedance**

### Definition statement

*This place covers:*

Line impedance adaptation implemented in the subscriber set.

## Relationships with other classification places

Control of transmission and equalising in line transmission systems in general: [H04B 3/04](#)

## References

### *Informative references*

Attention is drawn to the following places, which may be of interest for search:

Transmission in general	<a href="#">H04B</a>
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## 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**

### Relationships with other classification places

Systems for transmission via power distribution lines: [H04B 3/54](#)

Repeater circuits [H04B 3/38](#)

## H04M 1/80

**Telephone line holding circuits**

### Definition statement

*This place covers:*

Circuits arrangements on the subscriber side.

### Relationships with other classification places

Call holding circuits at the exchange: [H04M 3/4283](#)

## H04M 1/82

**Line monitoring circuits for call progress or status discrimination {(for detecting caller identity [H04M 1/573](#))}**

### Relationships with other classification places

Line supervising and monitoring at the exchange: [H04M 3/2209](#)

Line monitoring in transmission systems in general: [H04B 3/46](#)

### Special rules of classification

For detecting caller identification [H04M 1/573](#).

## H04M 3/00

**Automatic or semi-automatic exchanges**

### Definition statement

*This place covers:*

- Telephonic communication services, in particular supplementary services specifically adapted for telephonic communication provided by networks comprising any type of switching devices, such as telephone exchanges, telephone switches, softswitches, call agents or and call state control function or control protocols, such as ISDN User part [ISUP], H.323 and SIP;

## Definition statement

- Telephone exchanges or telephone switches, in particular digital switches which work by connecting two or more digital circuits together, according to a dialed telephone number. This main group covers both switches of Public Switched Telephone Networks, PSTN, and Private Branch Exchanges [PBX];
- Application servers for information services, call distribution and queuing services, messaging services and conference services;
- Arrangements for providing information services, such as Interactive Voice Response Systems, Voice Portals or Voice Browsers;
- Centralised arrangements for answering requiring operator intervention (also referred to as a call centers), usually employing call queuing and call distribution;
- Centralised arrangements for recording messages for absent or busy subscribers (also referred to as Voice Mail Systems);
- Arrangements for connecting several subscribers to a common circuit (also referred to as Conference Bridges).

**Relationships with other classification places**

- Services or devices which are arranged for use in substation equipment are classified in [H04M 1/00](#), whereas services arranged for use in the exchange are classified in [H04M 3/00](#).
- Exchanges in and services specially provided for mobile radio systems are classified in [H04W 4/00](#) -[H04W 92/00](#).
- Implementation details and protocol details of networks comprising call agents, call controllers and call state control functions and/or employing the SIP or H.323 protocol are classified in [H04L 65/1104](#) or [H04L 65/1106](#).
- Protocol details of call control protocols such as Q.931 and ISDN User part (ISUP) are classified in [H04Q](#).

**References****Limiting references**

*This place does not cover:*

Constructional details of telephone exchanges	<a href="#">H04Q 1/02</a>
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**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Selecting arrangements	<a href="#">H04Q 3/00</a> , <a href="#">H04Q 5/00</a> - <a href="#">H04Q 11/00</a>
Wireless communication networks	<a href="#">H04W</a>

**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](#))}

**References****Limiting references**

*This place does not cover:*

Two-way loud-speaking telephone systems with means for suppressing echoes or otherwise conditioning for one or other direction of traffic	<a href="#">H04M 9/08</a>
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Echo suppressors or cancellers in general	<a href="#">H04B 3/20</a>
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## 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](#))}

### Definition statement

*This place covers:*

- [Digital] line cards which are modular electronic circuits on a printed circuit board.
- The line card interfaces a telecommunication line coming from the subscriber.
- Telephone line cards used in PSTN perform so-called BORSCHT functions.
- A line card can terminate a line supporting voice POTS service, ISDN service or DSL service.

### References

#### Limiting references

*This place does not cover:*

supervisory, monitoring or testing arrangements	<a href="#">H04M 3/22</a>
in key telephone systems	<a href="#">H04M 9/006</a>
current supply	<a href="#">H04M 19/00</a>

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

And for DSL service	<a href="#">H04M 3/007</a> .
For ISDN service	<a href="#">H04Q 11/0471</a>

**Some of the BORSCHT functions or at least related functions can be found in the following groups:**

R=Ringling:	<a href="#">H04M 3/02</a> , <a href="#">H04M 19/02</a>
O=Overvoltage:	<a href="#">H04M 3/18</a>
Monitoring and testing arrangements	<a href="#">H04M 3/22</a>
S=Supervision:	<a href="#">H04M 3/2272</a>
T=Test access .	<a href="#">H04M 3/30</a>
Exchange line cards of key telephone systems	<a href="#">H04M 9/006</a> .
B=Battery feed:	<a href="#">H04M 19/00</a>
Current supply arrangements in general	<a href="#">H04M 19/00</a>
C=CODEC	
H=Hybrid	



## Synonyms and Keywords

In patent documents, the following abbreviations are often used:

SLIC	Subscriber Line Interface Circuit
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## H04M 3/02

Calling substations, e.g. by ringing (selective calling [H04Q](#))

### Definition statement

*This place covers:*

Methods and arrangements for ringing or otherwise calling substations as well as call notifications services where the type of notification is adapted to the specific context of the incoming call.

### References

#### Limiting references

*This place does not cover:*

Constructional details and the switching fabric of a telephone exchange	<a href="#">H04Q</a>
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#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

One-way selective calling services	<a href="#">H04W 4/06</a>
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### Special rules of classification

Providing distinctive or selective ringing capability can also be found in [H04M 19/04](#) when the ringing current is generated at the substation.

If the ringing tone is used as a means to notify the called party of information on the calling party, [H04M 3/42051](#) takes priority

## H04M 3/08

Indicating faults in circuits or apparatus

### Definition statement

*This place covers:*

Methods and arrangements which are specifically adapted to the troubleshooting of faults or failures.

### Special rules of classification

The troubleshooting of faults or failures belongs in principle to Operations, Administration, Maintenance, and Provisioning [OAM&P], which is classified in [H04M 3/22](#), but since it is an IPC group it has been kept on the same hierarchical level.

## H04M 3/18

**with means for reducing interference {or noise}; with means for reducing effects due to line faults {with means for protecting lines}**

### Definition statement

*This place covers:*

Means which are specifically adapted to telephone subscriber lines consisting of twisted copper pairs. For example the use of load coils or overvoltage protection arrangements are covered here.

### References

#### Limiting references

*This place does not cover:*

Protective circuit arrangements in general	<a href="#">H02H 9/04</a>
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## H04M 3/22

**Arrangements for supervision, monitoring or testing**

### Definition statement

*This place covers:*

Operations, Administration, Maintenance, and Provisioning OAM&P of telephonic communication services, arrangements and application servers as mentioned in the definition statement of the main group [H04M 3/00](#) as well as individual telephone exchanges or switches.

Furthermore, it covers call monitoring, tracing and detail recording, as well as speech quality monitoring.

This group also covers OAM&P of the metallic twisted pair subscriber line, whereby testing of physical copper line parameters is covered by [H04M 3/305](#) and xDSL line qualification testing is covered by [H04M 3/306](#).

### Special rules of classification

As far as management of networks is concerned, one has to distinguish between telephone networks and data networks.

Management of telephone networks is classified in group [H04Q 3/0062](#), while management of data networks is classified in groups [H04L 41/00](#) or [H04L 43/00](#).

Testing of crosstalk effects is classified in group [H04B 3/487](#).

## H04M 3/34

**Testing for cross-talk**

### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Transmission in general	<a href="#">H04B</a>
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## H04M 3/36

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

### References

#### Informative references

Attention is drawn to the following places, which may be of interest for search:

Digital computers for evaluating statistical data	<a href="#">G06F 17/18</a>
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## H04M 3/38

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

### Definition statement

*This place covers:*

Methods and arrangements for preventing the establishment of certain outgoing connections either by such services as outgoing call barring, i.e. by default the establishment is prevented, or call screening, i.e. by default the establishment is allowed.

Where the prevention can be [temporarily] disabled, this is classified in the hierarchically lower groups.

### References

#### Limiting references

*This place does not cover:*

Queueing arrangements	<a href="#">H04Q 3/64</a>
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#### Informative references

Attention is drawn to the following places, which may be of interest for search:

With call distribution or queueing	<a href="#">H04M 3/523</a>
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### Special rules of classification

Prevention of incoming connections is classified in [H04M 3/436](#).

### Synonyms and Keywords

*In patent documents, the following abbreviations are often used:*

FAC	Forced Authorization Codes
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*In patent documents, the following words/expressions are often used as synonyms:*

- call restriction services
- service restriction in outgoing direction
- outgoing call barring

## H04M 3/42

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

### Definition statement

*This place covers:*

Methods and arrangements which provide supplementary telephonic communication services, that is any type of service which goes beyond basic call establishment. Arrangements for which specific subgroups exist are in particular enterprise telephonic communication servers [H04M 3/42314](#), interactive voice response systems [H04M 3/493](#), call or contact centers [H04M 3/51](#), voicemail systems [H04M 3/533](#), and telephonic conference bridges [H04M 3/56](#).

### References

#### Limiting references

*This place does not cover:*

Specially adapted for wireless communication networks	<a href="#">H04W 4/00</a>
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### Special rules of classification

The arrangements which provide the supplementary telephonic communication services are the ones mentioned in the definition statement of this subclass. Certain arrangement and protocol details are classified as mentioned in the passage "Relationship between large subject matter areas" of this subclass. Mobile application services, also referred to as mobile apps, using supplementary telephonic communication services are covered by [H04W 4/16](#).

## H04M 3/42008

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

### Definition statement

*This place covers:*

Methods and arrangements for establishing a connection to and from a party which has not been identified by the other party. For example the calling party only specifies a subject or a box number published in a newspaper. Also covers disposal numbers which are only usable for a limited amount of time.

### Special rules of classification

Calling Line Identification Restriction [CLIR] is covered by the combination with [H04M 3/42042](#).  
Connected Line Identification Restriction [COLR] is covered by the combination with [H04M 3/42093](#)

## H04M 3/42017

**{Customized ring-back tones}**

### Definition statement

*This place covers:*

- Methods and arrangements providing a customized notification to the calling party that the called party is alerted, usually in the form of a customized ring-back tone. "Customized" refers to the fact that the type of notification is specific to the context of the call, for example the called party.

## Definition statement

- The customized ring-back tone can be provided as a service to either the calling or the called party or even both.
- When the service is customised by the calling party, i.e. the calling party configures the different contexts, such configuration information is referred to as a profile and classified by [H04M 3/42068](#).
- When the service is customised by the called party, i.e. the called party configures the different contexts, such configuration information is not explicitly classified since it is considered that by default such information is present.
- When the customized ring-back tone triggers some further activity of one of the parties such as for example storing the tone in their own profile, retrieving additional information on the tone, in particular when it relates to a piece of music or the download of the piece of music then these aspects are classified in [H04M 3/42153](#) and/or [H04M 3/42178](#).
- The configuration as such is classified in [H04M 3/42153](#) but only if the way the configuration is performed are relevant.
- When the context is defined by the network operator, this is typically related to advertisements, which are to be classified in [H04M 3/4878](#). What mainly distinguishes [H04M 3/42017](#) from [H04M 3/487](#) is the fact that the parties themselves can determine the context.

**Special rules of classification**

When the customized notification mentioned above relates to an advice of charge, the groups [H04M 15/00](#) or [H04L 12/14](#) take priority.

**H04M 3/42025****{Calling or Called party identification service}****Definition statement**

*This place covers:*

- The hierarchically highest groups [H04M 3/42025](#), [H04M 3/42034](#) and [H04M 3/42085](#) are only used for additional information because most often the subject-matter to be classified does not relate to the identification as such but rather to the use of the identification for the customization of supplementary services or the presentation of the identification itself which are both covered by the hierarchically lower groups. These comprise in particular the groups [H04M 3/42042](#) and [H04M 3/42093](#) which cover the services calling line identification presentation [CLIP] and connected line identification presentation [COLP], as well as any more enhanced forms of presentation of information relating to one of the call parties.
- Furthermore, all caller-dependent services should receive [H04M 3/42059](#) as additional information and all called party-dependent services should receive [H04M 3/42102](#). The usage of profiles is covered by either [H04M 3/42068](#) or [H04M 3/4211](#).

**H04M 3/42136****{Administration or customisation of services}****Definition statement**

*This place covers:*

The configuration of supplementary services. Whereas OAM&P as classified in [H04M 3/22](#) also comprises configuration of network nodes by the network operator, this group specifically covers the configuration of supplementary services that are provided to subscribers as add-ons to basic telephony. Furthermore, service interactions are covered by [H04M 3/4217](#).

## H04M 3/42187

**{Lines and connections with preferential service}**

### Definition statement

*This place covers:*

Methods and arrangements where certain lines or connections are prioritised which for example is important when the system is overloaded due to failure or disaster situations.

### Special rules of classification

Preferential services are often provided in the context of overload which often occurs when a disaster occurred. The disaster is a specific form of emergency situation. Overload in general is covered by [H04M 3/367](#) whereas any services related to emergency situations are covered by [H04M 2242/04](#). Mobile application services, also referred to as mobile apps, handling emergency, urgent or hazardous situations are covered by [H04W 4/90](#).

## H04M 3/42195

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

### Definition statement

*This place covers:*

Methods and arrangements for any kind of return calls, as well as for call completion on no reply [CCNR]. Call completion on busy [CCBS] is covered by [H04M 3/48](#).

This group also covers services where the calling subscriber is a requestor of a return call in order to reverse the direction of the established call, as for example in calling card services. This group is also used for storing caller identity information in the network and inform called party about all calls that came in when he was busy/absent; i.e. even though nor "recall" is initiated; this service is often referred to as missed call notification.

### Special rules of classification

Arrangements for calling back a calling subscriber in the specific context of call center queuing is covered by [H04M 3/5231](#). Arrangements for calling back the sender of a voice mail message is covered by [H04M 3/53341](#).

Arrangements for calling back a calling subscriber when the wanted subscriber ceases to be busy is covered by [H04M 3/48](#)

## H04M 3/42204

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

### Definition statement

*This place covers:*

Methods and arrangements for voice dialling.

### Special rules of classification

When speech recognition is additional rather than inventive information, [H04M 2201/40](#) is used. Selection by voice as provided by interactive voice response-type systems and classified by [H04M 3/493](#) is not explicitly classified since it is implicit in such systems.

Arrangements at a terminal for service or number selection by voice is covered by [H04M 1/271](#)

## H04M 3/42212

**{Call pickup (comprising simultaneous alerting [H04M 3/46](#))}**

### Definition statement

*This place covers:*

Method and arrangements where a third party is capable of to answer someone else's telephone call, which is referred to as picking up a call.

### Special rules of classification

Simultaneous alerting is covered by [H04M 3/46](#). The distinction between call pickup and simultaneous alerting is not the intended destination but the terminals or partys being notified about the call. When the party answering the call has been signalled the call, [H04M 3/46](#) takes priority.

## H04M 3/42221

**{Conversation recording systems (at the subscriber's set [H04M 1/656](#))}**

### Definition statement

*This place covers:*

Methods and arrangements for recording a telephone conversation independent of the specific context.

### References

#### Limiting references

*This place does not cover:*

Recording at the subscriber's set	<a href="#">H04M 1/656</a>
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### Special rules of classification

If used for law enforcement purposes it should be combined with [H04M 3/2281](#) and if used for quality assurance in call centers it should be combined with [H04M 3/5175](#). Contrary to [H04M 3/2218](#) it is the speech exchanged during a telephone conversation that is recorded and not any call details such as time of or parties to the call.

## H04M 3/42229

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

### Definition statement

*This place covers:*

Methods and arrangements for handling a call according to one of the involved parties rather than handling it according to a telephone number with a fixed association to a line as in the classical PSTN where the telephone number identifies both, the party and the line. The classical example of what this group covers is the personal number service.

## Definition statement

The hierarchically lower groups cover in particular the following:

- When the same line and/or substation is shared by several parties: [H04M 3/42238](#);
- When a multi-mode terminal moves between different access networks of which at least one is a mobile extension to a fixed access point: [H04M 3/42246](#)
- When the subscriber is nomadic in that he uses different terminals: [H04M 3/42263](#)

### Special rules of classification

This group should only be used when the subject-matter to be classified relates to the problem of overcoming the fixed association mentioned above because cellular and IP-based telephone networks inherently do not use addresses, such as telephone numbers, with such a fixed association.

Local number portability is covered by **H04M/42N5**.

Diversion of calls from one subscriber to another subscriber, i.e. from one subscription to another [H04M 3/54](#) takes priority; Implementation details for such service in Intelligent Networks are covered by [H04Q 3/005](#).

### Synonyms and Keywords

*In patent documents the following expressions/words "follow-me"; "personal mobility"; "personal number service"; "portability"; "portable service"; "service profile"; "service 0700 in germany", "persönliche Rufnummer" often used.*

## H04M 3/4228

{in networks}

### Definition statement

*This place covers:*

Methods and arrangements for providing supplementary services relating to deregulated telephone networks or to special service telephone numbers. Three hierarchically lower groups are dedicated to

Carrier selection: [H04M 3/42289](#)

Local number portability: [H04M 3/42297](#)

Number translation services, in particular freephone: [H04M 3/42306](#).

### Special rules of classification

When the supplementary service is implemented by an Intelligent Network, [H04M 2207/12](#) is allocated. Intelligent Networks in general are covered by [H04Q 3/0029](#)

### Synonyms and Keywords

*In patent documents, the following abbreviations are often used:*

ILEC	incumbent local exchange carrier
CLEC	competitive local exchange carriers



## H04M 3/42314

**{in private branch exchanges}**

### Definition statement

*This place covers:*

Methods and arrangements which are specifically adapted to a private context as for example in an office or even at home. Private in this context is the opposite of public in the Public Switched Telephone Network.

Three hierarchically lower groups are dedicated to

- Computer Telephone Integration: [H04M 3/42323](#)
- Direct Inward Dialing: [H04M 3/42331](#)
- Teleworking arrangements: [H04M 3/4234](#)

### Special rules of classification

Multi-site arrangements which are classified in [H04M 7/009](#)

## H04M 3/42348

**{Location-based services which utilize the location information of a target}**

### Definition statement

*This place covers:*

Methods and arrangements where the service adapts its behaviour to the spatial context of the subscriber.

### Special rules of classification

If the service itself is explicitly covered by one of the [H04M 3/00](#) group, this group is allocated in combination.

## H04M 3/42365

**{Presence services providing information on the willingness to communicate or the ability to communicate in terms of media capability or network connectivity}**

### Definition statement

*This place covers:*

Methods and arrangements where the service adapts its behaviour to the personal context of the subscriber, in particular its ability and/or willingness to communicate.

### Special rules of classification

If the service itself is explicitly covered by one of the [H04M 3/00](#) groups, this group is allocated in combination.

## H04M 3/42382

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

### Definition statement

*This place covers:*

Methods and arrangements where text messages are transmitted as add-on to signalling mechanisms for telephonic communication. Furthermore, interactions of calls and text messages such as calls triggering a message or messages triggering a call are covered here.

### References

#### Limiting references

*This place does not cover:*

Short messaging service in wireless networks	<a href="#">H04W 4/14</a>
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## H04M 3/424

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

### Definition statement

*This place covers:*

Methods and arrangements for facilitating the redial of a recently called party.

Whereas in [H04M 3/424](#) the recall is initiated by the calling party, in [H04M 3/48](#) it is initiated by the network.

### References

#### Limiting references

*This place does not cover:*

Arrangements for automatic redialling at the subscriber's set	<a href="#">H04M 1/27</a>
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## H04M 3/428

Arrangements for placing incoming calls on hold

### Definition statement

*This place covers:*

Methods and arrangements for suppressing verbal communication to the party which has put the call on hold. Four hierarchically lower groups are dedicated to:

- the application of call hold in the context internet dial-up: [H04M 3/4281](#)
- circuits enabling the call hold functionality: [H04M 3/4283](#)
- providing content potentially in the form of advertising or entertaining nature to the party which has be put on hold Music-on-hold: [H04M 3/4285](#)
- notifying the party on hold of its removal from hold: [H04M 3/4286](#)
- call waiting: [H04M 3/4288](#)

## 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](#))}

### Definition statement

*This place covers:*

Methods and arrangements where the call context is analysed in order to decide if the call is offered to the called party. If the party to be screened has defined upfront certain information that is being analysed as well, the hierarchically lower group [H04M 3/4365](#) is to be used.

### Special rules of classification

If the screening rules are stored in association with the calling party [H04M 3/42059](#) is to be allocated in combination. In case of a spatial context, [H04M 3/42348](#) and in case of a personal context (presence) [H04M 3/42365](#) is to be allocated in combination. If the call which is not offered to the called party is not terminated but forwarded (diverted) to a different party, [H04M 3/54](#) takes priority.

### Synonyms and Keywords

*In patent documents the following expressions/words "do not disturb" and "incoming call barring" are often used.*

## 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](#))

### References

#### Limiting references

*This place does not cover:*

Additional connecting arrangements for providing access to frequently-wanted subscribers, e.g. abbreviated dialling at the subscriber's set	<a href="#">H04M 1/27</a>
Automatic redialling	<a href="#">H04M 3/424</a>

## H04M 3/46

Arrangements for calling a number of substations in a predetermined sequence until an answer is obtained

### Definition statement

*This place covers:*

Methods and arrangements for alerting a number of substations of the same call. If the substations are alerted at the same time then the hierarchically lower group [H04M 3/465](#) is to be used. This group covers features such as call coverage and call hunting.

### Special rules of classification

Call distribution is to be classified in [H04M 3/523](#). If all the substations to be alerted are associated with the same subscriber, the subject-matter is to be classified as a personal number service in [H04M 3/42229](#). If for a specific context only one alternative [substation] is defined, the subject-matter is to be classified as call diversion in [H04M 3/54](#).

### Synonyms and Keywords

*In patent documents the following expressions/words "call hunting", "call hunt groups", "call-coverage" often used.*

## H04M 3/48

### Arrangements for recalling a calling subscriber when the wanted subscriber ceases to be busy

#### Definition statement

*This place covers:*

Methods and arrangements for calling back a calling subscriber when the wanted subscriber ceases to be busy; i.e. the calling subscriber is the served user in that even though the initial call is not established, a service is invoked which monitors the status of the called party (or both) to enable, when the calling party returns from busy, a "recall" from the calling to the called party. The conventional term is "Completion of calls on busy" [CCBS].

### Special rules of classification

Call completion on no reply [CCNR] as well as any other call backs are covered by [H04M 3/42195](#).

### Synonyms and Keywords

*In patent documents the following abbreviations are often used:*

CCBS	Call completion on busy subscriber
CCBS	Completion of calls to busy subscriber

*In patent documents the following expressions/words "rückruf bei besetzt" and "anrufliste" are often used.*

## H04M 3/487

### Arrangements for providing information services, e.g. recorded voice services or time announcements

#### Definition statement

*This place covers:*

Methods and arrangements where information services are provided via voice calls. The hierarchically lower groups distinguish between non-interactive ([H04M 3/4872](#)) and interactive ([H04M 3/493](#)) services but since the information to be provided is usually determined by some sort of interaction, [H04M 3/493](#) is to be considered the default group and [H04M 3/4872](#) only in exceptional cases. [H04M 3/493](#) is used for interactive voice response systems and voice portals as well as for all services provided by these systems. Voice-browser based methods and arrangements are covered by [H04M 3/4938](#).

### Special rules of classification

When the information service is location-dependent, the subject-matter is to be classified by the combination of [H04M 3/487](#) and [H04M 3/42348](#). Information services not provided via voice calls are covered by [H04L 67/02](#).

## 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}**

### Definition statement

*This place covers:*

With the exception of hierarchically lower group [H04M 3/51](#), centralised arrangements for answering calls, that is servers without a switching function but with access to the voice path.

The hierarchically lower group [H04M 3/51](#) covers call centers which usually imply a queuing function whereby the calls are answered before they are distributed via an automatic call distribution to a respective agent, however a call that is not queued is essentially switched as in a conventional PBX.

The hierarchically lower group [H04M 3/527](#) covers virtual assistants which are providing the same services a human assistant (also referred to as secretary) would provide but in an automatic way. Services relate to the handling outgoing calls, supplementary services during a call, or the handling of incoming calls. Systems facilitating the interaction between a real human assistant and the party being assisted, are classified in [H04M 3/5108](#)

### References

#### Limiting references

*This place does not cover:*

Information services (takes precedence)	<a href="#">H04M 3/487</a>
Dictation recording and playback systems	<a href="#">H04M 11/10</a>

### Special rules of classification

If an explicit group for a specific server exist this takes priority such as for:

- Systems providing voice announcements: [H04M 3/487](#)
- Interactive voice response systems: [H04M 3/493](#)
- Mailbox systems: [H04M 3/53](#)
- Conversation recording systems: [H04M 3/42221](#).

## H04M 3/51

**Centralised call answering arrangements requiring operator intervention {, e.g. call or contact centers for telemarketing}**

### Definition statement

*This place covers:*

With the exception of [H04M 3/5108](#), call centers whereby a call center is rather a functional concept of enabling agents to handle calls, either incoming or outgoing, centrally for a legal entity like a company or a Public Safety Answering Point. [H04M 3/5116](#) covers calls to emergency telephone numbers in

general. The technical core of a call center is a queuing and distribution function which is covered by [H04M 3/523](#). [H04M 3/5108](#) covers methods and arrangements for facilitating the interaction between a real human assistant and the party being assisted.

## References

### Limiting references

*This place does not cover:*

Emergency calls initiated by fire, police, burglar or other alarm systems	<a href="#">H04M 11/04</a>
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## H04M 3/5141

{Details of processing calls and other types of contacts in an unified manner (unified messaging in packet-switching networks [H04L 51/56](#))}

## References

### Limiting references

*This place does not cover:*

Unified messaging in packet-switching networks	<a href="#">H04L 51/56</a>
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## H04M 3/527

**Centralised call answering arrangements not requiring operator intervention**

## Definition statement

*This place covers:*

Virtual assistants which are providing the same services a human assistant (also referred to as secretary) would provide but in an automatic way.

## Special rules of classification

Methods and arrangements with a human assistant like a secretary or a call center agent are covered by [H04M 3/51](#) or [H04M 3/60](#) when it is a switchboard operator using an attendant console. When the specific service provided by the virtual assistant is a directory service, [H04M 3/4935](#) takes priority.

## H04M 3/53

**Centralised arrangements for recording incoming messages {, i.e. mailbox systems}**

## Definition statement

*This place covers:*

Mailbox systems and services, in particular voice mail systems. Other types of messaging are only covered as far as they predominantly relate to voice or are provided by telephonic communication systems such as for example fax.

## References

### Limiting references

*This place does not cover:*

Centralised arrangements for recording facsimile documents	<a href="#">H04N 1/324</a>
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### Special rules of classification

Services which combine telephonic communication and predominately text-based messaging are covered by [H04M 7/0042](#) - [H04M 7/0054](#). Predominantly text-based messaging as such is classified in [H04L 51/00](#), e.g. e-mail or instant messaging.

## H04M 3/54

**Arrangements for diverting calls for one subscriber to another predetermined subscriber {(based on the calling party profile [H04M 3/42059](#); based on location [H04M 3/42348](#); based on presence [H04M 3/42365](#); to voice mail [H04M 3/53308](#))}**

### Definition statement

*This place covers:*

Methods and arrangements for call diversion, that is the redirection of a call from one destination to another alternative destination.

### Special rules of classification

If it is context specific if the redirection should take place and to what destination, other groups as mentioned in the title are to be allocated in combination. Many other services like personal number service, the number translation services as well as call coverage and hunt groups also direct the call to a destination not explicitly specified by the calling party but their motivation is different from that of providing per context one specific alternative for the called party. The most prevalent contexts are call forwarding unconditional, call forwarding on busy and call forwarding on no reply/no answer. If the diversion is to voice mail [H04M 3/53308](#) takes priority.

If the diversion rules are stored in association with the calling party [H04M 3/42059](#) is to be allocated in combination. In case of a spatial context (location), [H04M 3/42348](#) and in case of a personal context (presence) [H04M 3/42365](#) is to be allocated in combination. If the call which is not offered to the called party is terminated without forwarding, [H04M 3/436](#) takes priority.

### Synonyms and Keywords

*In patent documents the following expressions/words call forwarding, "call diversion", "call redirection", "call deflection", "anrufweiterleitung", "anrufumleitung" and "anrufweilerschaltung" are often used.*

## H04M 3/56

**Arrangements for connecting several subscribers to a common circuit, i.e. affording conference facilities (video conference systems [H04N 7/15](#))**

### Definition statement

*This place covers:*

Methods and arrangement for providing conference calling, that is a multiparty conversation. Features which facilitate the user interaction with the conference arrangements are covered by [H04M 3/563](#).

## References

### Limiting references

*This place does not cover:*

Computer conferences	<a href="#">H04L 12/1813</a>
Video conference systems	<a href="#">H04N 7/15</a>

### Special rules of classification

When the application does not predominantly relate to multiparty conversation but multiparty collaboration the subject-matter is to be classified in either [H04L 12/1813](#) for computer conferences or [H04N 7/15](#) for video conference systems. Only in case of different medias supplementing a predominantly audio-based conference, [H04M 3/567](#) is to be used.

Audio processing such as mixing and spatial distribution is only covered as long as it does not relate to sound field processing per se which is covered by [H04S 7/30](#) or echo suppression which is covered by [H04M 9/02](#).

Protocols for floor control are covered by [H04L 65/403](#).

## H04M 3/566

**{relating to a participant's right to speak (arrangements for multi-party communication with floor control, e.g. for conferences, [H04L 65/4038](#), [H04L 65/4046](#), [H04L 65/4053](#))}**

## References

### Limiting references

*This place does not cover:*

Arrangements for multi-party communication with floor control, e.g. for conferences	<a href="#">H04L 65/4038</a>
Arrangements for multi-party communication with distributed floor control, e.g. for conferences	<a href="#">H04L 65/4046</a>
Arrangements for multi-party communication without distributed floor control, e.g. for conferences	<a href="#">H04L 65/4053</a>

## 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](#))**

### Definition statement

*This place covers:*

Method and arrangements for transferring an ongoing call. The term "transfer" is to be construed narrowly because documents related to services like call forwarding use the term "transfer" where, contrary to the present case, the call is not "ongoing"

### Special rules of classification

Substation line holding circuits are covered by [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**

### Definition statement

*This place covers:*

Methods and arrangements where a switchboard operator is been given access to telephonic communication services, for example via an attendant console of a private branch exchange.

Whereas the switchboard operator is an intermediate person which initially answers the call in order to assist in finding the final destination a call center operator is in general the final destination.

### Special rules of classification

If the intermediate is an interactive voice response system [H04M 3/5166](#) takes priority.

### Synonyms and Keywords

The following expressions are often used in this context: switchboard operator, attendant console, receptionist

## H04M 5/00

**Manual exchanges (substation equipment in general [H04M 1/00](#))**

### Definition statement

*This place covers:*

Arrangement which provide for manually connecting a group of telephone lines mutually to one another or to an outside line by way of plug and socket. When the manual operation only consists in the [numerical] selection of the other line, then this is covered by [H04M 3/60](#).

## H04M 5/02

**Constructional details (jacks, jack-plugs [H01R 24/58](#))**

### References

#### Limiting references

*This place does not cover:*

Jacks, jack-plugs	<a href="#">H01R 24/58</a>
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## H04M 7/00

**Arrangements for interconnection between switching centres**

### Definition statement

*This place covers:*

Interconnection arrangements between switching centres, id est telephonic communication networks rather than individual switches.

Internet telephony and traditional circuit-switched telephony requiring interworking between the two, see in this respect also ITU-T Recommendation Y.2261, "PSTN/ISDN evolution to NGN".

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Transmission arrangements in general	<a href="#">H04B</a>
Selecting arrangements	<a href="#">H04Q 3/00</a>

### Special rules of classification

Whereas [H04M](#) relates to telephonic communications in general, in the context of [H04M 7/00](#) distinction is made between circuit-switched CS and packet-switched PS networks providing telephonic communications.

In this respect, some groups relate only to CS, others to the interworking of CS and PS, [H04M 7/009](#) is used independent of CS or PS and [H04M 7/006](#) is used only for PS.

[H04M 7/0003](#): CS-PS-interworking

[H04M 7/0012](#): CS-PS-interworking

[H04M 7/0024](#): CS-PS-interworking

[H04M 7/006](#): PS

[H04M 7/009](#): CS-PS agnostic

[H04M 7/0096](#): CS (not active)

[H04M 7/06](#): only used for CS-PS-interworking

[H04M 7/08](#): CS (not active)

[H04M 7/12](#): CS-PS-interworking

[H04M 7/14](#): CS (not active)

[H04M 7/16](#): CS (not active)

## 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}**

### Definition statement

*This place covers:*

Arrangements which allow interactions on a telephone and a computer to be integrated or coordinated. The main focus of this group relates to architectural modifications in terms of nodes and their interaction which are potentially more generic than a single service.

Furthermore, this group covers Application Programming Interfaces for telephonic communication networks such as CSTA, JTAPI, TSAPI and TAPI for private networks but also Parlay, Parlay X and its successors for public networks.

### Special rules of classification

Specific services provided over already existing arrangements covered by this group are covered by [H04M 7/0024](#). Private Branch Exchanges with Computer Telephony Integration arrangements are covered by [H04M 3/42323](#) and Call or Contact Centers with Computer Telephony Integration arrangements are covered by [H04M 3/5183](#).

## 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](#))}**

### Definition statement

*This place covers:*

Services which combine telephonic communication with data services and the combined service is predominantly a telephonic communication service. E.g. Click to dial is covered by [H04M 7/003](#).

### Special rules of classification

If the combined service is predominantly a data service than [H04L](#) takes priority. Modifications, in particular regarding the arrangement or the application programming interface which are more generic and not specific to an individual service are covered by [H04M 7/0012](#). In other words, platform modifications are covered by [H04M 7/0012](#) whereas individual services are covered in [H04M 7/0024](#).

## H04M 7/0039

**{where the data service is provided by a stream of packets which are rendered in real time by the receiving terminal (network streaming of media packets [H04L 65/60](#))}**

### References

#### Limiting references

*This place does not cover:*

Network streaming of media packets	<a href="#">H04L 65/60</a>
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## 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](#))}**

### Definition statement

*This place covers:*

Methods and arrangements where telephonic communication is provided over packet-switched networks.

Access arrangements for conventional telephones, in particular residential gateways.

OAM&P and security aspects in the context of packet-switched telephony if they are specific to telephonic communications.

### Special rules of classification

[H04L 65/00](#) takes precedence. This group is only to be used in combination with a group in [H04M 3/00](#) and any aspects not specific to the type of network are covered only by [H04M 3/00](#) and lower groups whereby in particular the special services are classified in [H04M 3/42](#) and lower. Furthermore, any modifications to the packet-switched network that are required to provide the telephonic communication service are covered by [H04L](#). If the telephonic communication is provided over a network where packet-switched and circuit-switched networks interact, this is covered by [H04M 7/1205](#)

Security aspects in packet-switched networks in general are covered by [H04L 63/00](#) and OAM&P for packet-switched networks in general is covered by [H04L 41/00](#) and [H04L 41/06](#).

## H04M 7/009

{in systems involving PBX or KTS networks}

### Definition statement

*This place covers:*

Multi-site arrangements for what is covered otherwise by [H04M 3/42314](#).

## H04M 7/0096

{Trunk circuits}

### Definition statement

*This place covers:*

This group relates to circuit-switched networks but is not active.

## H04M 7/06

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

### Definition statement

*This place covers:*

Common channel signalling but only in relation to packet-switched network [signalling] such as SIGTRAN which relates to SS7 over IP, Bearer Independent Call Control BICC, or SIP-T which relates to the encapsulation of SS7 in SIP.

### Special rules of classification

Protocol interworking without encapsulation is covered by [H04M 7/126](#)

## H04M 7/08

for phantom working {(phantom working in transmission of digital information [H04L 5/20](#))}

### Definition statement

*This place covers:*

This group relates to circuit-switched networks but is not active.

## References

### Limiting references

*This place does not cover:*

Phantom working in transmission of digital information	<a href="#">H04L 5/20</a>
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## 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}**

### Definition statement

*This place covers:*

Methods and arrangements for interworking circuit-switched and packet-switched telephonic communications networks.

## H04M 7/121

**{Details of network access arrangements or protocols}**

### Definition statement

*This place covers:*

Methods and arrangements where it can be distinguished between access and core network and only the access network is being modified.

## H04M 7/1225

**{Details of core network interconnection arrangements}**

### Definition statement

*This place covers:*

Methods and arrangements where the networks that are being interconnected are hierarchically on the same level, contrary to [H04M 7/121](#) where the access network is hierarchically lower than the core network. When the circuit-switched network is a wireless core network this is covered by [H04M 7/1235](#) and when the packet-switched network is an IP Multimedia System this is covered by [H04M 7/123](#)

## H04M 7/124

**{where PSTN/ISDN interconnects two networks other than PSTN/ISDN}**

### Definition statement

*This place covers:*

Methods and arrangements where the circuit-switched network is involved for the establishment of calls between terminals directly connected to packet-switched networks

### Special rules of classification

This group essentially covers Personal Computer to Personal computer scenarios, whereas other scenarios are covered by [H04M 7/1245](#)

## H04M 7/1245

**{where a network other than PSTN/ISDN interconnects two PSTN/ISDN networks}**

### Definition statement

*This place covers:*

Methods and arrangements where at least one terminal is directly connected to a circuit-switched network, Also covers IP trunking.

### Special rules of classification

This group essentially covers Phone to Personal Computer, Personal Computer to Phone and Phone to Phone scenarios, whereas Personal Computer to Personal Computer scenarios are covered by [H04M 7/124](#).

## H04M 7/125

**{Details of gateway equipment}**

### Definition statement

*This place covers:*

Details of circuit-switched packet-switched gateways which are not covered explicitly by any of the groups [H04M 7/126](#), [H04M 7/1275](#), [H04M 7/128](#), [H04M 7/1285](#), [H04M 7/129](#), [H04M 7/1295](#).

### References

#### Limiting references

*This place does not cover:*

Data switching network gateways	<a href="#">H04L 12/66</a> , <a href="#">H04L 65/102</a>
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## H04M 7/126

**{Interworking of session control protocols}**

### Definition statement

*This place covers:*

Interworking of signalling systems for circuit-switched systems such as SS7 or DSS1, and signalling systems for packet-switched systems such as SIP or H.323.

## H04M 7/1275

**{Methods and means to improve the telephone service quality, e.g. reservation, prioritisation or admission control}**

### Definition statement

*This place covers:*

Methods in gateways directed to handle a plurality of subscribers. These are potentially carrier-graded gateways rather than residential gateways which are covered by [H04M 7/0069](#)

## H04M 7/128

{Details of addressing, directories or routing tables}

### Definition statement

*This place covers:*

Methods and arrangements which provide for the interworking of address of the different signalling systems as mentioned with respect to [H04M 7/126](#), in particular E.164 telephone numbers, also referred to as E.164 Number Mapping, and SIP Uniform Resource Identifiers.

## H04M 7/1285

{Details of finding and selecting a gateway for a particular call}

### Definition statement

*This place covers:*

Methods and arrangements relating to path-finding.

### Special rules of classification

Least cost routing is covered by [H04M 15/00](#).

## H04M 7/129

{Details of providing call progress tones or announcements}

### Definition statement

*This place covers:*

Methods and arrangements for handling call progress tones known from circuit-switched networks in packet-switched network

### Special rules of classification

Methods and arrangements for providing ringing current or supervisory tones in circuit-switched networks is covered by [H04M 19/02](#).

## H04M 7/1295

{Details of dual tone multiple frequency signalling}

### Definition statement

*This place covers:*

Methods and arrangements for handling DTMF tones known from circuit-switched networks in packet-switched networks.

## H04M 9/00

Arrangements for interconnection not involving centralised switching

### Definition statement

*This place covers:*

Private Branch Exchanges, e.g. for making connections among the internal telephones of a private organization.

## Definition statement

Key telephone systems, i.e. a telephone system in which the telephones have multiple buttons to directly select individual Central Office lines (without dialling a 9 as in PBX).

Acoustic echo cancelling, acoustic echo suppression for telephone systems.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Constructional features of cordless telephones	<a href="#">H04M 1/0202</a>
Speech Amplifiers	<a href="#">H04M 1/60</a>
Substation extension arrangements using two or more extension per lines	<a href="#">H04M 1/715</a>
Automatic or semi automatic exchanges	<a href="#">H04M 3/00</a>
Subscriber line circuits (from the central exchange office)	<a href="#">H04M 3/005</a>
Arrangements for connecting several subscribers to a common circuit, i.e. affording conference facilities	<a href="#">H04M 3/56</a>
Paging systems	<a href="#">H04M 11/022</a>
Door telephones	<a href="#">H04M 11/025</a>
Methods for damping of acoustic waves	<a href="#">G10K 11/16</a>
Speech analysis - synthesis techniques for redundancy reduction	<a href="#">G10L 19/00</a>
Speech enhancement	<a href="#">G10L 21/02</a>
Detection of presence or absence of speech signals	<a href="#">G10L 25/78</a>
Digital adaptive filtering	<a href="#">H03H 21/0012</a>
Transceivers	<a href="#">H04B 1/38</a>
Line echo cancelling	<a href="#">H04B 3/23</a>
Computer conference systems	<a href="#">H04L 12/1813</a>
Video conference systems	<a href="#">H04N 7/15</a>
Video door telephones	<a href="#">H04N 7/186</a>
Selecting arrangements providing connection between main exchange and sub-exchange or satellite	<a href="#">H04Q 3/58</a>
Details of transducers for preventing acoustic reactions	<a href="#">H04R 3/02</a>
Preventing of acoustic reactions in def-aids sets	<a href="#">H04R 25/45</a>

## Special rules of classification

### Further details of subgroups

#### [H04M 9/001](#):

It includes two-way communication systems between a limited number of parties as, for examples, vehicle interphone systems (door telephones [H04M 11/025](#), video door telephones [H04N 7/186](#), paging systems [G08B 3/1008](#), hands free subscriber equipment [H04M 1/6033](#)).

#### [H04M 9/002](#):

It includes systems with subscriber controlled access to a line as key telephone systems. Subgroups are defined and clear by their title (keyboard equipment in semi-automatic systems [H04M 3/62](#), subscriber line circuits [H04M 3/005](#)).



[H04M 9/02](#), [H04M 9/04](#), [H04M 9/06](#):

These groups are not anymore used as they were differentiating systems according to the type of line and access used.

[H04M 9/08](#) - [H04M 9/10](#):

Two-way loud-speaking telephone systems with means for suppressing echoes or otherwise conditioning for one or other direction of traffic. This can be done for example, estimating level of noise or speech, suppressing near and far end background noise, introducing insertion losses (controlling gain) for reducing singing phenomenon. Subgroups includes [H04M 9/085](#), where digital techniques are used, [H04M 9/087](#) with subdivision in different frequency bands for transmitting and receiving part and [H04M 9/10](#) with switching of direction of transmission by voice frequency. (active noise canceling by regenerating original acoustic wave in anti-phase [G10K 11/178](#), detection of presence or absence of speech signals in general [G10L 25/78](#))

[H04M 9/082](#):

This important subgroup refers to the acoustic echo canceling techniques where sound emitted by a local transmitter (loudspeaker) is picked up by a receiver (microphone) and then sent to the far end user together with the voice of the near end user. With the use of adaptive filter, for example, acoustic echo is estimated and subtracted. Also aspects of residual echo (echo left after an incomplete echo cancellation), insertion of comfort noise are classified here (in vocoders [H04W 84/12](#) ). Hybrid echo also known as line echo or electrical echo (generated in the hybrid circuit "fork" inserted between a two-wire local loop and the four wire transmission facility) is instead classified in [H04B 3/23](#) (digital adaptive filter per se [H03H 21/0012](#)). In [H04M 3/002](#) instead documents covering aspects of echo cancellation or echo suppression on the network side (Central Office) are covered. Prevention of acoustic reactions in hearing aids is covered by [H04R 25/45](#) .

## Glossary of terms

*In this place, the following terms or expressions are used with the meaning indicated:*

ABF	Adaptive Beamformer
AEC	Acoustic Echo Canceller
AGC	Automatic Gain Control
AP	Affine Projection
APA	Affine Projection Algorithm
AR	Auto-recursive
CPE	Customer Premise Equipment: any phone equipment (key systems, PBX's, answering machines, etc.) which reside on the customers premises
ERLE	Echo Return Loss Enhancement
FIR	Finite Impulse Response
GSC	Generalized Sidelobe Canceller
HKTS	Hybrid Key Telephone System: telephone system that can be used as a PBX or as a Key Telephone System
IIR	Infinite impulse response
KSU	Key Service Unit (common control unit of a KTS)
KTS	Key Telephone System
LMS	Least Mean Square (algorithm used in echo cancelling)
MDF	Multi Delay Filter

MMSE	Minimum Mean Square Error
MSE	Mean Square Error
NLMS	Normalized Least Mean Square (algorithm used in echo cancelling)
PNLMS	Proportionate NLMS
RLS	Recursive Least Square (algorithm used in echo cancelling)
SAEC	Stereophonic AEC
SER	Signal to Echo Ratio
SPNLMS	Sparse partial update NLMS
SVD	Singular Value Decomposition
VAD	Voice Activity detector

## H04M 9/08

**Two-way loud-speaking telephone systems with means for conditioning the signal, e.g. for suppressing echoes for one or both directions of traffic**

### References

#### Informative references

Attention is drawn to the following places, which may be of interest for search:

For line transmission in general	<a href="#">H04B 3/20</a>
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## H04M 11/00

**Telephonic communication systems specially adapted for combination with other electrical systems**

### Definition statement

*This place covers:*

Telephonic communication systems adapted for combination with other electrical systems e.g. combinations with application servers or physical implementation of xDSL-systems.

### References

#### Informative references

Attention is drawn to the following places, which may be of interest for search:

Signalling or calling systems not related to signalling or calling in telephonic communications (i.e. not related to the control of telecommunication networks); Order telegraphs; Alarm systems	<a href="#">G08B</a>
Transmission of digital information	<a href="#">H04L</a>

## H04M 11/002

{with telemetering systems (telemetering in general [G08C](#))}

### Definition statement

*This place covers:*

Typically, electricity or gas meters are read from a remote location via the telephone network. Other types of meters may be used: water, tank fluid level, vending machine stock level, environmental and pollution conditions. Generally, two alternative models are used for remote meter reading: polling and alert, alerts being triggered by thresholds or timers.

### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Remote reading of utility meters	<a href="#">G01D 4/002</a>
Tele-metering in general	<a href="#">G08C</a>
The metering is transmitted by a channel of a phone connection dedicated to data (e.g. SMS, GPRS)	<a href="#">G08C 17/00</a>
Reporting to a device located outside the home and the home network	<a href="#">H04L 12/2825</a>
Web-based protocols	<a href="#">H04L 67/02</a>
Relates to telemetry by calling (a) substation/s from a main station, but not using the telephone network	<a href="#">H04Q 9/00</a>

### Special rules of classification

If the main aspect is remote control via the telephone line and there is also a remote meter reading via the telephone line, then classification in both [H04M 11/002](#) and [H04M 11/007](#) is expected.

If the meter level is an indication of an alarm condition, subgroup [H04M 11/04](#) is preferred

Some documents might have aspects to be classified both in [H04M 11/002](#), [H04M 11/062](#) and [G08C 17/02](#) (e.g. remote control by telephone and the reception device in a home is forwarding the remote control to signals after conversion to specific appliances).

## H04M 11/005

{using recorded signals, e.g. speech}

### Definition statement

*This place covers:*

Telemetering via telephone connection using recorded signals, e.g. speech.

## H04M 11/007

{with remote control systems (remote control in general [G08C](#))}

### Definition statement

*This place covers:*

Controlling devices via the telephone line is the subject of this subgroup.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Remote control in general	<a href="#">G08C</a>
Remote control via wireless link	<a href="#">G08C 17/00</a>
Remote control via home network	<a href="#">H04L 12/2803</a>
Controlling appliance services in a home-network	<a href="#">H04L 12/2818</a> , <a href="#">H04L 12/2825</a>
Web-based protocols	<a href="#">H04L 67/02</a>

### Special rules of classification

Documents where the remote control consists solely in the setting of parameters for remote reading by telephone should be classified in [H04M 11/002](#) only and not in [H04M 11/007](#).

Some documents might have aspects to be classified both in [H04M 11/002](#), [H04M 11/007](#) and [G08C 17/02](#) (e.g. if you remote control by telephone and the reception device in a home is forwarding the remote control to signals after conversion to specific appliances)

## H04M 11/02

### with bell or annunciator systems

#### Definition statement

*This place covers:*

A sound is produced in order to reach a person or a subgroup of person immediately. A telephonic communication system has to be used for this purpose.

The telephonic communication system is a private system, such as an intercom ([H04M 11/025](#)) or an annunciator systems for hospitals ([H04M 11/027](#)).

#### References

##### Informative references

Attention is drawn to the following places, which may be of interest for search:

Signalling in general	<a href="#">G08</a>
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## H04M 11/022

{Paging systems (personal calling arrangements or devices [G08B 3/1008](#); selective calling networks [H04W 84/022](#))}

#### Definition statement

*This place covers:*

[H04M 11/022](#) relates to pagers, which are end subscriber devices allowing simplex transmission or reception of text. Paging techniques used in the context of a wired telephone network or in the context of local premises are classified in this subgroup.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Finding location	<a href="#">H04M 3/42229</a>
Personal communication services	<a href="#">H04M 3/42229</a>
Special services or facilities	<a href="#">H04M 2242/00</a>
Paging systems	<a href="#">H04M 2242/26</a>
Determination of the location of a subscriber	<a href="#">H04M 2242/30</a>
Personal calling arrangements or devices	<a href="#">G08B 3/1008</a>
Public address systems	<a href="#">H04R 27/00</a>
Paging techniques as integral part of wireless networks	<a href="#">H04W 84/02</a>

## H04M 11/025

{Door telephones (adapted for television [H04N 7/186](#))}

### Definition statement

*This place covers:*

The door phone systems, are classified in [H04M 11/025](#) unless they are part of a closed circuit television system for monitoring premises.

### References

#### Limiting references

*This place does not cover:*

Constructional features of door telephones	<a href="#">H04M 1/0291</a>
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### Informative references

Attention is drawn to the following places, which may be of interest for search:

Interconnection arrangements not including central switching	<a href="#">H04M 9/00</a>
Locks	<a href="#">E05B</a>
Systems for screening visitors and access control	<a href="#">G07C 9/00</a>
Door telephones adapted for closed circuit television systems	<a href="#">H04N 7/186</a>

## H04M 11/027

{Annunciator systems for hospitals}

### Definition statement

*This place covers:*

Systems for calling nurses in a hospital that use a telephonic system.

**H04M 11/04**

**with alarm systems, e.g. fire, police or burglar alarm systems**

**Definition statement**

*This place covers:*

Use of the telephone network in alarm notification.

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

For portable telephones for use in emergency situation	<a href="#">H04M 1/72418</a>
For call centres used for emergency applications	<a href="#">H04M 3/5116</a>
Special services or facilities for emergency applications	<a href="#">H04M 2242/04</a>
With determination of the subscriber location use	<a href="#">H04M 2242/30</a> , <a href="#">H04W 64/00</a> , <a href="#">H04L 67/52</a>
Signalling in general	<a href="#">G08</a>
Alarm systems in general	<a href="#">G08B 25/00</a>
Broadcast systems adapted for emergency communications	<a href="#">H04H 20/59</a>
Provision and call routing of emergency telephone numbers	<a href="#">H04Q 3/0029</a>
Services facilitating emergency connection	<a href="#">H04W 4/90</a>

**H04M 11/045**

**{using recorded signals, e.g. speech}**

**Definition statement**

*This place covers:*

Use of the telephone network in alarm notification using recorded signals, e.g. speech.

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Alarm systems in general	<a href="#">G08B 25/00</a>
Alarm systems in which the location of the alarm condition is signalled to a central station, e.g. fire or police telegraphic systems	<a href="#">G08B 25/00</a>
Characterised by the transmission medium	<a href="#">G08B 25/01</a>
Using recorded signals, e.g. speech	<a href="#">G08B 25/012</a>
Provision and call routing of emergency telephone numbers	<a href="#">H04Q 3/0029</a>

## H04M 11/06

### Simultaneous speech and data transmission, e.g. telegraphic transmission over the same conductors

#### Definition statement

*This place covers:*

This subgroup relates to transmitting simultaneously speech and data on the telephone line. "Simultaneous" does not include only the case where data and speech are transmitted exactly at the same time, but more generally the cases where data and voice are both transmitted on the same telephone connection, for instance competing for time access to this resource.

#### References

##### Informative references

Attention is drawn to the following places, which may be of interest for search:

Telephone sets using digital voice transmission, (e.g. Internet phones)	<a href="#">H04M 1/253</a>
Telegraphy in general	<a href="#">H04L</a>
Packet multiplexing, where some packets are generated from data and others from voice	<a href="#">H04L 12/64</a>

#### Special rules of classification

Avoid classifying in [H04M 11/06](#). Use [H04M 11/062](#), [H04M 11/064](#), [H04M 11/066](#), [H04M 11/068](#) instead.

## H04M 11/062

### {using different frequency bands for speech and other data}

#### Definition statement

*This place covers:*

This subgroup contains many documents -- some are very old-- where it is taken advantage of the fact that "sounds" above a certain frequency can not be heard by modulating data above this frequency. However, many recent documents relate to xDSL equipments (modems and concentrators). The xDSL family allows high speed access to the Internet and multimedia services over the local loop. The local loop is formed of an unshielded twisted pair (UTP) and connects the subscriber xDSL modem at customer premises to subscriber line concentrator like a DSLAM (Digital Subscriber Line Access Multiplexer) at the central office for connection to a broadband network. Splitters, comprising filters for each frequency band, are necessary so that the subscriber telephone and the data equipments do not interfere. The data bands definition, and the techniques for combining the data signals in the data bands depend on the type of xDSL: ADSL (Asymmetric DSL), SDSL (Symmetric DSL), HDSL (High speed DSL), VDSL (Very high speed DSL), MDSL (Multirate DSL), RADSL (Low Rate Adaptive DSL).

As an example, the frequency bands of ADSL are as follows. The voice part of the spectrum (the lowest 4 kHz) is separated from the rest by a passive filter, called a POTS splitter. ADSL makes use of advanced modulation techniques, such as discrete multitone (DMT) technology. DMT divides the bandwidth from about 10 kHz into a set of 265 independent subchannels, each 4 kHz wide. By measuring the quality of the subchannels and then assigning a bit-rate to each based on its quality, DMT customizes the transmit signal for every line. In doing so, it automatically avoids regions of the frequency spectrum that are too noisy or too attenuated to support reliable communications. If the quality of a subchannel degrades enough to affect a system's error performance, the data rate on that subchannel is lowered and the excess traffic moves to a subchannel capable of supporting it.

## Definition statement

The result is robust communications over single twisted pairs. As its name implies, ADSL transmits data asymmetrically at different rates upstream toward the central office and downstream toward the subscriber.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Access interface units for simultaneous transmission of speech and data, e.g. digital subscriber line (DSL) access interface units	<a href="#">H04M 3/007</a>
Testing a digital subscriber line using xDSL modems	<a href="#">H04M 3/304</a>
Testing of physical copper line parameters, e.g. capacitance or resistance	<a href="#">H04M 3/305</a>
xDSL line qualification	<a href="#">H04M 3/306</a>
Constructional details of impedance networks whose electrical mode of operation is not specified or applicable to more than one type of network of radio frequency interference filters. This is relevant for the LPF and HPF in the splitter	<a href="#">H03H 1/0007</a>
Testing crosstalk effects – includes Dynamic Spectrum Management used in optimization of DSL transmission parameters	<a href="#">H04B 3/487</a>
Negotiation of transmission parameters prior to the communication (transmission speed and modulation)	<a href="#">H04L 5/1438</a>
Internet access	<a href="#">H04L 12/2856</a>
Modulated-carrier systems and analog front ends; means for connecting modulators, demodulators or transceivers to a transmission line	<a href="#">H04L 27/0002</a>
Documents having features related to the DMT modulation	<a href="#">H04L 27/26</a>
Signal structure of multicarrier modulation systems	<a href="#">H04L 27/2602</a>
Constructional details of splitters	<a href="#">H04Q 1/02</a>
DSL access multiplexers	<a href="#">H04Q 11/0478</a>

## H04M 11/064

### {Data transmission during pauses in telephone conversation}

#### Definition statement

*This place covers:*

This subgroup relates to transferring data on the telephone line and interrupting the data transfer when there is voice to be transmitted.

In a first aspect, this subsubgroup relates to techniques that take advantage of the fact that speech is mostly composed of silences. During these silences, data can be sent without the subscriber noticing it, provided that it is replaced at the receiving telephone by blanks. In order to receive and remove the data, the start and the end of the data segments is signalled from one end to the other.

In a second aspect, this subgroup also concerns techniques for interrupting a data communication which was happening when no any voice communication was going on the telephone line. The objective of such systems is to avoid that the subscriber can not use his telephone for voice communication when for instance his modem is transmitting data.



## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Notifying a called subscriber of an incoming call during an ongoing call, e.g. Call Waiting	<a href="#">H04M 3/4288</a>
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## H04M 11/066

### {Telephone sets adapted for data transmission}

#### Definition statement

This place covers:

In band modems (voice band, narrow band). Since base band transmission on the telephone network is not possible, data needs to be modulated. Modems allow the modulation of data so that data can be sent instead of speech via the telephone network. Most modems have several operating modes and need to exchange training sequences before exchanging data. Circuit details of the galvanic isolation between the line side and the subscriber side are a topics of particular interest

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Details about acoustic couplers between a telephone and an external device	<a href="#">H04M 1/215</a>
Telephone devices for the deaf	<a href="#">H04M 3/42391</a>
Negotiation of transmission parameters prior to communication - Handshaking - such as transmission speed and modulation type	<a href="#">H04L 5/1438</a>
Modulation techniques in general	<a href="#">H04L 27/00</a>
Telemetry and telecontrol details	<a href="#">H04Q 9/00</a>

## Synonyms and Keywords

In patent documents the following abbreviations are often used:

TTY	teletypewriter
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In patent documents the following expressions/words "analog modem", "digital modem", "dialup modem", "fax modem", "in band modem", "smart modem", "voice modem" are often used.

## H04M 11/068

### {using time division multiplex techniques; (integrated services digital networks [H04Q 11/0428](#))}

#### Definition statement

This place covers:

Time division multiplexing at the telephone subscriber end. Very often, there is an equipment for multiplexing speech and data on the phone line.

## References

### Limiting references

*This place does not cover:*

Integrated services digital networks	<a href="#">H04Q 11/0428</a>
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### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Time division multiplexing systems	<a href="#">H04J 3/16</a>
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## H04M 11/08

### pecially adapted for optional reception of entertainment or informative matter

### Definition statement

*This place covers:*

A special arrangement at the telephony end subscriber side for handling in a special way information received via phone line which relates to a special service. The information transmitted relates for example to time, gaming information, route navigation or electronic messages.

Voice or sound, e.g. DTMF Digital Tone Multi Frequency, is usually interpreted by an automatic device, which may carry out voice recognition.

## References

### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Means for retrieving and displaying personal data about calling party	<a href="#">H04M 1/575</a>
Telephony special services	<a href="#">H04M 3/42</a>
Display of information about the caller (CLID)	<a href="#">H04M 3/42042</a>
Arrangements in the network for providing information services, e.g. recorded voice services, time announcement	<a href="#">H04M 3/487</a>
Interactive Voice Response systems	<a href="#">H04M 3/493</a>
Browsing from a telephone or fax	<a href="#">G06F 16/957</a>
Systems in which the information is continuously available on a carrier over the whole network	<a href="#">H04H 20/81</a>
Intra-layer communication	<a href="#">H04L 69/32</a>
In OSI layer 7	<a href="#">H04L 69/329</a>
Video communication	<a href="#">H04N 7/14</a>
Two way working for television	<a href="#">H04N 7/17309</a>

## H04M 11/085

{using a television receiver, e.g. viewdata system}

### Definition statement

*This place covers:*

Minitel /videotext systems since television receivers are meant to include any screen display working in conjunction with the telephone. The situation where the class [H04M 11/08](#) would have been given but the device has a display.

## H04M 11/10

with dictation recording and playback systems

### Definition statement

*This place covers:*

Centralised dictation systems accessible via the telephone network for recording and playback. Playback may involve tape recorder features. What characterizes the word dictation is that the ultimate purpose of dictation is to have the text typed or written, but at a later stage. The word "centralised" specifies that the system considered is not just at the subscriber side. Use of voice mail systems for dictation.

### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Arrangements for recording conversations in a (mobile) phone	<a href="#">H04M 1/656</a>
Combinations of dictation devices with cordless phones	<a href="#">H04M 1/72433</a>
Arrangements for recording conversations within the telephone network, e.g. in an exchange	<a href="#">H04M 3/42221</a>
Voice mail servers	<a href="#">H04M 3/533</a>
Information storage based on relative movement between record carrier and transducer	<a href="#">G11B</a>
Dictation systems as such	<a href="#">G11B 31/00</a>

## H04M 13/00

Party-line systems (substation equipment [H04M 1/00](#); exchange equipment [H04M 3/00](#), [H04M 5/00](#); metering arrangements [H04M 15/36](#))

### Definition statement

*This place covers:*

Arrangements in which two or more customers are connected directly to the same link or circuit.

### Relationships with other classification places

Substation equipment	<a href="#">H04M 1/00</a>
Exchange equipment, automatic, manual	<a href="#">H04M 3/00</a> , <a href="#">H04M 5/00</a>
Metering arrangements	<a href="#">H04M 15/36</a>

## H04M 15/00

**Arrangements for metering, time-control or time indication {; Metering, charging or billing arrangements for voice wireline or wireless communications, e.g. VoIP}**

### Definition statement

*This place covers:*

Charging or billing arrangements e.g. generation of metering signals, tariffs, rating plans, charge calculations and bill generation details for voice wireline and wireless communications including VoIP. Also rating/charging for added value services, or other services using prepaid calling cards, SIM cards or the mobile phone itself, insofar as these services are metered, rated and billed by the network operator.

### Relationships with other classification places

Prepayment wire-line, wireless systems.	<a href="#">H04M 17/00</a>
Accounting or billing for wireless communications	<a href="#">H04W 4/24</a>
Data switching networks.	<a href="#">H04L 12/00</a>
Payment schemes, architectures or protocols, data processing systems or methods specially adapted for administrative, commercial, financial, managerial or supervisory purposes.	<a href="#">G06Q</a>
Coin inlet arrangements; Coins specially adapted to operate coin-freed mechanisms	<a href="#">G07F 7/00</a>
Automatic or semi-automatic exchanges, constructional details of telephone exchanges	<a href="#">H04M 3/00</a>
Substation equipment, e.g. for use by subscribers; Analogous equipment at exchanges.	<a href="#">H04M 1/00</a>
Automatic or semi-automatic exchanges	<a href="#">H04M 3/00</a>

### References

#### Limiting references

*This place does not cover:*

Metering, testing arrangements therefor	<a href="#">H04M 3/248</a>
Telephonic communication systems adapted for combination with other electrical systems	<a href="#">H04M 11/00</a>
Time controlling arrangements, time indicating arrangements counters per se	<a href="#">G06M</a> , <a href="#">H03K</a>
Payment schemes, architectures or protocols	<a href="#">G06Q 20/00</a>
Commerce	<a href="#">G06Q 30/00</a>
Apparatus for performing or posting payment transactions, complete banking systems; Coded card-freed arrangements adapted for dispensing or receiving monies or the like and posting such transactions to existing accounts,	<a href="#">G07F 7/00</a> , <a href="#">G07F 19/00</a>

**Application-oriented references**

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

Technical aspects of billing, charging, accounting, tariffing for the transport of data packets in wireless or wireline data networks, including data sub networks of wireless voice networks.	<a href="#">H04L 12/14</a>
Charging or billing for services specially adapted for wireless communications	<a href="#">H04W 4/24</a>

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Systems providing special services or facilities to subscribers	<a href="#">H04M 3/42</a>
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**Glossary of terms**

In this place, the following terms or expressions are used with the meaning indicated:

Call	any kind of communication
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**H04M 15/09****{Third party charged communications}****Definition statement**

*This place covers:*

I.e. third party can be a predetermined communication line of the user if he initiates a communication from another device and asks to be billed on his main device

**H04M 15/14****according to class of calling party****Definition statement**

*This place covers:*

Calling party is the party initiating the communication i.e. A-party

**H04M 15/28****with meter at substation {or with calculation of charges at terminal}****Definition statement**

*This place covers:*

Calculation of charges at substation, e.g. at the mobile terminal, or notify subscriber of charges e.g. Advice-of-Charge (AoC)

**H04M 15/30****the meter {or calculation of charges} not being controlled from an exchange****Definition statement***This place covers:*

Metering or calculation of charges not controlled from an exchange, i.e. autonomous calculations of charges in the terminal

**H04M 15/31****{Distributed metering or calculation of charges}****Definition statement***This place covers:*

Distributed metering or calculation of charges, e.g. in different nodes like for mobiles between HLR and VLR, or between the terminal and the billing function

**H04M 15/39****{Arrangements for preventing metering, charging or billing}****Definition statement***This place covers:*

Metering, charging or billing preventing arrangements i.e. parameters, characteristics that identify whether to charge for a service or not

**Special rules of classification**

WARNING: Groups [H04M 15/44](#) - [H04M 15/90](#) do not correspond to former or current IPC groups.

**H04M 15/41****{Billing record details, i.e. parameters, identifiers, structure of call data record [CDR]}****Definition statement***This place covers:*

Billing record details, i.e. parameters, identifiers, structure of Call Data Record (CDR), or Toll Ticket (TT), or Automatic Message Accounting (AMA)

**H04M 15/42****{Dynamic individual rates per user}****Definition statement***This place covers:*

Dynamic individual rates, e.g. individual communication rate determination method allowing the service provider to dynamically generate an individual rate plan for the user

**H04M 15/44****{Augmented, consolidated or itemized billing statement or bill presentation}****Definition statement***This place covers:*

Augmented, consolidated or itemized billing statement, e.g. additional billing information, bill presentation, layout, format, e-mail, fax, printout, itemized bill per service or per account, cumulative billing, consolidated billing

**H04M 15/46****{Real-time negotiation between users and providers or operators}****Definition statement***This place covers:*

On line or real-time flexible customization or negotiation between user and provider or operator, or between operators and providers

**H04M 15/47****{Fraud detection or prevention means}****Definition statement***This place covers:*

Fraud detection or prevention means related to metering, charging /billing in wire-line or wireless, voice or data

**References****Limiting references***This place does not cover:*

Fraud detection and prevention in wireless networks	<a href="#">H04W 12/12</a>
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**Informative references***Attention is drawn to the following places, which may be of interest for search:*

Detection or protecting against malicious traffic	<a href="#">H04L 63/14</a>
Fraud detection and prevention in wireless networks	<a href="#">H04W 12/12</a>

**H04M 15/48****{Secure or trusted billing, e.g. trusted elements or encryption}****Definition statement***This place covers:*

Secure and trusted billing, e.g. trusted elements, encryption, digital signature, codes or double check mechanisms to secure billing calculation and information

## References

### Limiting references

*This place does not cover:*

Wireless network security	<a href="#">H04W 12/00</a>
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### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Network security	<a href="#">H04L 63/00</a>
Wireless network security	<a href="#">H04W 12/00</a>

## H04M 15/49

{Connection to several service providers}

### Definition statement

*This place covers:*

Connection to several service providers

## H04M 15/50

{for cross-charging network operators}

### Definition statement

*This place covers:*

Interconnection, inter-operator accounting or billing, billing agreements between different operators, e.g. billing identifier added on the CDR in order to cross charge the other operator

## H04M 15/51

{for resellers, retailers or service providers}

### Definition statement

*This place covers:*

Resellers-retail or service providers billing, e.g. agreements with telephone service operator, activation, charging/recharging of accounts, bill directly reseller's customers

## H04M 15/52

{for operator independent billing system}

### Definition statement

*This place covers:*

Independent billing system i.e. billing system owned by resellers or service providers (not by the operator)



**H04M 15/53****{using mediation}****Definition statement***This place covers:*

Arrangements for mediation, i.e. device or program to reformat CDRs from one or more switches in order to adapt to one or more billing program formats

**H04M 15/54****{for revenue sharing}****Definition statement***This place covers:*

Revenue sharing between telecommunication operators and service providers or location owners (e.g. for public telephones, etc.)

**H04M 15/55****{for hybrid networks}****Definition statement***This place covers:*

Hybrid network i.e. charging, billing arrangements for connection made over different networks, e.g. wireless and PSTN, ISDN, etc.

**References****Limiting references***This place does not cover:*

Telephonic communication systems adapted for combination with other electrical systems	<a href="#">H04M 11/00</a>
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**H04M 15/56****{for VoIP communications}****Definition statement***This place covers:*

VoIP charging/billing

**References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Voice over IP, VoIP Protocols and Services	<a href="#">H04L 65/40</a>
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## H04M 15/57

{for integrated multimedia messaging subsystem [IMS]}

### Definition statement

*This place covers:*

IMS charging or billing, i.e. Integrated Multimedia messaging Subsystem charging/billing; IMS in general, see [H04L 65/1016](#); IMS based services and session control, see [H04L 65/40](#), [H04L 65/1066](#).

### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

IP multimedia subsystem [IMS]	<a href="#">H04L 65/1016</a>
Real-time session management in data packet switching networks	<a href="#">H04L 65/1066</a>
Session initiation protocol [SIP]	<a href="#">H04L 65/1104</a>
Support for real-time services or applications in data packet switching networks	<a href="#">H04L 65/40</a>

## H04M 15/58

{based on statistics of usage or network monitoring}

### Definition statement

*This place covers:*

Network monitoring; statistics on usage on A-party or B-party number, on used services, etc

### References

#### Limiting references

*This place does not cover:*

Network monitoring per se	<a href="#">H04L 43/00</a>
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## H04M 15/59

{based on real time}

### Definition statement

*This place covers:*

Real time metering, charging or billing

**H04M 15/60****{based on actual use of network resources}****Definition statement***This place covers:*

Charging/billing only for the actual 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, only for the time the user receives communication data

**H04M 15/61****{based on the service used}****Definition statement***This place covers:*

Service related metering or charging or billing

**H04M 15/62****{based on trigger specification}****Definition statement***This place covers:*

Trigger specification e.g. trigger or code input into a device to specify a service

**H04M 15/63****{based on the content carried by the session initiation protocol [SIP] messages}****Definition statement***This place covers:*

Charging based on the content carried by the SIP messages

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Real-time session management in data packet switching networks	<a href="#">H04L 65/1066</a>
Session initiation protocol [SIP]	<a href="#">H04L 65/1104</a>

**H04M 15/64****{On-line charging system [OCS]}****Definition statement***This place covers:*

OCS i.e. Online Charging System , unified online charging and online control capabilities that can be used as a unified charging engine for all network services, making it a core basis for convergent billing in the network

**H04M 15/65****{Off-line charging system}****Definition statement***This place covers:*

Off-line Charging System

**H04M 15/66****{Policy and charging system}****Definition statement***This place covers:*

Policy and Charging System

**H04M 15/67****{Transmitting arrangements for sending billing related information}****Definition statement***This place covers:*

Sending billing related information over a non-traffic network channel or another connection than the one actually used, e.g. signaling, D-channel, data and voice

**H04M 15/68****{Payment of value-added services}****Definition statement***This place covers:*

Payment of value-added services, mainly when their charges are added on the telecommunications bill, e.g. payment of non-telecom services, m-commerce, on-line banking, etc.

**H04M 15/70****{Administration or customization aspects; Counter-checking correct charges}****Definition statement***This place covers:*

Administration or customization aspects, or modify settings or limits or counter-check correct charges

## H04M 15/705

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

### Definition statement

*This place covers:*

Account settings, e.g. users, terminals, limits, numbers or payment

## H04M 15/71

{Modifying recharging resources}

### Definition statement

*This place covers:*

Modify recharging resources, e.g. banking, credit or phone account

## H04M 15/715

{Activating new subscriber or card}

### Definition statement

*This place covers:*

Activate new subscriber or card

## H04M 15/72

{by the user}

### Definition statement

*This place covers:*

Administration or customization by the user

## H04M 15/721

{using the Internet}

### Definition statement

*This place covers:*

Administration or customization aspects like modify account settings, checking accounts using Internet or WAP, etc. i.e. on-line real-time billing, able to see billing information while in communication via the internet

## H04M 15/723

{using the user's device}

### Definition statement

*This place covers:*

Using the user's device e.g. phone, PDA, etc

## H04M 15/725

{by the operator}

### Definition statement

*This place covers:*

Administration or customization by the operator

## H04M 15/73

{Validating charges}

### Definition statement

*This place covers:*

Validate charges

## H04M 15/735

{Re-crediting user}

### Definition statement

*This place covers:*

Re-credit user, i.e. repay user with the amount or free time after finding an error in calculating the charges

## H04M 15/74

{Backing up}

### Definition statement

*This place covers:*

Details of metering, charging or billing backups

## H04M 15/745

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

### Definition statement

*This place covers:*

Customization according to wishes of subscriber, e.g. customer preferences, friends and family, selecting services or billing options, Personal Communication Systems (PCS)

## H04M 15/75

{Account location specifications}

### Definition statement

*This place covers:*

Account location specifications

## H04M 15/751

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

### Definition statement

*This place covers:*

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

## H04M 15/755

{Account identification}

### Definition statement

*This place covers:*

Account identification

## H04M 15/7553

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

### Definition statement

*This place covers:*

Account identification via service number, e.g. calling card

## H04M 15/7556

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

### Definition statement

*This place covers:*

Account identification by SIM, e.g. smart card account in SCP, SDP or SN

## H04M 15/76

{Synchronization of distributed accounts}

### Definition statement

*This place covers:*

Synchronization of distributed accounts

## H04M 15/765

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

### Definition statement

*This place covers:*

Linked or grouped accounts, or devices, or users, or user access,

## References

### *Informative references*

Attention is drawn to the following places, which may be of interest for search:

Systems involving a hierarchy between servers	<a href="#">H04L 63/104</a>
Wireless access security	<a href="#">H04W 12/08</a>

## H04M 15/7652

**{shared by users}**

### Definition statement

*This place covers:*

Linked or grouped accounts, shared by users, e.g. group accounts or one account for different users, master-slave

## H04M 15/7655

**{shared by technologies}**

### Definition statement

*This place covers:*

Linked or grouped accounts, shared by technologies, e.g. one account for different access technologies (PSTN or wireless) , or prepay and post-pay

## H04M 15/7657

**{for closed subscriber group [CSG]}**

### Definition statement

*This place covers:*

Linked or grouped accounts for closed Subscriber Group (in 3GPP) i.e. group of subscribers that belong to a restricted access group of cells and differentiated charging is applied e.g. CSG or femto-cells, Home Node B (HNB) cells, Home e-Node B (HeNB),

## H04M 15/77

**{involving multiple accounts per user}**

### Definition statement

*This place covers:*

Multiple accounts per user

## H04M 15/771

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

### Definition statement

*This place covers:*

Multiple accounts per user per terminal or location; Mobile with multiple directory numbers



## **H04M 15/772**

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

### **Definition statement**

*This place covers:*

Multiple accounts per user per service, e.g. prepay and post-pay

## **H04M 15/773**

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

### **Definition statement**

*This place covers:*

Multiple accounts per user per technology, e.g. PSTN or wireless

## **H04M 15/774**

**{per card}**

### **Definition statement**

*This place covers:*

Multiple accounts per card

## **H04M 15/775**

**{Account specifications on parallel communications}**

### **Definition statement**

*This place covers:*

Account specifications on parallel communications

## **H04M 15/78**

**{Redistributing amount between accounts}**

### **Definition statement**

*This place covers:*

Redistribute amount between accounts

## **H04M 15/781**

**{dynamically}**

### **Definition statement**

*This place covers:*

Redistribute amount between accounts dynamically

**H04M 15/783****{by user request}****Definition statement***This place covers:*

Redistribute amount between accounts by user request

**H04M 15/785****{Reserving amount on the account}****Definition statement***This place covers:*

Reserve amount on the account , e.g. according to estimated costs for a typical communication duration or according to the estimated volume to be transferred

**H04M 15/79****{Virtual purses}****Definition statement***This place covers:*

Virtual purses i.e. prepaid value is distributed between user specific virtual purses each associated with a respective metered resource

**H04M 15/80****{Rating or billing plans; Tariff determination aspects}****Definition statement***This place covers:*

Rating aspects, e.g. rating parameters or tariff determination aspects, reduced or increased tariffs. General billing plans, e.g. numbering plans, rate centers c

**H04M 15/8005****{Flat-fee}****Definition statement***This place covers:*

Flat-fee

**H04M 15/8011****{using class of subscriber}****Definition statement***This place covers:*

Rating dependent on class of subscriber

**H04M 15/8016****{based on quality of service [QoS]}****Definition statement***This place covers:*

Rating depending on the Quality of service (QoS)

**H04M 15/8022****{Determining tariff or charge band}****Definition statement***This place covers:*

Rating depending on determined tariff or charge band

**H04M 15/8027****{based on network load situation}****Definition statement***This place covers:*

Rating depending on load situation, e.g. Current network load, traffic load or available resources

**H04M 15/8033****{location-dependent, e.g. business or home}****Definition statement***This place covers:*

Location dependent rating, e.g. business or home

**H04M 15/8038****{Roaming or handoff}****Definition statement***This place covers:*

Roaming or handoff depending rating]

**H04M 15/8055****{Selecting cheaper transport technology for a given service}****Definition statement***This place covers:*

Select cheaper 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 15/8061****{Selecting least cost route depending on origin or type of service}****Definition statement***This place covers:*

Select least cost route depending on origin or type of service

**H04M 15/8077****{Group MMS or SMS; Point-to-multi-point services or broadcast services}****Definition statement***This place covers:*

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

**H04M 15/8083****{involving reduced rates or discounts, e.g. time-of-day reductions or volume discounts}****Definition statement***This place covers:*

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 15/8088****{involving increased rates, e.g. spam messaging billing differentiation}****Definition statement***This place covers:*

Increased rates i.e. increase price of communication in order to avoid user misuse e.g. spam messaging billing differentiation

**H04M 15/8094****{Trial service, i.e. free of charge service for trial purposes}****Definition statement***This place covers:*

Trial service i.e. free of charge or reduced charging of a service for trial purposes

**H04M 15/81****{Dynamic pricing, e.g. change of tariff during call}****Definition statement***This place covers:*

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

**H04M 15/82****{Criteria or parameters used for performing billing operations}****Definition statement***This place covers:*

Criteria, parameters used for performing billing operations, metric aspects

**H04M 15/8207****{Time based data metric aspects, e.g. VoIP or circuit switched packet data}****Definition statement***This place covers:*

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

**H04M 15/8214****{Data or packet based}****Definition statement***This place covers:*

Aspects of data metering or packet based metering,.

**Special rules of classification**

(used only for additional classification of documents in order to cover all different aspects of billing metrics e.g. : time, data, in the same billing structure)

classification is done in [H04L 12/14](#).**H04M 15/8221****{Message based}****Definition statement***This place covers:*

Message based, e.g. SMS

**H04M 15/8228****{Session based}****Definition statement***This place covers:*

Session based metering,.

**H04M 15/8235****{Access based}****Definition statement***This place covers:*

Access based metering,.

**H04M 15/8242****{Transaction based}****Definition statement***This place covers:*

Transaction based metering,.

**H04M 15/825****{based on the number of used channels, e.g. bundling channels, frequencies or CDMA codes}****Definition statement***This place covers:*

Based on the number of used channels, e.g. bundling channels or frequencies or CDMA codes

**H04M 15/8257****{Unit based}****Definition statement***This place covers:*

Unit based metering, charging.

**H04M 15/8264****{Pulse based}****Definition statement***This place covers:*

Pulse based metering, charging.

Based on the number of used services, e.g. call forwarding or call barring

**H04M 15/8271****{Based on the number of used services, e.g. call forwarding or call barring}****Definition statement***This place covers:*

Based on the number of used services, e.g. call forwarding or call barring

**H04M 15/8278****{Event based}****Definition statement***This place covers:*

Event based metering, charging

**H04M 15/8285****{Money or currency based}****Definition statement***This place covers:*

Money or currency based metering, charging

**H04M 15/8292****{Charging for signaling or unsuccessful connection}****Definition statement***This place covers:*

Charging for signaling or unsuccessful connection

**H04M 15/83****{Notification aspects}****Definition statement***This place covers:*

Time (before or after or during communication) or frequency (in regular intervals, dynamically) of notifications to the user e.g. display messages related to user's balance, Advice of Charge (AoC), etc.

**References****Limiting references***This place does not cover:*

Notification of users, e.g. alerting for incoming communication or change of service	<a href="#">H04W 68/00</a>
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**Synonyms and Keywords***In patent documents, the following abbreviations are often used:*

AoC	Advice of Charge
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**H04M 15/8358****{Dynamic change of the length or frequency of the notification interval}****Definition statement***This place covers:*

Dynamic change of the length or frequency of the length of the notification interval, e.g. depending on the remaining available prepaid credit

**H04M 15/84****{Types of notifications}****Definition statement***This place covers:*

Types of notifications to the user e.g. display messages announcements, flashing indication

**References****Limiting references***This place does not cover:*

Notification of users, e.g. alerting for incoming communication or change of service	<a href="#">H04W 68/00</a>
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**Synonyms and Keywords***In patent documents, the following abbreviations are often used:*

AoC	Advice of Charge
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*In patent documents the following expressions/words "advice of charge or aoc", "notification or notify or notice", "display", "announcement", "alert", "message" and "optical indication" are often used.*

**H04M 15/842****{Announcement, e.g. IVR dialogue}****Definition statement***This place covers:*

Types of notifications to the user announcements, e.g. IVR dialogue, intelligent peripheral or switch

**H04M 15/844****{Message, e.g. SMS}****Definition statement***This place covers:*

Types of messages, e.g. alphanumeric text, SMS, MMS, EMS or www-based messaging service



**H04M 15/846****{optical, e.g. icon}****Definition statement***This place covers:*

Types of optical notifications, e.g. flashing indication of a lamp, icon, soft-key or symbol

**H04M 15/848****{Tone, e.g. beeper}****Definition statement***This place covers:*

Types of tone, notifications to the user, e.g. beeper, sound, wave

**H04M 15/85****{characterised by the type of condition triggering a notification}****Definition statement***This place covers:*

Notifications send when a specific condition, service or event is met

**References****Limiting references***This place does not cover:*

Notification of users, e.g. alerting for incoming communication or change of service	<a href="#">H04W 68/00</a>
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**Synonyms and Keywords***In patent documents, the following abbreviations are often used:*

AoC	Advice of Charge
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*In patent documents the following expressions/words "advice of charge or aoc", "notification or notify or notice", "display", "announcement" and "alert" are often used.***H04M 15/852****{Low balance or limit reached}****Definition statement***This place covers:*

Notifications send when there is low balance or limit reached , e.g. zero-credit

## **H04M 15/855**

**{Successful event}**

### **Definition statement**

*This place covers:*

Notification when a successful event, e.g. successful recharge or delivery of a service

## **H04M 15/856**

**{Unsuccessful event}**

### **Definition statement**

*This place covers:*

Notifications send when there is an Unsuccessful event, e.g. service rejected due to low credit

## **H04M 15/857**

**{Cumulative charges}**

### **Definition statement**

*This place covers:*

Notifications send when there are cumulative charges

## **H04M 15/858**

**{Request users acknowledgement prior to use}**

### **Definition statement**

*This place covers:*

Notifications send when the system should request users acknowledgement prior to use

## **H04M 15/86**

**{Recipients of the notification}**

### **Definition statement**

*This place covers:*

When and how the notifications or AOCs are send

## **H04M 15/863**

**{multiple parties, e.g. multi party AOC}**

### **Definition statement**

*This place covers:*

Notifications send to 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}**

**Definition statement**

*This place covers:*

Notifications send to 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 15/88**

**{Provision for limiting connection, or expenditure}**

**Definition statement**

*This place covers:*

Provision for limiting connection, or expenditure e.g. limit on communication expenses or account

**H04M 15/881**

**{for continuing the call beyond the limit using allow grace}**

**Definition statement**

*This place covers:*

Provision for limiting expenditure by continue allow grace, e.g. accept negative balance

**H04M 15/882**

**{for continuing the call beyond the limit using an alternative, e.g. alternative account}**

**Definition statement**

*This place covers:*

Provision for limiting or expenditure by continue alternative, i.e. alternative account to continue use, e.g. Alternate Billing Service (ABS)

**H04M 15/883**

**{linked escalation limits, i.e. establish, first or second limit}**

**Definition statement**

*This place covers:*

linked escalation limits, establish, first or second limit

**H04M 15/885****{limit per application}****Definition statement***This place covers:*

Provision for limiting connection, or expenditure per application

**H04M 15/886****{limit per terminal}****Definition statement***This place covers:*

Provision for limiting connection, or expenditure per terminal

**H04M 15/887****{limit per user or user related number}****Definition statement***This place covers:*

Provision for limiting connection, or expenditure per user or user related number

**H04M 15/888****{severing connection after predetermined time or data}****Definition statement***This place covers:*

severing connection after predetermined time or data, etc. or upon reaching limit or blocking the device

**H04M 15/90****{using Intelligent Networks [IN] or Advanced Intelligent Networks [AIN]}****Relationships with other classification places**

Selecting arrangements	<a href="#">H04Q 3/00</a>
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**References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Provisions for intelligent networking	<a href="#">H04Q 3/0029</a>
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## Synonyms and Keywords

In patent documents, the following abbreviations are often used:

AIN	Advanced Intelligent Network
IN	Intelligent Network

## H04M 15/93

{using near field or similar technologies}

### Definition statement

*This place covers:*

Charging, metering aspects using bluetooth, or near field i.e. wireless communication links like bluetooth, Wi-Fi, near field used to communicate charging or billing related information.

## H04M 17/00

**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](#))**

### Definition statement

*This place covers:*

Prepaid aspects for wire-line and wireless communications including VoIP. Also any other prepaid related aspect like recharging functionality, usage and features of calling cards, SIM, etc.

### Relationships with other classification places

Charging, billing for voice wire-line communication networks	<a href="#">H04M 15/00</a>
Accounting or billing for wireless communications	<a href="#">H04W 4/24</a>
Data switching networks.	<a href="#">H04L 12/00</a>
Payment schemes, architectures or protocols, data processing systems or methods specially adapted for administrative, commercial, financial, managerial or supervisory purposes.	<a href="#">G06Q</a>
Methods or arrangements for processing data by operating upon the order or content of the data handled	<a href="#">G07F 7/00</a>
Automatic or semi-automatic exchanges	<a href="#">H04M 3/00</a>
Time controlling arrangements; Time indicating arrangements (counters per se)	<a href="#">G06M</a> , <a href="#">H03K</a>
Substation equipment, e.g. for use by subscribers; Analogous equipment at exchanges.	<a href="#">H04M 1/00</a>

## References

### Limiting references

*This place does not cover:*

Using a coded card to authorise calls from a telephone set	<a href="#">H04M 1/675</a>
Metering, testing arrangements there for	<a href="#">H04M 3/248</a>

## Limiting references

Payment schemes, architectures or protocols	<a href="#">G06Q 20/00</a>
Commerce	<a href="#">G06Q 30/00</a>
Apparatus for performing or posting payment transactions, complete banking systems; Coded card-freed arrangements adapted for dispensing or receiving monies or the like and posting such transactions to existing accounts,	<a href="#">G07F 7/00</a> , <a href="#">G07F 19/00</a>

**Application-oriented references**

*Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:*

Technical aspects of billing, charging, accounting, tariffing for the transport of data packets in wireless or wireline data networks, including data sub networks of wireless voice networks.	<a href="#">H04L 12/14</a>
Charging or billing for services specially adapted for wireless communications	<a href="#">H04W 4/24</a>

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Systems providing special services or facilities to subscribers	<a href="#">H04M 3/42</a>
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**H04M 17/005**

**{Disposable prepaid communication devices}**

**Definition statement**

*This place covers:*

Disposable prepaid communication devices e.g. wireless disposable telephones

**H04M 17/01**

**{Cocot systems, i.e. private ownership of payphones}**

**Definition statement**

*This place covers:*

Cocot systems, private ownership of payphones

**H04M 17/02**

**Coin-freed or check-freed systems {, e.g. mobile- or card-operated phones, public telephones or booths}**

**Definition statement**

*This place covers:*

Coin-freed or check-freed systems e.g. card operated phones or mobiles, public telephones or booths, etc.

## References

### Limiting references

*This place does not cover:*

Coin-freed or check-freed apparatus per se	<a href="#">G07F</a>
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### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Cordless telephones, mobiles	<a href="#">H04M 1/725</a>
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## H04M 17/20

**{with provision for recharging the prepaid account or card, or for credit establishment}**

### Definition statement

*This place covers:*

Credit establishment i.e. establishment of credit (codes, vouchers, etc. ) for the payment of telecommunication services .

## H04M 17/201

**{automatic recharging with predetermined amount at threshold}**

### Definition statement

*This place covers:*

With automatic recharging of account or card with predetermined amount at threshold, e.g. if limit is reached during connection the account is recharged automatically

## H04M 17/202

**{selecting interactively a payment method}**

### Definition statement

*This place covers:*

With automatic recharging of account or card at threshold and the payment method is selected interactively by the user

## H04M 17/307

**{Code type, e.g. alphanumeric code, bar code}**

### Definition statement

*This place covers:*

Code type e.g. alphanumeric code, bar code, pattern, punched holes, temporarily valid code, etc

## H04M 17/35

{Pay as you go}

### Definition statement

*This place covers:*

Pay as you go i.e. user establishes payment in advance or while on line but no contract is required as for prepaid account details and usage

## H04M 19/00

**Current supply arrangements for telephone systems (for selecting-equipment [H04Q 1/28](#))**

### Definition statement

*This place covers:*

- Feeding from Central Office Exchange to telephone sub stations (Battery function of Subscriber Line Interface Circuits, SLIC).
- Arrangements for providing ringing current to telephone substations (Ringing function of Subscriber Line Interface Circuit).
- Ringing current generated at substation, in particular ringing alerts for alerting a user of incoming calls.
- Current supply source generated at the sub station.
- Subgroup details:
- [H04M 19/001](#): This group cover the arrangements at the exchanger for providing current to substation. A SLIC should provide the so called BORSCHT (Battery, Over voltage, Ringing, Signalling, Coding, Hybrid, Testing) functions: this group covers the "B" function. SLIC in general covered by [H04M 3/005](#). Over voltage covered by [H04M 3/18](#). Off hook detection covered by [H04M 3/2272](#).
- Subgroups cover details about circuits that are clear from the title of the subgroups themselves.
- [H04M 19/02](#): This group cover the "R" function of a SLIC. Subgroups cover details that are clear from the title of the subgroups itself.
- [H04M 19/04](#): This group cover ringing current generated at the substation. Ringing tones (as well as visual and tactile alerts) for alerting user of an incoming call should be classified here. Ring back tones are instead covered by [H04M 3/42017](#). Audible, visible and tactile signalling in generals are covered by [G08B](#) group.
- [H04M 19/06](#): Current supply source at subordinate switching centre charged from main exchange.
- [H04M 19/08](#): In case substation is powered locally, from mains for example. Adjacent fields includes circuit arrangements for charging batteries ([H02J 7/00](#)), circuit arrangements for emergency or stand by power supply ([H02J 9/00](#)).

### Relationships with other classification places

If the current supply refer to the selecting equipment part of the exchange then this aspect is covered by [H04Q 1/28](#).

### References

#### Limiting references

*This place does not cover:*

Customized ring back tones	<a href="#">H04M 3/42017</a>
Uninterrupted power supply for computers	<a href="#">G06F 1/30</a>



Current supply arrangements over Ethernet	<a href="#">H04L 12/10</a>
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### **Informative references**

Attention is drawn to the following places, which may be of interest for search:

Portable communication terminals with means for adapting by the user the functionality or the communication capability of the terminal under specific circumstances	<a href="#">H04M 1/72448</a>
Subscriber line interface circuits (SLIC)	<a href="#">H04M 3/005</a>
Over voltage protection in line interface circuits	<a href="#">H04M 3/18</a>
Subscriber line supervision circuits e.g. off hook detection	<a href="#">H04M 3/2272</a>
Paging systems	<a href="#">H04M 11/022</a>
Door telephones	<a href="#">H04M 11/025</a>
Power supply means for computers	<a href="#">G06F 1/26</a>
Audible signalling system in general	<a href="#">G08B 3/00</a>
Visible signalling system in general	<a href="#">G08B 5/00</a>
Tactile signalling systems in general	<a href="#">G08B 6/00</a>
Details of transformers	<a href="#">H01F 27/00</a>
Circuit arrangements for charging or depolarising batteries or for supplying loads from batteries	<a href="#">H02J 7/00</a>
Circuit arrangement for emergency or standby power supply	<a href="#">H02J 9/00</a>
Arrangements for feeding power to a repeater over a transmission line	<a href="#">H04B 3/44</a>
Systems for transmission via power distribution lines	<a href="#">H04B 3/54</a>
Arrangements for feeding power in transmission systems employing electromagnetic waves other than radio waves, e.g. light, infrared	<a href="#">H04L 12/10</a>

### **Glossary of terms**

In this place, the following terms or expressions are used with the meaning indicated:

BORSCHT	Battery, Over voltage, Ringing, Signalling, Coding, Hybrid, Testing
SLIC	Subscriber Line Interface Circuit
AEC	Acoustic Echo Canceller
CPE	Customer Premise Equipment: any phone equipment (key systems, PBX's, answering machines, etc.) which reside on the customers premises
HKTS	Hybrid Key Telephone System: telephone system that can be used as a PBX or as a Key Telephone System
KTS	Key Telephone System
PBX	Private Branch Exchange
UPS	Uninterrupted Power Supply
CO	Central Office
RBT	Ring Back Tone
RTTL	Ring Tone Transfer Language

**H04M 2201/39****using speech synthesis****References*****Informative references****Attention is drawn to the following places, which may be of interest for search:*

Speech synthesis; Text to speech synthesisers	<a href="#">G10L 13/00</a>
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**H04M 2201/40****using speech recognition****References*****Informative references****Attention is drawn to the following places, which may be of interest for search:*

Speech recognition	<a href="#">G10L 15/00</a>
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**H04M 2201/405****involving speaker-dependent recognition****References*****Informative references****Attention is drawn to the following places, which may be of interest for search:*

Adaption to the speaker for speech recognition	<a href="#">G10L 15/07</a>
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**H04M 2201/41****using speaker recognition****References*****Informative references****Attention is drawn to the following places, which may be of interest for search:*

Speaker identification or verification	<a href="#">G10L 17/00</a>
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**H04M 2203/057****distortion monitoring****References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Quality of service monitoring for automatic or semi-automatic exchanges in telephonic communication	<a href="#">H04M 3/2227</a>
Quality of speech transmission monitoring for automatic or semi-automatic exchanges in telephonic communication	<a href="#">H04M 3/2236</a>

**H04M 2203/105****Financial transactions and auctions, e.g. bidding****References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Data switching networks for stock exchange and similar applications	<a href="#">H04L 12/1804</a>
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**H04M 2203/158****Call-type dependent routing****References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Route determination based on the nature of the carried application in data switching networks	<a href="#">H04L 45/306</a>
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**H04M 2203/205****Broadcasting****References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Data switching networks providing special services for broadcast or conference	<a href="#">H04L 12/18</a>
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**H04M 2203/353**

where the information comprises non-audio but is provided over voice channels

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Network arrangements, protocols or services for supporting real-time applications in data packet communication	<a href="#">H04L 65/00</a>
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**H04M 2203/4509**

Unified messaging with single point of access to voicemail and other mail or messaging systems

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Unified messaging, e.g. interactions between e-mail, instant messaging or converged IP messaging [CPM]	<a href="#">H04L 51/56</a>
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**H04M 2203/4518**

Attachments to voicemail

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Messages including annexed information, e.g. attachments in packet-switching networks	<a href="#">H04L 51/08</a>
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**H04M 2203/4545**

Message forwarding

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Monitoring or handling of messages in packet-switching networks, using selective forwarding	<a href="#">H04L 51/214</a>
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**H04M 2203/4581****Sending message identifiers instead of whole messages****References*****Informative references***

*Attention is drawn to the following places, which may be of interest for search:*

Monitoring or handling of messages in packet-switching networks, providing notification on incoming messages	<a href="#">H04L 51/224</a>
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**H04M 2203/5009****Adding a party to an existing conference****References*****Informative references***

*Attention is drawn to the following places, which may be of interest for search:*

Arrangements for conducting the computer conference, e.g. admission, detection, selection or grouping of participants	<a href="#">H04L 12/1822</a>
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**H04M 2203/5018****Initiating a conference during a two-party conversation, i.e. three-party service or three-way call****References*****Informative references***

*Attention is drawn to the following places, which may be of interest for search:*

Computer conference organisation arrangements	<a href="#">H04L 12/1818</a>
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**H04M 2203/5027****Dropping a party from a conference****References*****Informative references***

*Attention is drawn to the following places, which may be of interest for search:*

Arrangements for conducting the computer conference, e.g. admission, detection, selection or grouping of participants	<a href="#">H04L 12/1822</a>
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**H04M 2203/5045****Selection of bridge/multipoint control unit****References*****Informative references***

*Attention is drawn to the following places, which may be of interest for search:*

Network arrangements for conference optimisation or adaptation	<a href="#">H04L 12/1827</a>
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**H04M 2203/5063****Centrally initiated conference, i.e. conference server dials participants****References*****Informative references***

*Attention is drawn to the following places, which may be of interest for search:*

Computer conference organisation arrangements	<a href="#">H04L 12/1818</a>
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**H04M 2203/5072****Multiple active speakers****References*****Informative references***

*Attention is drawn to the following places, which may be of interest for search:*

Arrangements for conducting the computer conference, e.g. admission, detection, selection or grouping of participants	<a href="#">H04L 12/1822</a>
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**H04M 2203/5081****Inform conference party of participants, e.g. of change of participants****References*****Informative references***

*Attention is drawn to the following places, which may be of interest for search:*

Arrangements for conducting the computer conference, e.g. admission, detection, selection or grouping of participants	<a href="#">H04L 12/1822</a>
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**H04M 2203/551****Call history****References*****Informative references***

*Attention is drawn to the following places, which may be of interest for search:*

Tracking arrangements for later retrieval, e.g. recording contents, participants activities or behaviour, network status	<a href="#">H04L 12/1831</a>
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**H04M 2203/60****related to security aspects in telephonic communication systems****References*****Informative references***

*Attention is drawn to the following places, which may be of interest for search:*

Network architectures or network communication protocols for network security	<a href="#">H04L 63/00</a>
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**H04M 2203/651****Text message transmission triggered by call****References*****Informative references***

*Attention is drawn to the following places, which may be of interest for search:*

User-to-user messaging in packet-switching networks, transmitted according to store-and-forward or real time protocols using automatic reactions in messaging within packet-switching networks	<a href="#">H04L 51/02</a>
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**H04M 2203/655****Combination of telephone service and social networking****References*****Informative references***

*Attention is drawn to the following places, which may be of interest for search:*

Supporting social networking services within packet-switching networks	<a href="#">H04L 51/52</a>
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**H04M 2215/7886**

Apply cheapest or best package, e.g. selection among available tariffs or packages

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Least cost routing, i.e. provision for selecting the lowest cost tariff	<a href="#">H04M 2215/42</a>
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**H04M 2242/14**

with services dependent on location

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Personal communication services related to one subscriber independent of his terminal and/or location	<a href="#">H04M 3/42229</a>
Information service where the information is dependent on the location of the subscriber	<a href="#">H04M 2242/15</a>

**H04M 2250/12**

including a sensor for measuring a physical value, e.g. temperature or motion

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Telephonic subscriber devices including a GPS signal receiver	<a href="#">H04M 2250/10</a>
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**H04M 2250/22**

including a touch pad, a touch sensor or a touch detector

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Digitisers, e.g. for touch screens or touch pads	<a href="#">G06F 3/041</a>
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**H04M 2250/52**

including functional features of a camera

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Constructional features concerning the integration of cameras in portable phones	<a href="#">H04M 1/0264</a>
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**H04M 2250/54**

including functional features of a projector or beamer module assembly

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Constructional features for a projector or beamer module assembly in portable telephone sets, e.g. cordless phones, mobile phones or bar-type handsets	<a href="#">H04M 1/0272</a>
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**H04M 2250/60**

logging of communication history, e.g. outgoing or incoming calls, missed calls, messages or URLs

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Arrangements for indicating or recording the called number at the calling subscriber's set	<a href="#">H04M 1/56</a>
Arrangements for indicating or recording the number of the calling subscriber at the called subscriber's set	<a href="#">H04M 1/57</a>

**H04M 2250/64**

file transfer between terminals

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

User interfaces specially adapted for cordless or mobile telephones with local support of applications by software upgrading or downloading	<a href="#">H04M 1/72406</a>
User interfaces specially adapted for cordless or mobile telephones with interactive means for internal management of messages	<a href="#">H04M 1/7243</a>

**H04M 2250/68**

with means for recording information, e.g. telephone number during a conversation

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Recording arrangements for recording conversations	<a href="#">H04M 1/656</a>
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**H04M 2250/70**

methods for entering alphabetical characters, e.g. multi-tap or dictionary disambiguation

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Character input methods using prediction or retrieval techniques for converting discrete items of information into a coded form	<a href="#">G06F 3/0237</a>
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**H04M 2250/74**

with voice recognition means

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Devices for calling a subscriber whereby a plurality of signals may be stored simultaneously, controlled by voice recognition	<a href="#">H04M 1/271</a>
Speech recognition	<a href="#">G10L 15/00</a>