

EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 222

DATE: AUGUST 1, 2016

PROJECT DP0034

The following classification changes will be effected by this Notice of Changes:

<u>Action</u>	<u>Subclass</u>	<u>Group(s)</u>
New Definitions:	H04R	1/023, 1/025, 1/026, 1/12, 1/14, 1/20, 1/22, 1/2807, 1/2861, 1/36, 1/403, 1/46
	H04R	3/04
	H04R	5/0335
	H04R	7/16, 7/18, 7/22
	H04R	9/025, 9/027, 9/043, 9/045, 9/046, 9/08, 9/10
	H04R	11/06
	H04R	17/005, 17/025
	H04R	19/005, 19/02, 19/04
	H04R	23/004, 23/006
	H04R	25/456, 25/604, 25/654
	H04R	2225/67
	H04R	2410/00
Modified Definitions:	H04R	subclass
	H04R	1/00, 1/005, 1/02, 1/04, 1/06, 1/08, 1/086, 1/10, 1/1016, 1/1025, 1/1033, 1/1041, 1/105, 1/1058, 1/1066, 1/075, 1/1083, 1/1091, 1/28, 1/2803, 1/2823, 1/283, 1/2838, 1/2846, 1/2853, 1/2869, 1/2876, 1/2884, 1/2892, 1/30, 1/32, 1/34, 1/345, 1/347, 1/40, 1/406
	H04R	3/00, 3/005, 3/02, 3/12,
	H04R	5/00, 5/02, 5/027, 5/033, 5/04
	H04R	7/00, 7/02, 7/04, 7/045, 7/127, 7/14, 7/20, 7/24, 7/26
	H04R	9/00, 9/02, 9/04, 9/06, 9/066
	H04R	11/00, 11/02
	H04R	13/00
	H04R	15/00
	H04R	17/00, 17/02
	H04R	19/00
	H04R	23/00
	H04R	25/00, 25/04, 25/30, 25/305, 25/353, 25/356, 25/405, 35/407, 25/43, 25/50, 25/55, 25/554, 25/556, 25/558, 25/60, 25/602, 25/606, 25/608, 25/65, 25/652, 25/656, 25/658, 25/70, 25/75
	H04R	27/00
	H04R	29/00, 29/001, 29/002, 29/003, 29/004, 29/005, 29/006, 29/007
	H04R	31/00, 31/003, 31/006
	H04R	2201/003, 2201/021, 2201/023, 2201/028, 2201/029, 2201/105, 2201/107, 2201/109, 2201/34

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<u>Action</u>	<u>Subclass</u>	<u>Group(s)</u>
	H04R	2203/12
	H04R	2205/021, 2205/022, 2205/024, 2205/026, 2205/041
	H04R	2207/021
	H04R	2209/024, 2209/027, 2209/043
	H04R	2217/01, 2217/03
	H04R	2225/31, 2225/33, 2225/39, 2225/41, 2225/43, 2225/49, 2225/51, 2225/53, 2225/55, 2225/59, 2225/61, 2225/63, 2225/77, 2225/81, 2225/83
	H04R	2227/001, 2227/003, 2227/005, 2227/007, 2227/009
	H04R	2231/001, 2231/003
	H04R	2307/023, 2307/025, 2307/027, 2307/201, 2307/207
	H04R	2400/00, 2400/01, 2400/07, 2400/13
	H04R	2410/01, 2410/03, 2410/05, 2410/07
	H04R	2420/01, 2420/03, 2420/05, 2420/07, 2420/09
	H04R	2430/01, 2430/03, 2430/20, 2430/25
	H04R	2440/05, 2440/07
	H04R	2460/01, 2460/03, 2460/05, 2460/09, 2460/11, 2460/15, 2460/17
	H04R	2499/13
Deleted Definitions:	H04R	2307/021, 2307/029, 2307/204, 2420/00, 2460/07

This Notice of Changes includes the following [Check the ones included]:

1. CLASSIFICATION SCHEME CHANGES
 - A. New, Modified or Deleted Group(s)
 - B. New, Modified or Deleted Warning Notice(s)
 - C. New, Modified or Deleted Note(s)
 - D. New, Modified or Deleted Guidance Heading(s)
2. DEFINITIONS (New or Modified)
 - A. DEFINITIONS (Full definition template)
 - B. DEFINITIONS (Definitions Quick Fix)
3. REVISION CONCORDANCE LIST (RCL)
4. CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)
5. CROSS-REFERENCE LIST (CRL)

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2. A. DEFINITIONS (new, modified, and deleted)

New Definitions

Insert the following **NEW** definitions.

H04R1/023

Definition statement

A mesh or grating covering the loudspeaker transducer or a sound path leading to the loudspeaker transducer

H04R1/025

Informative references

Furniture aspects of radio, television	A47B81/06
Adaptations of chairs or stools for incorporating lamps, radio sets, bars, telephones, ventilation, heating or cooling arrangements or the like	A47C7/72

H04R1/026

Definition Statement

Means to hold a loudspeaker casing for and during use

Informative references

Supports and stands in general	F16M11/00 ; F16M13/00
Decoupling of vibrations by means of point-of-contact supports, e.g. ball bearings	F16F15/021

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H04R1/12

Informative references

Hygienic or sanitary devices on telephone equipment	H04M1/17
Mouthpieces in general	H04R1/08
Earpieces in general	H04R1/10
Ear wax barrier for hearing aids	H04R25/654

H04R1/14

Informative references

Transceivers carried on the body, e.g. in helmets	H04B1/385
Mouthpieces in general	H04R1/08
Special adaptations for use as contact microphones	H04R1/46

H04R1/20

References relevant to classification in this subgroup

Arrangements for obtaining desired frequency or directional characteristics for stereophonic purposes	H04R5/00
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Informative references

Speech enhancement by processing of the speech signal	G10L 21/02
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H04R1/22

Definition statement

Arrangements where the focus lies in the way the desired frequency characteristic is obtained

References relevant to classification in this subgroup

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

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Arrangements in hearing aids for obtaining desired frequency characteristic	H04R25/48
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Informative references

Circuits for combining transducers having different responses	H04R3/00
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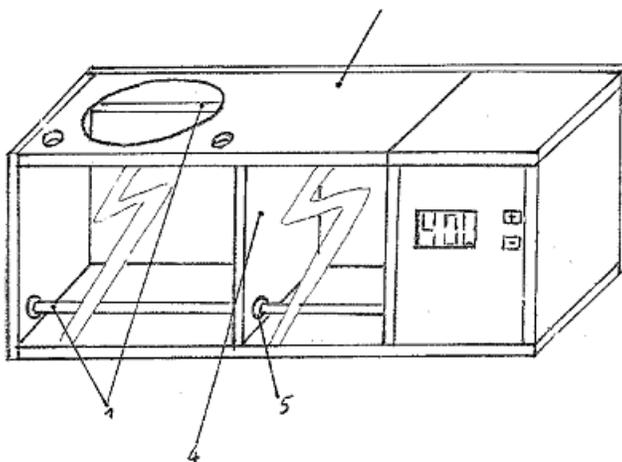
Special rules of classification within this group

If a directivity effect is also addressed classification in [H04R1/32](#) or subgroups as additional information is required as well

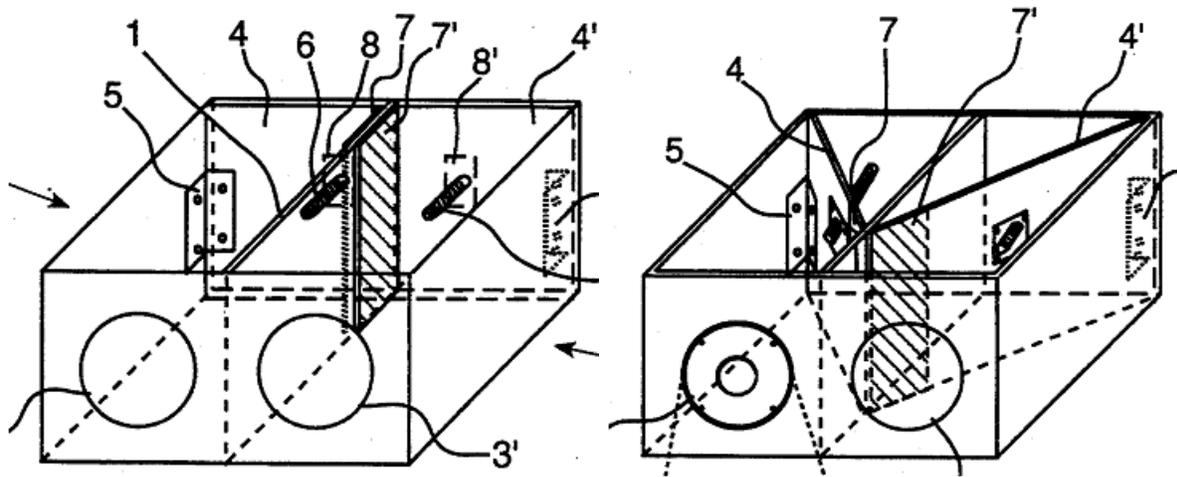
H04R1/2807

Definition statement

Example (for [H04R1/2811](#)): movable side wall (4) for varying volume to adapt frequency response:



Example (for [H04R1/2811](#)): left-hand figure amplified bass, and right-hand figure normal bass:



H04R1/2861

Definition statement

Enclosures using a back-loaded horn. The horn has an aperture surface area that increases with distance from the transducer along the horn axis.

H04R1/36

Definition statement

Such an aperture functions as an acoustic lens

Informative references

Other types of acoustic lenses	H04R1/34
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H04R1/403

Informative references

Circuits for distributing signals of two or more loudspeakers	H04R3/12
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H04R1/46

References relevant to classification in this group

Throat mountings for microphones	H04R1/14
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H04R3/04

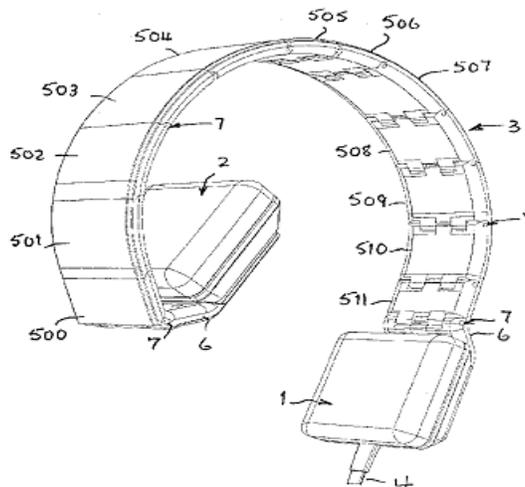
Informative reference

Tone control or bandwidth control in amplifiers	H03G5/00
Synergistic effects of band splitting and sub-band processing	H04R2430/03

H04R5/0335

Definition statement

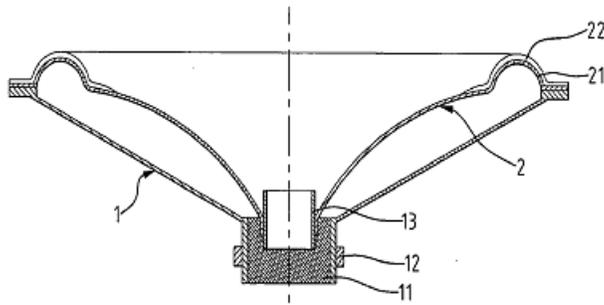
For example: segmented headband for easy storage of the headphone



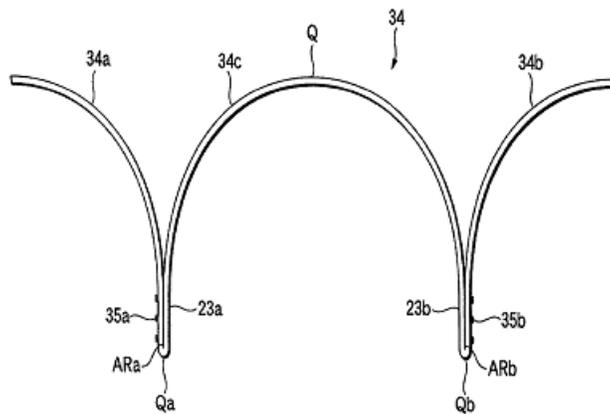
H04R7/18

Definition statement

For example: membrane (2) is extended to form outer suspension (21), whose elastic properties are adapted by the elastic layer (22).



For example: membrane (34) divided in a suspension part (34A, 34B) and a central sound producing part (34C)



Informative references

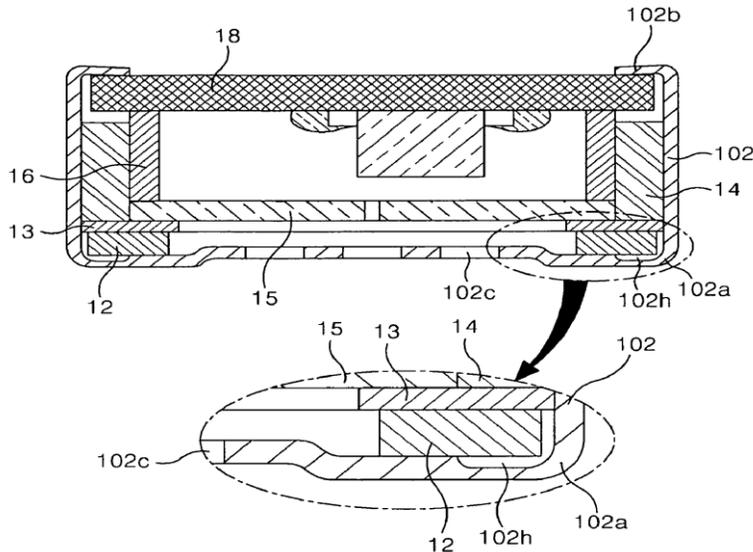
Manufacture of surrounds

H04R2231/003

H04R7/22

Definition statement

For example: Microphone comprising a vibrating plate (12) with polar ring which is clamped via a spacer (13) between base (14, 16) and the casing (102). Groove 102h is formed to prevent deformation of the polar ring which would negatively affect the acoustic properties membrane (2) is extended to form outer suspension (21)), whose elastic properties are adapted by the elastic layer (22).



H04R9/025

Informative references

Manufacturing aspects of the magnetic circuit of loudspeaker or microphone transducers	H04R2209/024
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H04R9/027

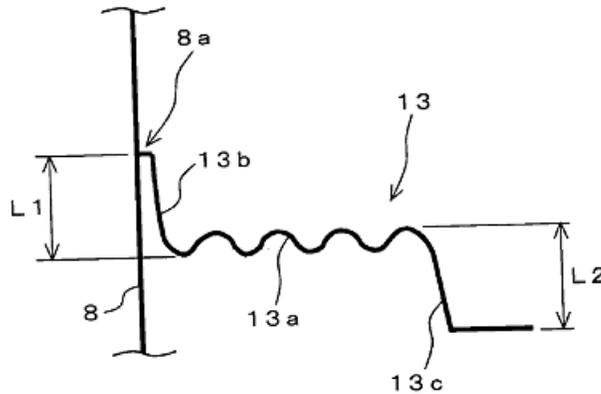
Informative references

Magnetic liquids in general, e.g. ferrofluids	H01F1/44
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H04R9/043

Definition statement

For example: the inner suspension (13) is formed with leg portions (13b, 13c) having equal length, to prevent lateral vibration of the bobbin (8). Thus excursion of suspension and thus of the diaphragm can be increase without increasing the diameter of the inner suspension.



Informative references

Outer suspension or surround	H04R7/16
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Glossary of terms

spider	inner suspension usually placed between voice coil former and frame, for providing a restoring force enabling the return of the transducer membrane to its normal resting position and for centring the voice coil
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H04R9/045

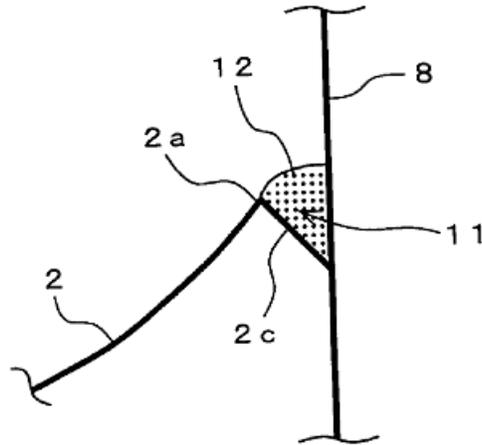
Definition statement

Mounting of the voice coil or the bobbin on which the voice coil is wound

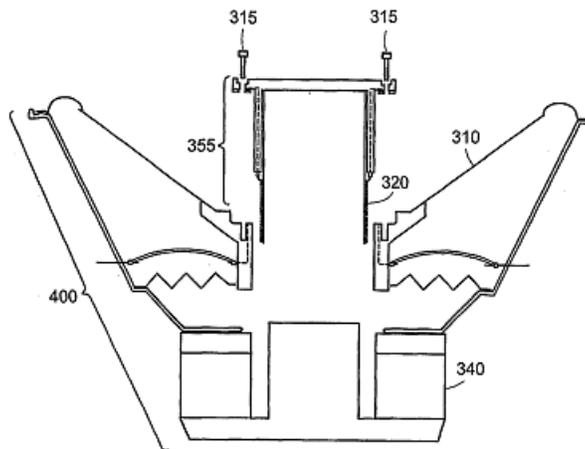
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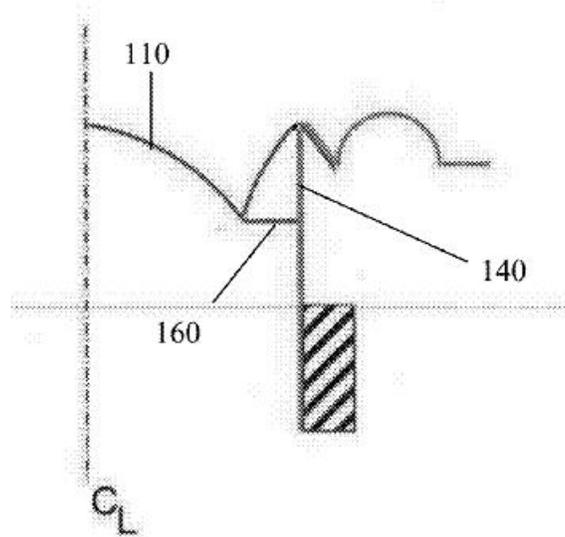
For example: the connection between bobbin (8) and diaphragm (2) is provided with a groove, which is filled with glue to strengthen the connection.



Example: bobbin assembly (355) removably mounted to the inner circumference of the diaphragm (310). Thus replacement of damaged assembly requires minimal effort.



Example: bobbin (140) is mounted at its top directly to outer suspension and in the middle via bridge (160). Thus the bobbin is prevented from bending.



Informative references

Inner suspension or damper	H04R9/043
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H04R9/046

Definition statement

- Constructional aspects of the voice coil, e.g. shape of the coil, the winding angle, shape or material of the windings,
- Constructional aspects of the bobbin on which a voice coil is to be wound, e.g. material, shape, connection with voice coil

Informative references

Coils per se and their manufacture	H01F5/00; H01F41/00
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H04R9/08**Informative references**

Transducers having separately controllable opposing diaphragms, e.g. for ring-tone and voice, or for combined microphone/-receiver in telephones	H04R2209/026
Transducers used as a loudspeaker to generate sound as well as a microphone to detect sound	H04R2400/01

H04R9/10**Informative references**

Generating mechanical vibrations of infrasonic, sonic, or ultrasonic frequency using vibrating magnet, armature or coil system	B06B1/045
Generating vibrations with systems involving rotary unbalanced masses	B06B1/16
Tactile signalling systems	G08B6/00
Transducers having separately controllable opposing diaphragms, e.g. for ring-tone and voice	H04R2209/026
Transducers used as a loudspeaker to generate sound as well as a microphone to detect sound	H04R2400/01
Transducers capable of generating both sound as well as tactile vibration e.g. as used in cellular phones	H04R2400/03

H04R11/06**Informative references**

Generating vibrations with systems involving rotary unbalanced masses	B06B1/16
Tactile signalling systems	G08B6/00
Transducers having separately controllable opposing diaphragms, e.g. for ring-tone and voice	H04R2209/026
Transducers used as a loudspeaker to generate sound as well as a microphone to detect sound	H04R2400/01
Transducers capable of generating both sound as well as tactile vibration e.g. as used in cellular phones	H04R2400/03

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H04R17/005**Informative references**

Piezo-electric or electrostrictive devices of macromolecular compositions	H01L41/193
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H04R17/025**Informative references**

Piezo-electric or electrostrictive devices of macromolecular compositions	H01L41/193
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H04R19/005**Informative references**

Arrangements for avoiding sticking of the flexible or moving parts of MEMS devices having such parts	B81B3/0002
MEMS packages and encapsulations	B81B7/0032
Microphones and microspeakers	B81B2201/0257
MEMS structures allowing for movement	B81B2203/01
Type of movement	B81B2203/05
Pressure measurement / constructional details associated with semiconductive diaphragm sensors, e.g. etching of diaphragms	G01L9/0042
Transducers other than those covered by groups H04R 9/00 to H04R 21/00 using solid state devices	H04R23/006

H04R19/02**References relevant to classification in this group**

Electrostatic transducers characterised by the use of electrets for loudspeakers	H04R19/01
	H04R19/013

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H04R19/04**References relevant to classification in this group**

Electrostatic transducers characterised by the use of electrets	H04R19/01
for microphones	H04R19/016

H04R23/004**Informative references**

Sound producing devices using optical excitation, e.g. laser bundle	G10K15/046
Sound producing devices using electric discharge	G10K15/06

H04R23/006**Definition statement**

Acoustic transducers using solid state devices and not covered by [H04R9/00](#) – [H04R21/00](#)

References relevant to classification in this group

Electrostatic transducers using semiconductor materials	H04R19/005
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Informative references

Solid state devices per se	H01L
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H04R25/456**Informative references**

Mounting and assembly of hearing aids	H04R25/60
Housing parts, e.g. shells, tips or moulds	H04R25/65
Aspects relating to vents in hearing devices	H04R2460/11

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H04R25/604**Definition statement**

Arrangements for mounting or interconnection of transducers in hearing aids

H04R25/654**Definition statement**

Means for protecting electric components, e.g. receivers, microphones, in hearing aids against e.g. earwax, oil, moisture, debris, and other foreign material;
Their mounting or interconnection

Informative references

Screens for loudspeakers	H04R1/023
Protective screens for microphones, e.g. all weather or wind screens	H04R1/086
Mounting or interconnection of hearing aid parts in general, e.g. inside tips, housing or to ossicles	H04R25/60

H04R2225/67**Definition statement**

Implantable hearing aids or parts thereof, e.g. receivers, housings, whereas in [H04R25/606](#) the emphasis is on the mounting of the transducers.

H04R2410/00**Special rules of classification within this group**

Only for those cases where the classification does not allow specification the type of transducer and the type is important, e.g. frequency control circuit ([H04R3/04](#) and subgroups) may require different circuit for microphones or for loudspeakers

Modified Definitions

H04R

Definition statement

Delete: The existing paragraphs in the Definition statement section.

Insert: The following replacement paragraphs.

- loudspeakers, microphones, acoustic transducers therefor producing acoustic waves or variations of electric current or voltage, or gramophone pick-ups
- arrangements actuated by variations of electric current or voltage for cutting grooves in records;
- circuits for the above-mentioned loudspeakers, microphones, acoustic transducers, gramophone pick-ups or arrangements;
- monitoring or testing of the above-mentioned loudspeakers, microphones, acoustic transducers, gramophone pick-ups, arrangements or circuits therefor.

Relationship between large subject matter areas

Delete: The existing paragraph

Insert: The following replacement paragraph.

Regarding producing sound, this subclass covers producing sound with a frequency determined by the frequency of the electrical signal applied to the transducer, whereas **G10K** covers producing sounds with frequency not so determined.

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Informative references

Insert the following two **new** rows at the end of the existing table.

Transducers in motors	H02K H02N
Transmission systems employing ultrasonic, sonic or infrasonic waves	H04B11/00

Special rules of classification within this subclass

Delete: The existing paragraphs in the Special rules section.

Insert: The following replacement paragraphs.

- Classification of invention information and additional information is obligatory.
- Further detail not provided for in any of the main groups is provided for in the subgroups of Indexing Code groups H04R2201/00 - H04R2231/00, H04R2307/00 and H04R2400/00 – H04R2499/00. These indexing code groups should be used in combination with CPC main trunk symbols to classify information highly relevant to the invention only. Classification is obligatory as indicated for each of the indexing groups concerned.
- Of Indexing Code groups H04R2201/00 - H04R2231/00, H04R2307/00 and H04R2420/00 - H04R2499/00 and of Indexing Code groups H04R2201/02, H04R2201/10 and H04R2201/40 ONLY the subgroups should be used for classification.
- Further detail not provided for in any of the main groups is provided for in the subgroups of Indexing Code groups H04S2400/00 and H04S2420/00 below. Classification is obligatory.
- Modifications to the transducers itself (e.g. a Helmholtz resonator attached to a through-hole in the magnetic circuit or zeolites attached to the frame) in order to modify the frequency response are to be classified in the appropriate place for the type of transducer (H04R9/00 - H04R23/00) as invention information in combination with H04R1/22 as additional information.

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Glossary of terms

Delete: The existing table.

Insert: The following paragraph table.

Acoustic, Sound	cover the technical field dealing with ultrasonic, sonic or infrasonic waves
Deaf aid	hearing aid
Loudspeaker	transducer mounted in a casing for producing sound
Microphone	transducer mounted in a casing for collecting sound
Stereophonic system	two- or more channel system, e.g. quadraphonic, ambisonic or similar system
Transducer	a device that converts an electrical signal to an acoustic signal with a frequency which is determined by the frequency of the electrical signal applied to the transducer, or vice versa
Micro-structural device	<ul style="list-style-type: none"> i. micro-mechanical devices comprising movable, flexible or deformable elements; ii. three-dimensional structures without movable, flexible or deformable elements, comprising microformations designed to accomplish an essential structural function for interacting with their environment, as opposed to purely electronic or chemical functions, regardless of whether the structures are combined with micro-electronic devices or formed from specific materials;
Micro-structural system	<ul style="list-style-type: none"> 1. systems of cooperating micro-structural devices; 2. micro-electro-mechanical or micro-opto-mechanical systems, which combine on a common substrate the specific features of micro-structural devices and electrical or optical components, e.g. for controlling, analysing or signalling the functioning of micro-structural devices.

H04R1/00

References relevant to classification in this group

Delete: The first row in the existing table.

Insert: Below the existing table, the following preamble and row.

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

Mountings specially adapted for telephone equipment	H04M1/02
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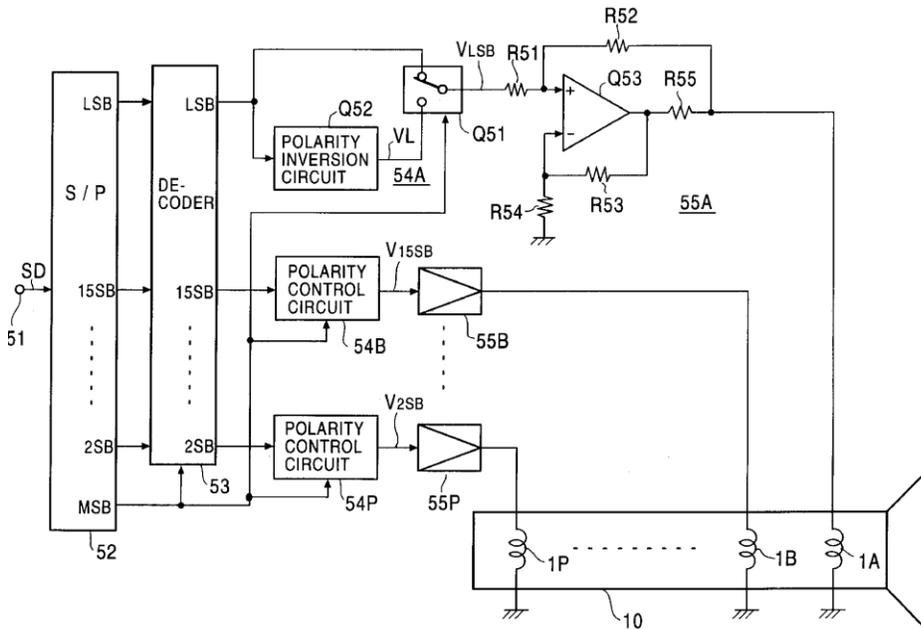
H04R1/005

Definition statement

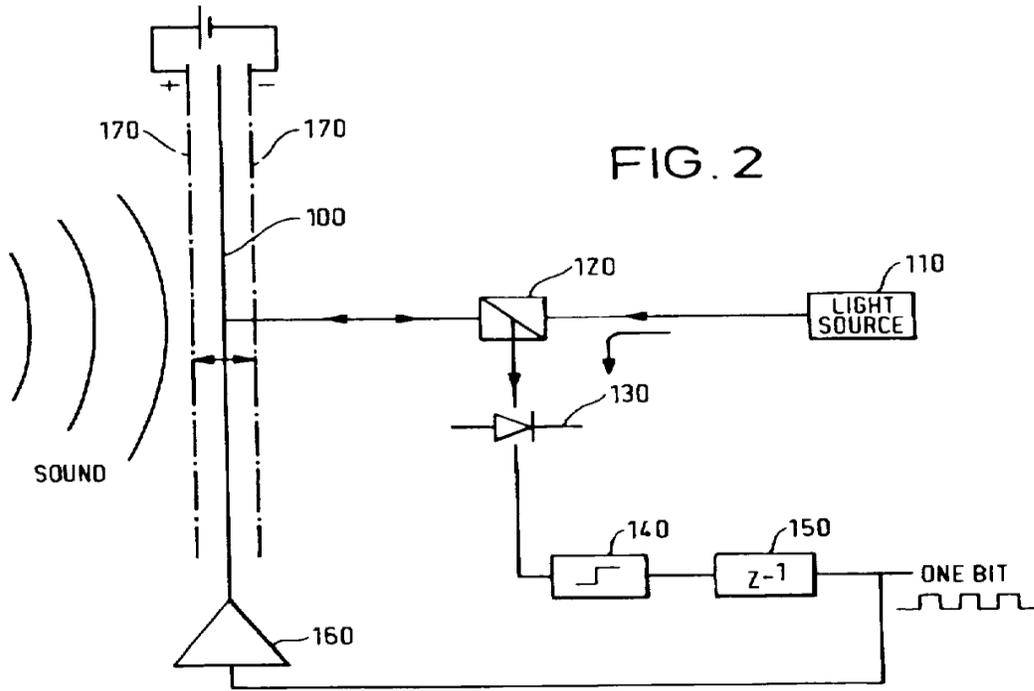
Delete: The existing paragraph.

Insert: The following **new** paragraphs and two images.

Example for a loudspeaker transducer (the number of windings of the 15 coils ranges from 2^0 - 2^{14})



Example for a microphone transducer:



H04R1/02

References relevant to classification in this group

Insert the following as the **Second** row in the existing table:

Attachments for microphones	H04R1/08
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Insert the following **new** Informative references section:

Informative references

Mounting of acoustic transducers in vehicles	B60R11/0217, B60R11/0247
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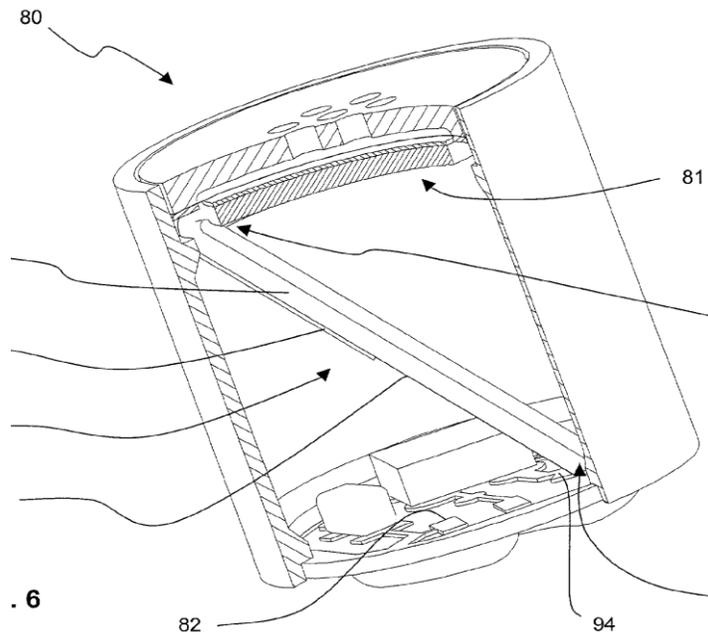
H04R1/04

Definition statement

Delete: The existing paragraph.

Insert: The following new paragraph and image.

As shown in the figure circuitry (81) can be mounted inside the microphone (80)



Insert: The following new Informative references section

Informative references

MEMS packages	B81B7/0032
Packaging of Smart-MEMS, i.e. packaging together processing unit and MEMS	B81C1/0023
Micro-structural systems comprising a MEMS connected to control electronics, i.e. smart-MEMS	B81B2207/01

H04R1/06

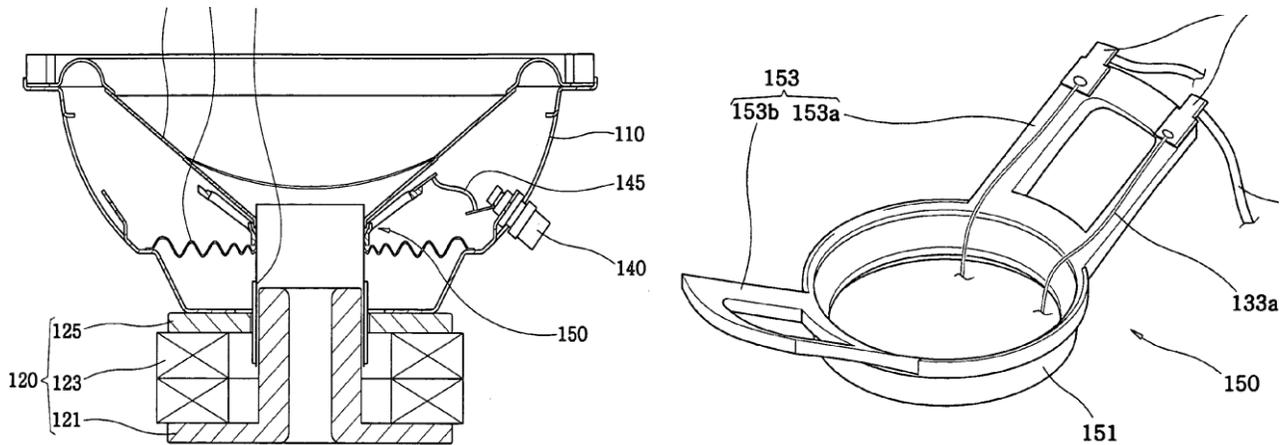
Definition statement

Delete: The existing paragraphs in the Definition statement section.

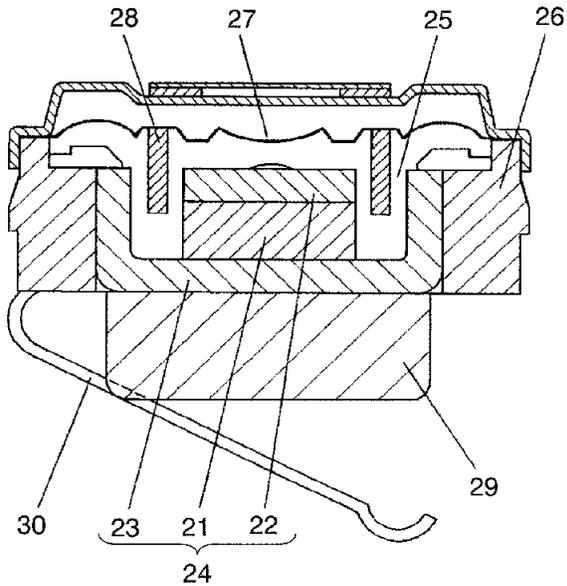
Insert: The following new paragraphs and images.

Connection or contacting arrangements specially adapted to transducers, loudspeakers or headphones.

In the example the tinsel wire 145 is prevented from contacting the diaphragm during vibration, by ring structure 150.



In the example, the terminal 30 is prevented from bending too much during mounting, by stopper 29.



Insert: The following **new** Informative references section

Informative references

Interconnections between the MEMS and external electrical signals	B81B7/007
Connecting electric signal lines from the MEMS device with external electrical signal lines, e.g. through vias	B81C1/00301
Means for relieving strain on wire connection, e.g. cord grip, for avoiding loosening of connections between wires and terminals within a coupling device terminating a cable or for flat or ribbon cables	H01R13/58 H01R23/661

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Special rules of classification within this group

Delete: H04R2420/00

Insert: H04R2420/09

H04R1/08

Insert the following **new** Synonyms and Keywords section

Synonyms and Keywords

In patent documents the expression/word "spider" is often used with the meaning "shock mount to elastically fasten microphones to stands".

H04R1/086

Delete: The entire Definition statement section.

Insert: A **new** Special rules section, as follows.

Special rules of classification within this group

Further detail is covered by Indexing Code group H04R2410/07. Classification is obligatory.

H04R1/10

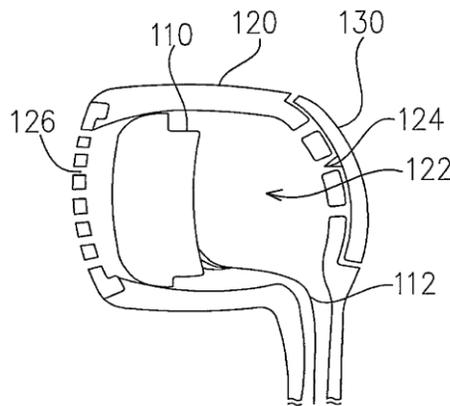
Definition statement

Insert: **Before** each of the five statements in the Definition statement section, **insert** a **bullet**.

References relevant to classification in this group

Insert: The following text and image under the existing References relevant table:

Example for the precedence rule:



Earphone wherein the frequency response can be changed by changing (with slide 130) the number of holes (124) that are open/closed

Invention information: [H04R1/2826](#)

Additional information: [H04R1/1016](#), [H04R1/1041](#)

Insert: A new Informative references section, as follows.

Informative references

Badges	A44C3/00
Ornaments for ears	A44C7/00
Earphones measuring physiological sounds (e.g. heart rate, breathing, pulse)	A61B5/02
Transceivers carried on the body, e.g. in helmets	H04B1/385
Sanitary or hygienic devices for earpieces	H04R1/12

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Special rules of classification within this group

Delete: The existing paragraph.

Insert: The following replacement paragraphs.

- When classifying in this group or in its subgroups, aspects relating to stereophonic headphones are to be classified in [H04R5/033](#) (additional information) as well.
- Concerning inventions relating to hearing devices, if an application describes and shows the invention using only embodiments relating to ear- or headphones then [H04R1/10](#) or subgroups or [H04R5/033](#) or subgroups should be given as invention information. Dependent on the case, the mere statement that the invention is also applicable to hearing aids may render classification under [H04R25/00](#) useful, but only as additional information. Only if specific non-trivial embodiments for hearing aids are also shown, classification under [H04R25/00](#) as invention information may be considered as well.

H04R1/1016

Insert: A new Informative references section, as follows.

Informative references

Earplugs for protection	A61F11/08
Ear moulds for hearing aids	H04R25/652

Special rules of classification within this group

Delete: The symbol H04R2460/00 in the existing Special rules paragraph.

Insert: The following replacement symbols/text: [H04R2460/09](#) and [H04R2460/11](#)

H04R1/1025

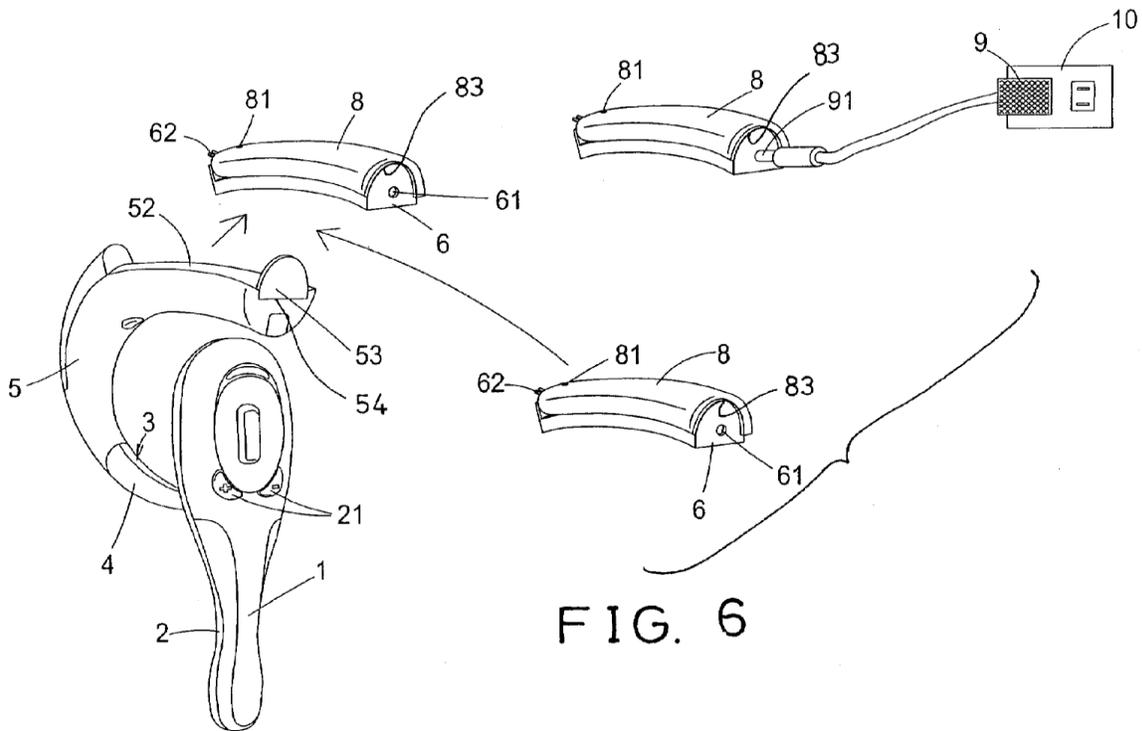
Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

Adaptations to earpieces to enable charging.

For example:



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Informative references

Insert: **Below** the last row in the table, the following two rows.

Battery chargers characterised by the mechanical construction, e.g. adapted for holding portable devices containing batteries	H02J7/0042
Aspects of accumulators, e.g. rechargeable batteries, fuel cells, in hearing aids	H04R2225/31

H04R1/1033

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and images.

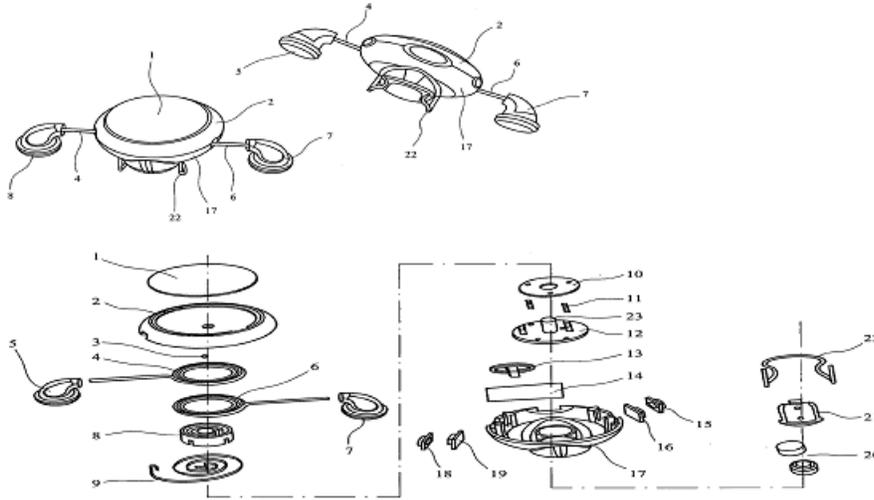
For example:

A stereophonic earphone with two earpieces each with a cable (4,5). The cable is wound on a spool (8) for storing the cables when the earphone is not in use.

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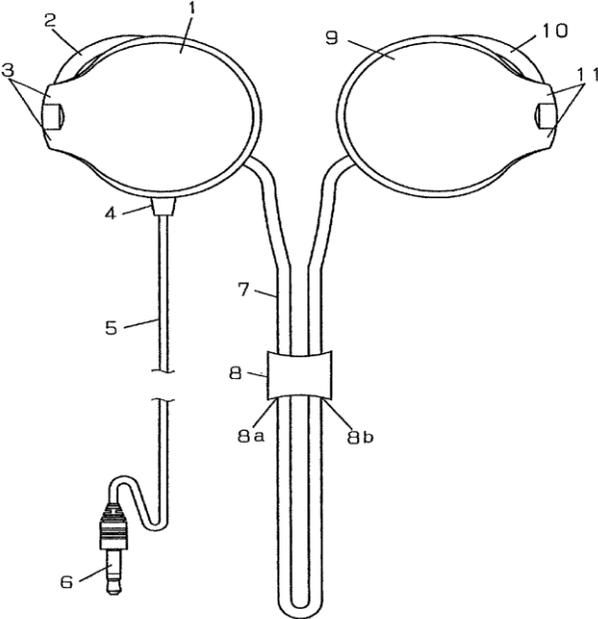
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For example:

A stereophonic headphone with a U-shaped slider (8) to adjust the length of the cable.



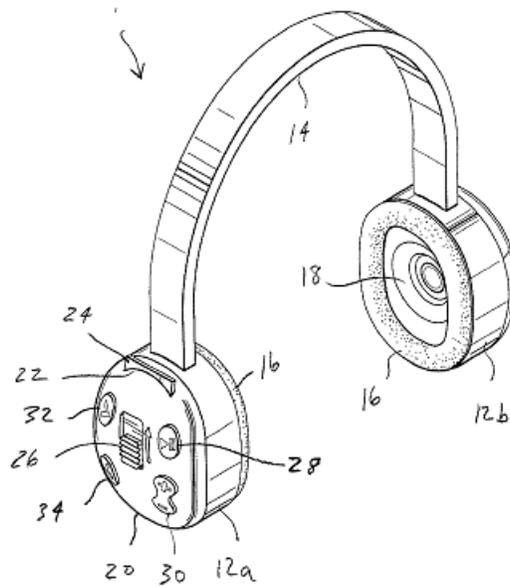
H04R1/1041

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following text and images.

For example (electronic switch/control elements)

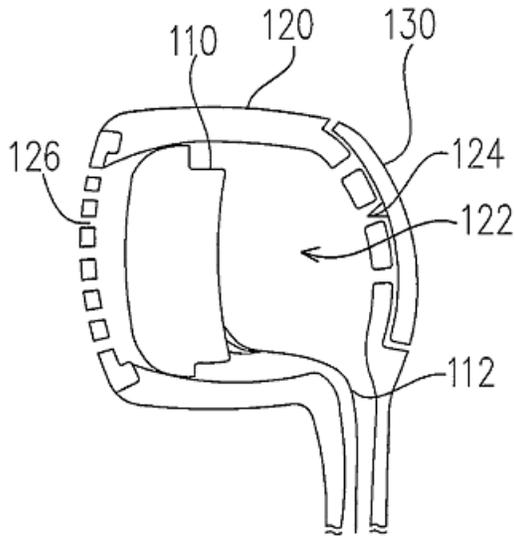


For example (mechanical control element):

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Earphone wherein the frequency response can be changed by changing (with slide 130) the number of holes (124) that are open/closed. Please take note of precedence rule referring to [H04R1/28](#).



Insert: The following three rows below the existing row.

Line cord switches	H01H9/0228
Hand-held casings specially adapted for remote control, e.g. of audio or video apparatus	H01H9/0235
Aspects relating to mechanical or electronic switches or control elements in hearing aids	H04R2225/61

H04R1/105

Definition statement

Delete: The existing text in the Definition statement section.

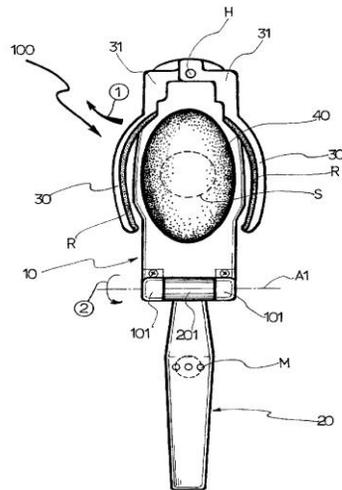
Insert: The following text and image.

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For example:

Earpiece support 30 is used to attach headset to the ear. The arms 31 of support 30 are rotatable around hinge H.



References relevant to classification in this group

Delete: The existing preamble.

Insert: The following preamble.

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

H04R1/1058

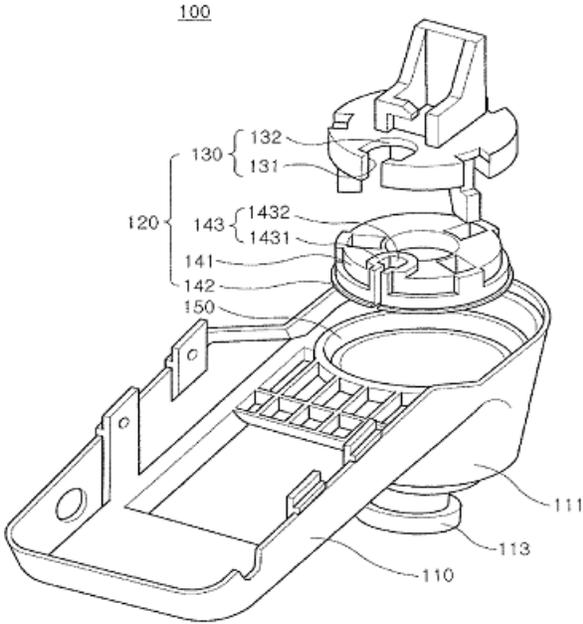
Definition statement

Delete: The existing paragraph.

Insert: The following paragraphs and image.

Methods of manufacture or assembling as well as the way devices are assembled or constructed

For example:



Insert: The following **new** Informative references section.

Informative references

Manufacture of mono- or stereophonic headphone parts not otherwise provided for in H04R, e.g. moulding of ear pads	H04R2201/105
--	--------------

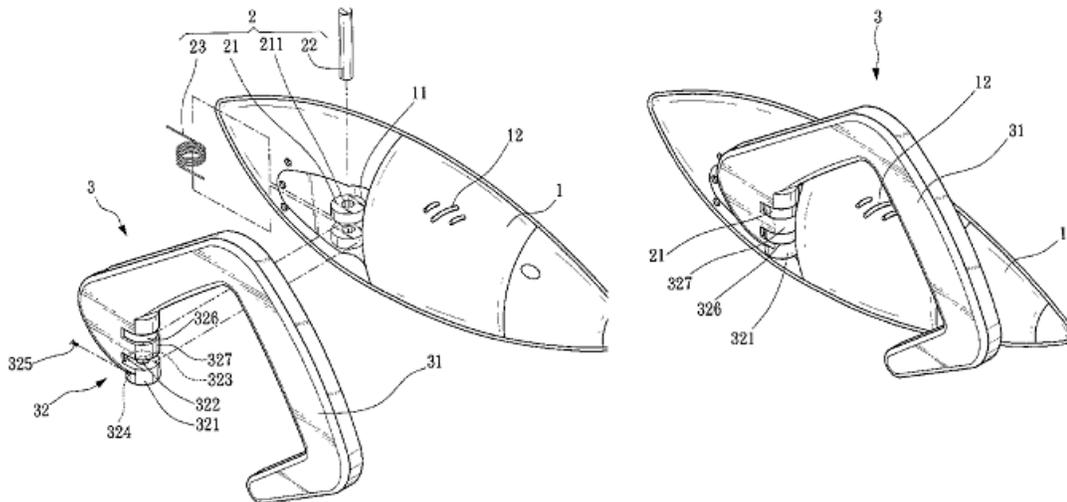
H04R1/1066

Definition statement

Delete: The existing paragraph.

Insert: The following paragraphs and images.

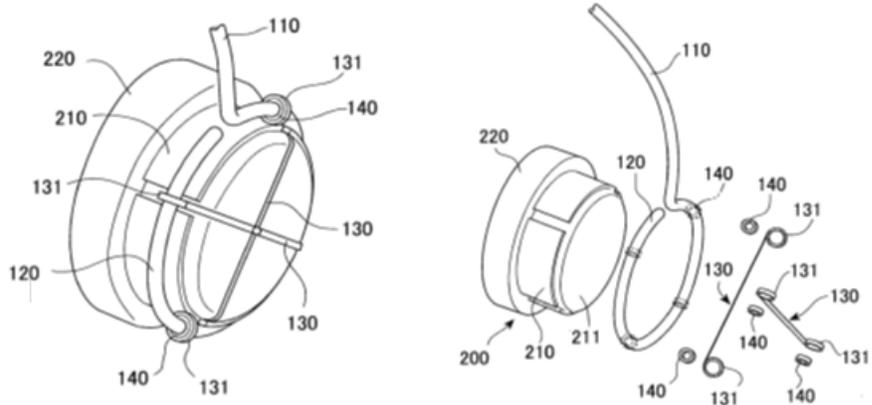
Example (ear hook):



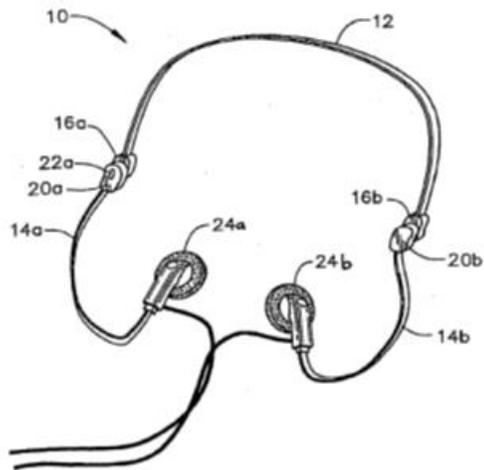
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Example (headband):



Example (headband):



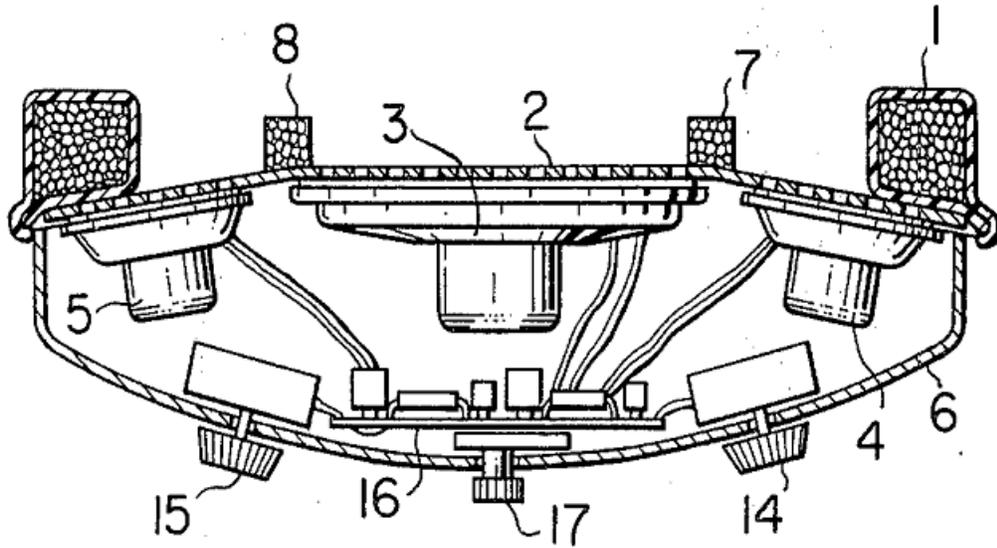
H04R1/1075

Definition statement

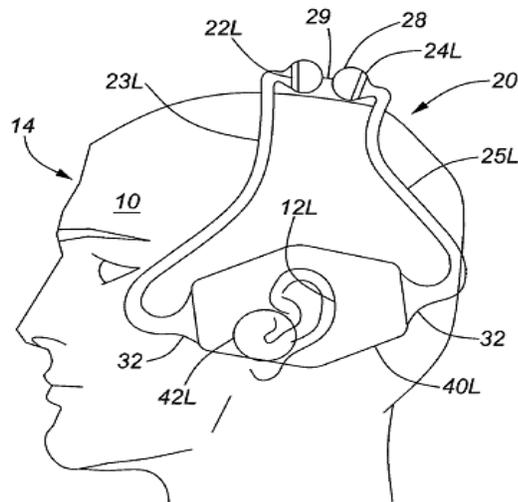
Delete: The existing paragraph.

Insert: The following two paragraphs and images.

For example: (positioning of the transducers (4, 5, 6) in the earpiece)



For example: (mounting of the loudspeakers mounted on the head support (in figure only the left side: left front 22L and left rear 24L both ported to the left ear)



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H04R1/1083

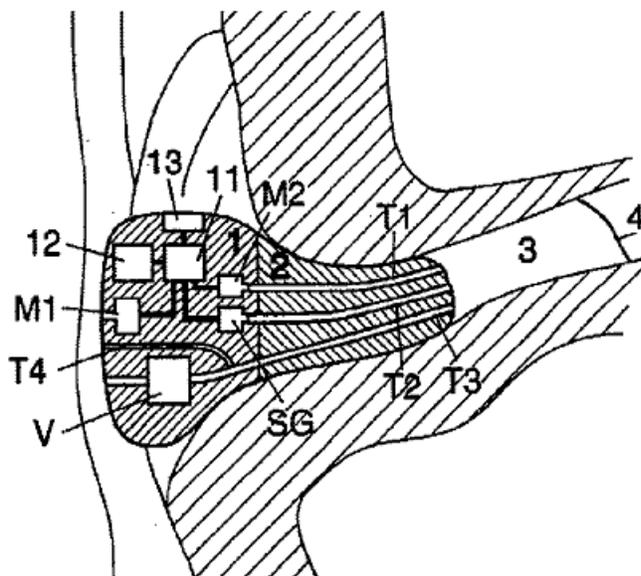
Definition statement

Delete: The existing paragraph in the definition statement section.

Insert: The following paragraphs and three images.

For example:

A personal noise exposure dose meter integrated in an active hearing protective communications earplug, comprising a main section 1 containing two microphones an outer microphone M1 and an inner microphone M2, and a sound generator SG, which are used for active noise control. A sealing section 2 is attached to the main section. An acoustic transmission channel T1 connects microphone M2 to the inner portion of the meatus 3. Microphone M2 therefore picks up the sound present in the meatus 3, just outside the eardrum (tympanum) 4. An acoustic transmission channel T2 connects sound generator SG to the inner portion of the meatus 3. The sound generator SG may provide audible information to the user, in form of warning signals or synthetic speech.



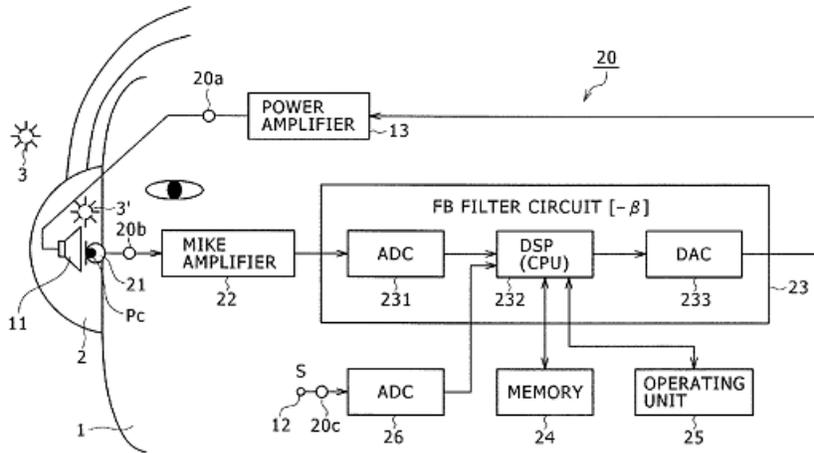
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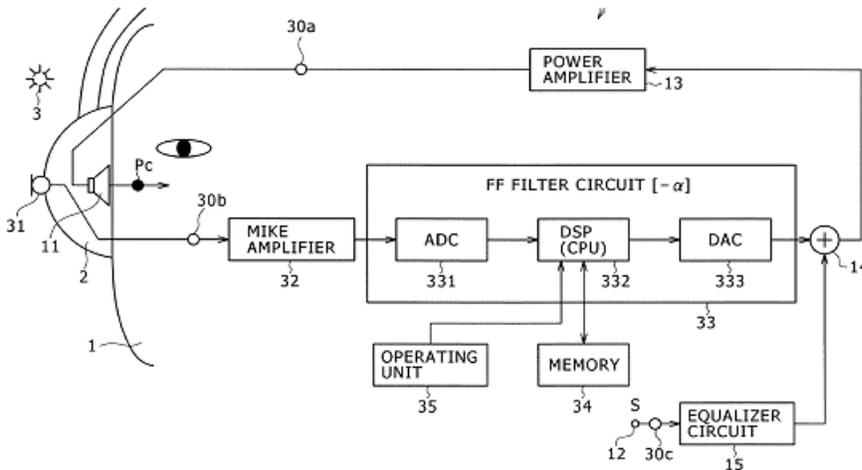
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For example:

Noise reduction using feedback (23):



Noise reduction using feedforward (33).



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Informative references

Delete: The existing Informative references table.

Insert: The following replacement table.

Protective devices for the ear, e.g. providing acoustic protection	A61F11/06 , A61F2011/145
Active noise reduction per se	G10K11/175
Active noise control in general for microphones or earphones	G10K2210/1081 , G10K2210/1082

Special rules of classification within this group

Delete: The existing paragraph.

Insert: The following replacement paragraph.

Further detail is covered by Indexing Code group [H04R2460/01](#). Classification is obligatory.

H04R1/1091**References relevant to classification in this group**

Delete: The existing preamble.

Insert: The following preamble.

Places in relation to which this group is residual:

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Special rules of classification within this group

Delete: The existing paragraph.

Insert: The following paragraph.

Further detail is covered by Indexing Code groups [H04R2201/103](#), [H04R2201/105](#), [H04R2201/107](#), [H04R2201/109](#), [H04R2420/07](#), [H04R2420/09](#), [H04R2460/03](#), [H04R2460/05](#), [H04R2460/07](#), [H04R2460/13](#), [H04R2460/15](#) and [H04R2460/17](#). Classification is obligatory.

H04R1/28

Definition statement

Delete: The text in the Definition statement section.

Insert: The following replacement text.

Transducer enclosure modified by provision of mechanical or acoustic impedances to achieve a desired frequency or phase response, e.g. enclosures:

- of the bass reflex type,
- of the bandpass type,
- using passive membranes,
- using acoustic labyrinths or transmission lines,
- using back-loaded horns,
- with adjustable volume
- Virtual enlargement by e.g. zeolytes.

Transducer mountings or enclosures modified to reduce undesired resonances, i.e. standing waves within enclosure, or of vibrations, i.e. of the enclosure itself, by e.g.:

- damping materials in the enclosure,
- enclosure stiffening structures,

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- Helmholtz resonators,
- special mountings of transducers.

References relevant to classification in this group

Delete: The existing preamble and table in the References relevant section.

Insert: The following table, preamble, and table.

Combinations of transducers with horns, i.e. front loaded horns	H04R1/30
---	--------------------------

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

Transducer mounting in telephone equipment improving the acoustic characteristics by means of constructional features of the housing, e.g. ribs, walls, resonating chambers or cavities.	H04M1/035
--	---------------------------

Insert: A **new** Informative references section.

Informative references

Mountings for loudspeaker in general	H04R1/025
Mountings for microphones in general	H04R1/08
Circuits for combining transducers having different responses	H04R3/00

Special rules of classification within this group

Delete: The existing Special rules section.

Insert: The following replacement paragraphs.

Applications of the mountings or enclosures for loudspeaker transducers is to be classified in the appropriate subgroup with title "{for loudspeaker transducers}";

Further detail is covered by the subgroup of Indexing Code group [H04R2201/029](#). Classification is obligatory.

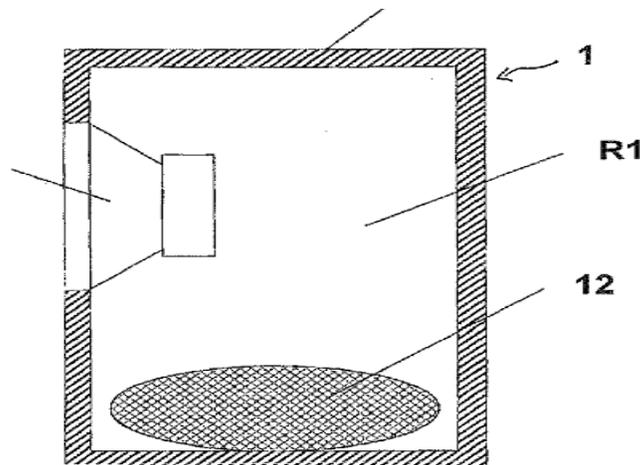
H04R1/2803

Definition statement

Delete: The existing preamble and paragraph.

Insert: The following new paragraphs and two images.

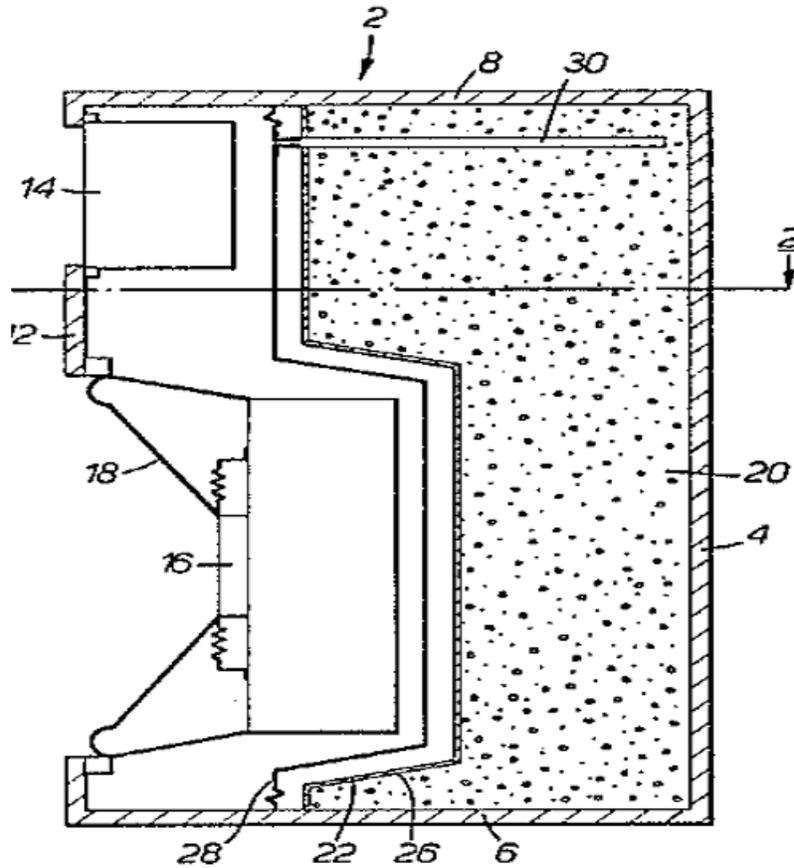
Example for porous material (12) for virtual volume increase, to improve bass response:



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Example for porous carbon material (20) for virtual volume increase, to improve bass response, membrane (22) is to prevent moisture from reaching the porous carbon material; membrane acoustically transparent)



Special rules of classification within this group

Delete: The following text.

[H04R1/288](#) or Indexing Code

Insert: The following replacement text.

[H04R1/2876](#)

H04R1/2823

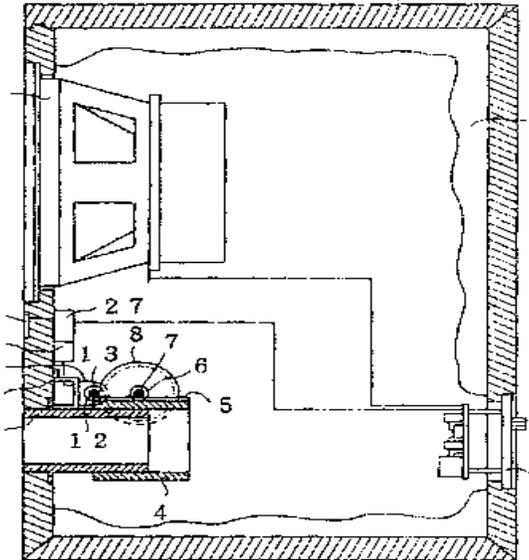
Definition statement

Delete: The preamble and text in the Definitions statement section.

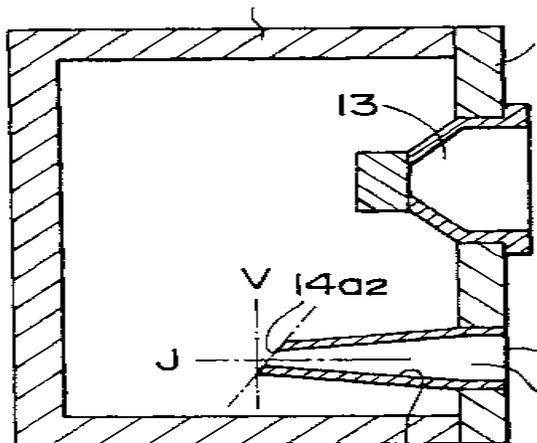
Insert: The following text and graphics.

Examples (for [H04R1/2826](#)):

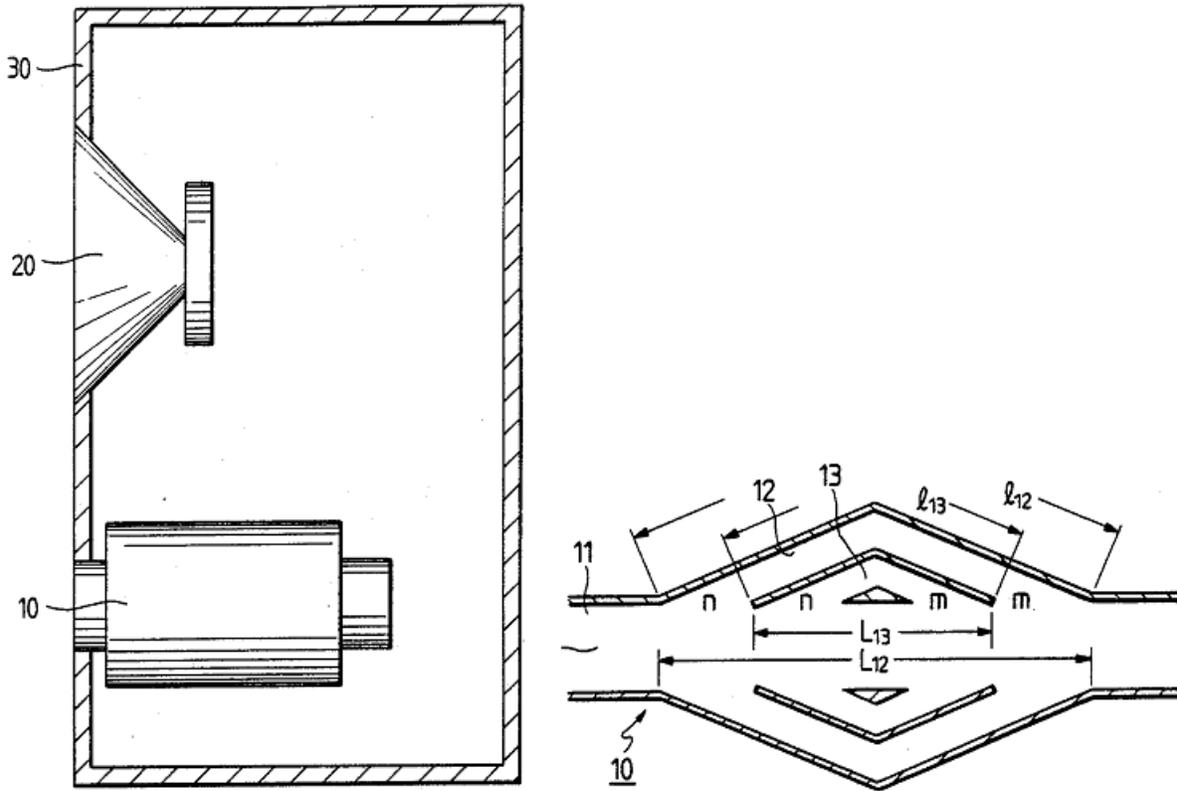
Vent with variable length:



Shape of the vent:



Shape and structure of the vent



References relevant to classification in this group

Delete: The last row in the table: “Vents in bandpass...enclosures H04R1/2846”.

Insert: The following **new** Informative references section.

Informative references

Vents in bandpass type enclosures	H04R1/2846
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H04R1/283

Special rules of classification within this group

Delete: The paragraphs in the Special rules section.

Insert: The following replacement paragraphs.

- Passive diaphragms or their suspension (invention) and being used in a bandpass type enclosure is classified in [in H04R1/283](#) or [H04R1/2834](#) (invention information), but [H04R1/2838](#) or [H04R1/2842](#) (additional information) is to be given as well;
- Passive diaphragms or their suspension themselves are to be classified as diaphragms for transducers, i.e. in [H04R7/00](#) or [H04R31/003](#) (invention or additional information) where appropriate, but [H04R1/283](#) or [H04R1/2834](#) (additional information) is to be given as well.

Insert: The following **new** Glossary of terms section.

Glossary of terms

Passive diaphragm	Diaphragm driven by a fluid and providing an acoustic impedance
-------------------	---

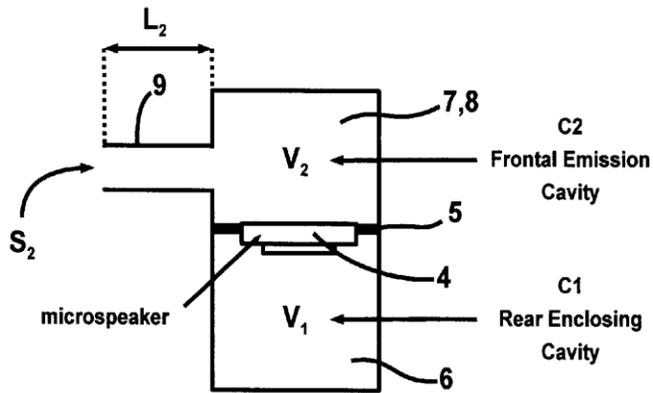
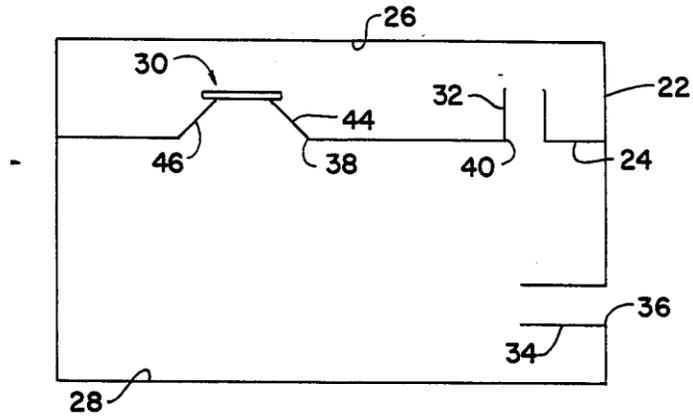
H04R1/2838

Definition statement

Delete: The existing Definition statement paragraphs.

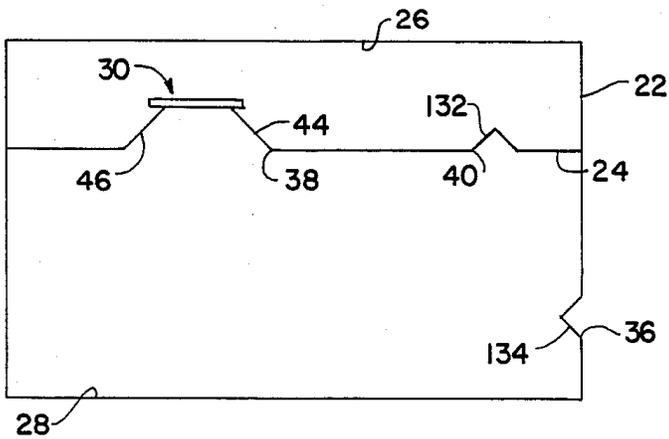
Insert: The following replacement text and four images.

For example (for [H04R1/2842](#)):



(vent 9 is not tuned to the wavelength)

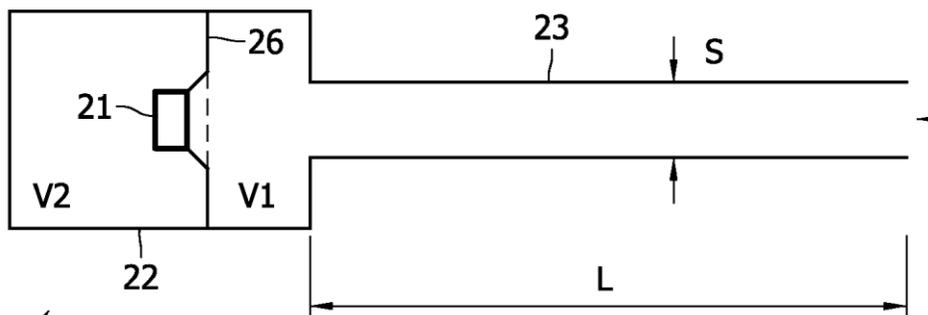
Example 1st classification rule (the vent is replaced by a passive membrane):



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Example 2nd classification rule (vent replaced by tube tuned to the wavelength)



Delete: The existing References relevant section.

Insert: The following new Special rules section.

Special rules of classification within this subgroup

- Bandpass type enclosures (invention) and using a passive membrane should be classified in [H04R1/2838](#) or [H04R1/2842](#) (invention information), but [H04R1/283](#) or [H04R1/2834](#) (additional information) is to be given as well.
- Bandpass type enclosures (invention) and using an acoustic labyrinth of transmission line should be classified in [H04R1/2838](#) or [H04R1/2842](#) (invention information) but [H04R1/2853](#) or [H04R1/2857](#) (additional information) is to be given as well.

H04R1/2846

References relevant to classification in this group

Delete: Only the first row in the References relevant section.

Insert: The following new Informative references section.

Informative references

Vents in bass reflex type enclosures	H04R1/2823
--------------------------------------	----------------------------

H04R1/2853

Definition statement

Delete: The text in the Definition statement section.

Insert: The following text and two images.

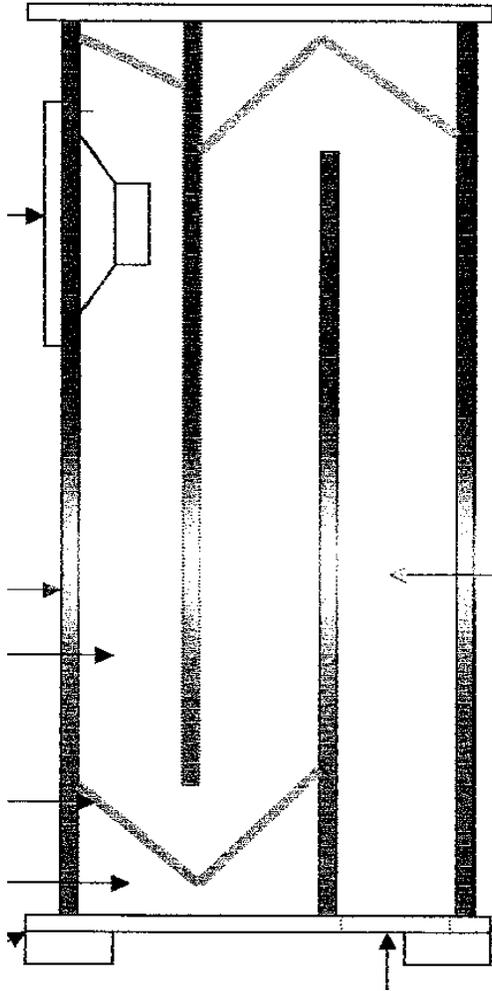
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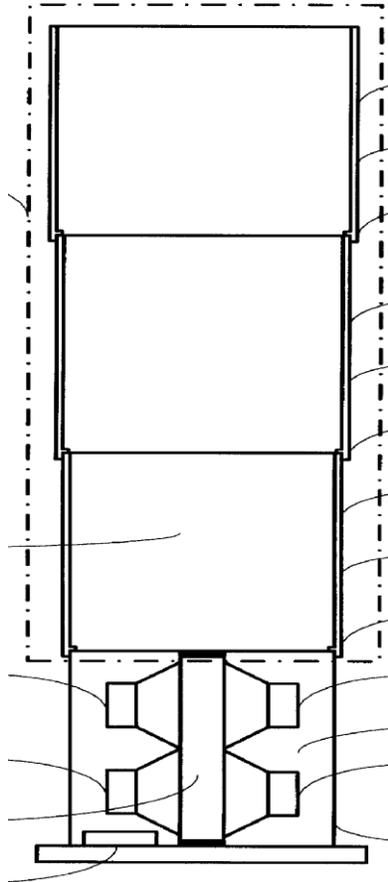
Enclosures using an acoustic labyrinth or a transmission line. The acoustic labyrinth or the transmission line can be open or closed.

For example (for [H04R1/2857](#)):



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The length of the top tubular part is tuned to the wavelength.

Special rules of classification within this group

Delete: The existing text in the Special rules section.

Insert: The following replacement text.

Acoustic labyrinths or transmission lines (invention) and being used in a bandpass type enclosure is classified in [H04R1/2853](#) or [H04R1/2857](#) (invention information), but [H04R1/2838](#) or [H04R1/2842](#) (additional information) is to be given as well.

H04R1/2869

Special rules of classification within this group

Delete: The existing Special rules section.

Insert: The following new Definition statement section.

Definition statement

Reduction of undesired resonances not covered by its subgroups, e.g. by means of Helmholtz resonators

H04R1/2876

Definition statement

Delete: The entire Definition statement section.

H04R1/2884

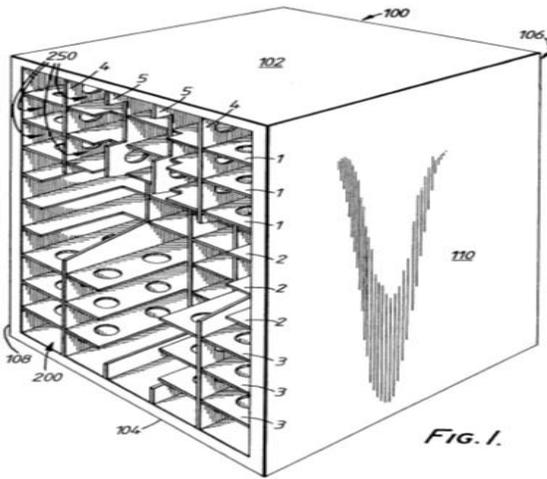
Definition statement

Delete: The text in the Definition statement section.

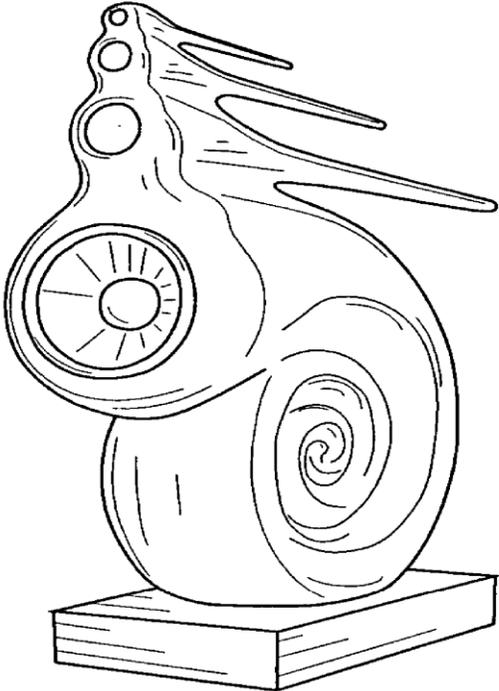
Insert: The following text and two images.

For example (for [H04R1/2888](#)):

Stiffening panels inside the enclosure



Shape of the enclosure to reduce reflexions within the enclosure



H04R1/2892

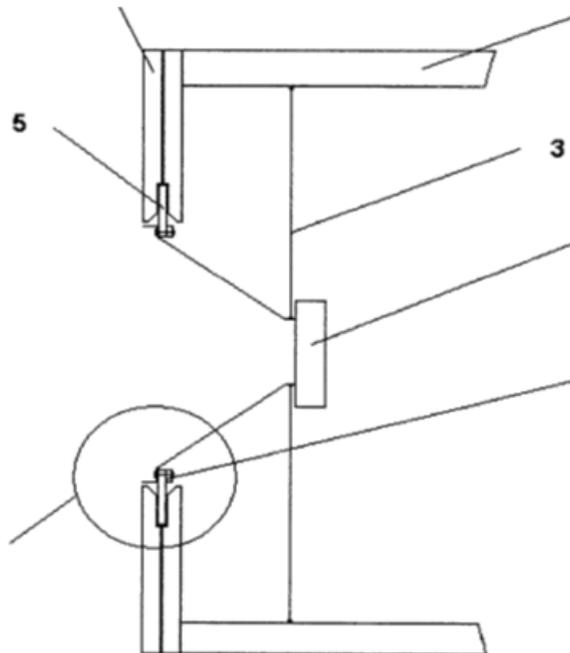
Definition statement

Delete: The text in the Definition statement section.

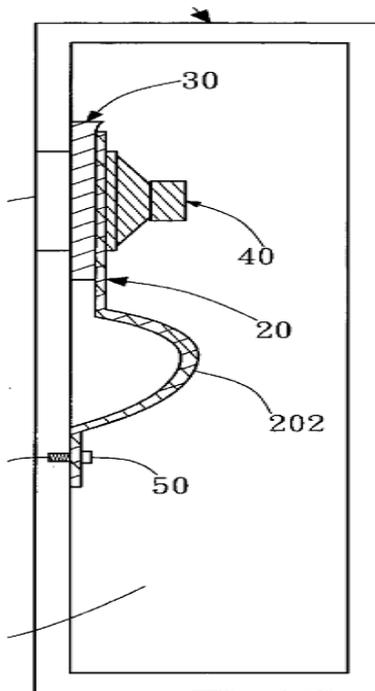
Insert: The following text and two images.

For example (for [H04R1/2896](#)):

Rubber transducer mounting (5) combined with flexible cables (3):



Elastic mounting (20) with dampening buffer element (30)



H04R1/30

Definition statement

Delete: The second paragraph (For example) in the Definition statement section.

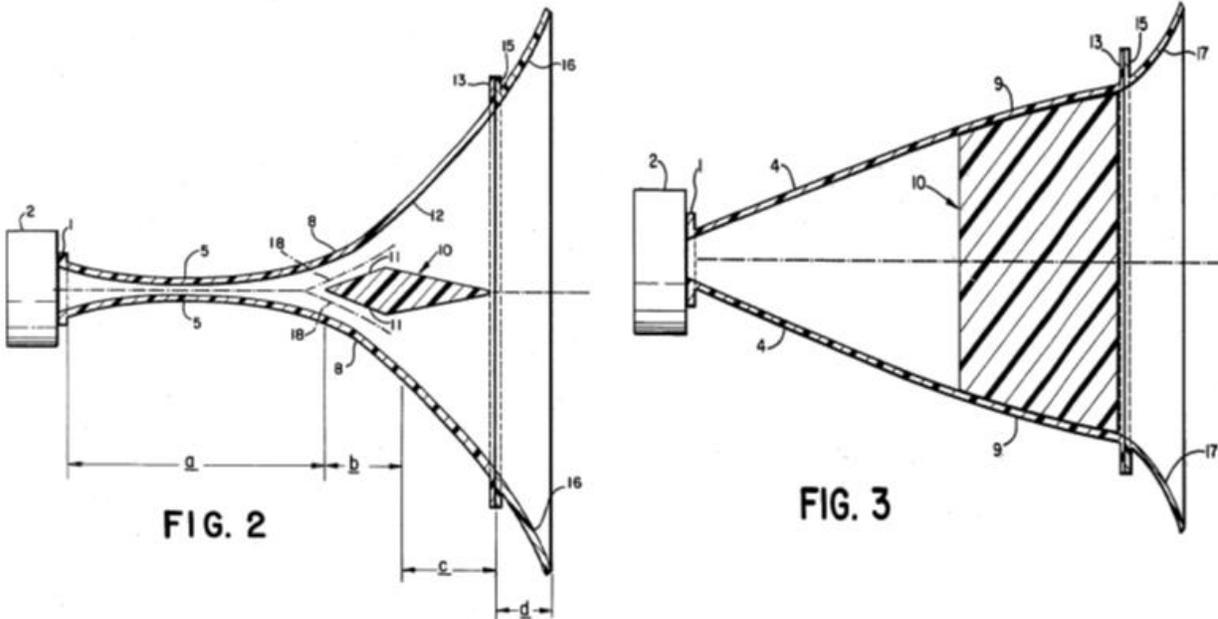
Insert: The following text and images.

The horn has an aperture surface area that increases with distance from the transducer along the horn axis.

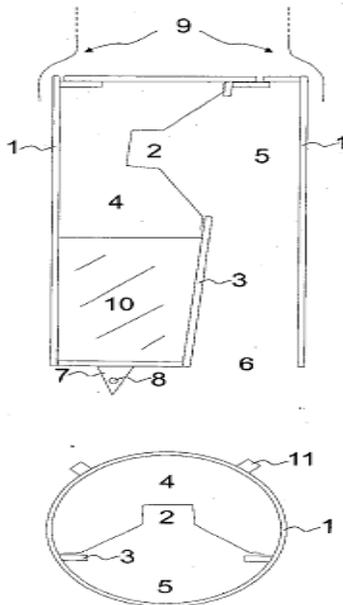
For example:

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In the example shown below the exponential area increase is obtained by the combination of a cylindrical housing (1) with a flat sloped plate (3).



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Special rules of classification within this group

Delete: The following symbol

[H04R2400/00](#)

Insert: The following new symbol.

[H04R2400/13](#)

H04R1/32

Insert: The following **new** Definition statement section.

Definition statement

Arrangements where the focus lies in the way the desired directional characteristic is obtained

Insert: The following **new** Informative references section.

Informative references

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

Mounting transducers, e.g. provided with mechanical moving or orienting device	G10K11/004
--	----------------------------

Special rules of classification within this group

Delete: The existing paragraph.

Insert: The following two paragraphs.

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- If a frequency effect is also addressed classification in [H04R1/22](#) or subgroups as additional information is required as well
- Further detail is covered by Indexing Code group [H04R2410/01](#). Classification is obligatory.

H04R1/34

Definition statement

Delete: The **two** existing paragraphs.

Insert: The following paragraph.

Sound reflecting, diffracting, directing or guiding means, e.g. horns to obtain a desired directivity characteristic, acoustic lenses, tubes, or phase plugs

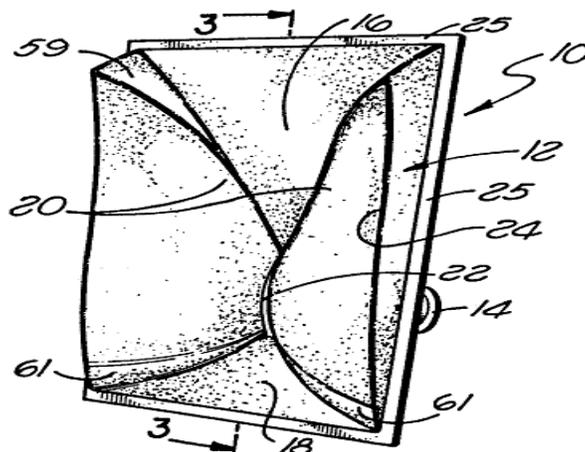
H04R1/345

Definition statement

Delete: The existing preamble and paragraph.

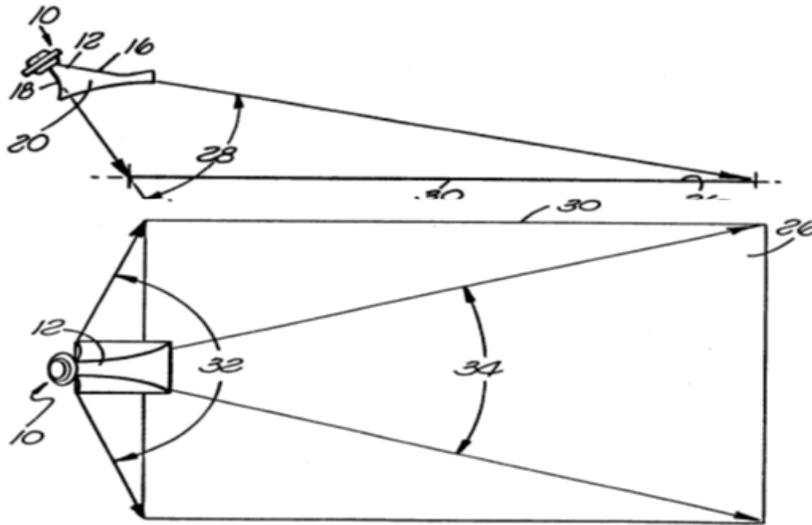
Insert: The following replacement text and three images.

For example: (horn (top figure) used to obtain predetermined directivity (lower figures))

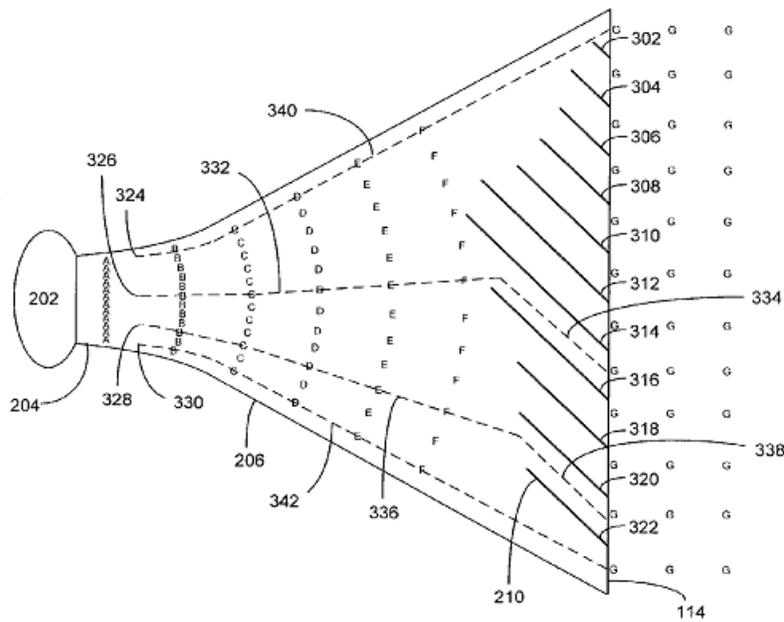


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For example: (plurality of plates (210) functioning as an acoustic lens).



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Insert: The following **new** Informative references section.

Informative references

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

Methods or devices for sound-focusing or directing	G10K11/26
Horn-loaded compression drivers and impedance frequency matching	H04R1/30
Single aperture acoustic lenses	H04R1/36

Special rules of classification within this group

Delete: The following words from the existing paragraph.

listed below

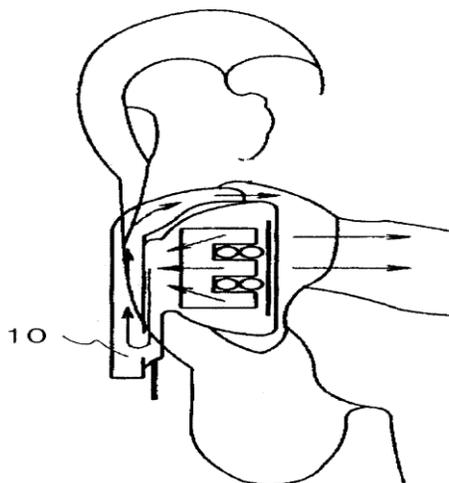
H04R1/347

Definition statement

Delete: The existing preamble and text.

Insert: The following text and image.

For example:



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H04R1/40

Insert: The following **new** Informative references section.

Informative references

Constructional aspects of beam steering	B06B1/0607 B06B1/085
Sound-focusing or directing using electrical steering of transducer arrays, e.g. beam steering	G10K11/34

Special rules of classification within this group

Delete: The following words from the existing paragraph.

listed below

H04R1/406

Insert: The following **new** Informative references section.

Informative references

Circuits for combining the signals of two or more microphones	H04R3/005
---	---------------------------

Special rules of classification within this group

Delete: The following words from the existing paragraph.

[H04R2410/00](#) listed below

Insert: The following replacement text.

[H04R2410/05](#)

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H04R3/00

Definition statement

Insert: The following text/paragraph under the preamble in the Definition statement section.

Circuits for transducers, e.g.:

Insert: A **bullet** before **each** of the **existing** statements in the Definition statement.

References relevant to classification in this group

Delete: The last two rows in the table (the existing 3rd and 4th rows).

Insert: The following row as a new 3rd row in the table.

Testing of transducer, loudspeaker or microphone connection for non-stereophonic purposes	H04R29/001 ; H04R29/004
---	--

Insert: The following preamble and table under the existing table.

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

Circuits for stereophonic arrangements	H04R5/04
Circuits for combining the signals of two or more microphones or loudspeakers specially adapted for hearing aids	H04R25/407
Public address systems, e.g. circuits therefor	H04R27/00
Stereophonic systems	H04S

Insert: The following **new** Informative references section.

Informative references

Driving circuits for generating mechanical vibrations of infrasonic, sonic, or ultrasonic frequency (specially	B06B1/0207
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adapted for particular applications, see the relevant subclass)	
Arrangements for producing a reverberation or echo sound	G10K15/08
Audio-frequency transformers or mutual inductances, i.e. not suitable for handling frequencies considerably beyond the audio range	H01F19/02
Amplifiers	H03F
Low frequency amplifiers, e.g. audio preamplifiers	H03F3/181
Power amplifiers using a combination of several semiconductor amplifiers	H03F3/211
Combinations of amplifiers using coupling networks with distributed constants	H03F3/602
Combinations of amplifiers, e.g. multi-channel amplifiers for stereophonics	H03F3/68
Control of amplification	H03G
Remote control of amplification, tone, or bandwidth	H03G1/02
Arrangements for preventing acoustic feedback	H04M1/20
Two-way loud-speaking telephone systems with means for conditioning the signal, e.g. for suppressing echoes for one or both directions of traffic	H04M9/08

Special rules of classification within this group

Delete: The existing paragraph in Special rules.

Insert: The following **new** paragraph.

Further detail is covered by the subgroups of Indexing Code groups [H04R2201/401](#), [H04R2201/403](#), [H04R2201/405](#), [H04R2203/12](#), [H04R2410/07](#), [H04R2420/01](#), [H04R2420/03](#), [H04R2420/05](#), [H04R2430/01](#) and [H04R2430/03](#). Classification is obligatory.

Insert: The following **new** Glossary of terms section.

Glossary of terms

Deaf aid	hearing aid, auditory prosthesis
Stereophonic system	two- or more channel system, e.g. quadraphonic, ambisonic or similar systems

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H04R3/005

References relevant to classification in this group

Delete: The existing preambles and tables in the References relevant section.

Insert: The following replacement preamble and table.

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

Circuits for combining the signals of two or more microphones to obtain desired directional characteristics specially adapted for hearing aids	H04R25/407
Circuits for combining the signals of two or more microphones, i.e. mixing, specially adapted for hearing aids	H04R25/43

Insert: The following **new** Informative references section.

Informative reference

Spatial or constructional stereophonic arrangement of microphones	H04R5/027
Combining a number of identical transducers	H04R1/40 and the subgroups of H04R2201/40
Direction-finders for determining the direction from which infrasonic, sonic, ultrasonic, not having a directional significance, are being received	G01S3/80
Systems for determining distance or velocity not using reflection or re-radiation and using ultrasonic, sonic, or infrasonic waves	G01S11/14
Circuits for sound-focusing or directing using electrical steering of transducer arrays, e.g. beam steering	G10K11/34
Speech recognition techniques specially adapted for robustness in adverse environments	G10L15/20
Combining signals of a signal microphone and a noise microphone for speech processing	G10L2021/02165
Beamforming for speech processing	G10L2021/02166
Telephonic conference arrangements	H04M3/56
Video conference systems	H04N7/15

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Special rules of classification within this group

Delete: The existing Special rules paragraph.

Insert: The following replacement paragraph.

Further detail is covered by Indexing Code groups [H04R2410/01](#), [H04R2410/05](#) and [H04R2430/20](#) and its subgroups. Classification is obligatory.

H04R3/02

Insert: The following **new** Informative references section.

Informative references

Mechanical acoustic echo cancellation for telephony	H04M 1/20
Electronic acoustic echo cancellation for telephony	H04M 9/08

H04R3/12

Insert: The following **new** Informative references section.

Informative reference

Directing sound using electrical steering of transducer arrays, e.g. beam steering	G10K11/34
--	---------------------------

Special rules of classification within this group

Delete: The existing Special rules paragraph.

Insert: The following replacement paragraph.

Further detail is covered by Indexing Code groups [H04R2203/12](#) and [H04R2430/20](#). Classification is obligatory.

H04R5/00

Definition statement

Delete: The existing paragraphs in the Definition statement.

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Insert: The following replacement paragraphs.

Spatial or constructional arrangements of loudspeakers or of electro-acoustic devices for stereophonic purposes or specific circuit arrangements therefor, e.g.

- aspects relating to docking-station type assemblies to obtain an acoustical effect,
- positioning of loudspeakers for spatial sound reproduction,
- plurality of transducers corresponding to a plurality of sound channels in each earpiece of headphones or in a single enclosure,
- single (sub)woofer with two or more satellite loudspeakers for higher frequency band reproduction driven via the (sub)woofer,
- sound field microphones, or
- dummy heads

References relevant to classification in this group

Delete: The text in the first column/first row.

Insert: The following replacement text in the first column/first row.

Stereophonic pick-ups, i.e. wherein signals are recorded or played back by vibration of a stylus in two orthogonal directions simultaneously

H04R5/02

Insert: The following **new** Informative references section.

Informative reference

Mounting radio sets or communication systems in helmets	A42B3/30
Mounting of acoustic transducers in vehicles	B60R11/0217 B60R11/0247

Special rules of classification within this group

Delete: The existing text in the Special rules section.

Insert: The following replacement text.

Further detail is covered by Indexing Code groups [H04R2205/021](#), [H04R2205/022](#), [H04R2205/024](#) and [H04R2205/026](#). Classification is obligatory.

H04R5/027

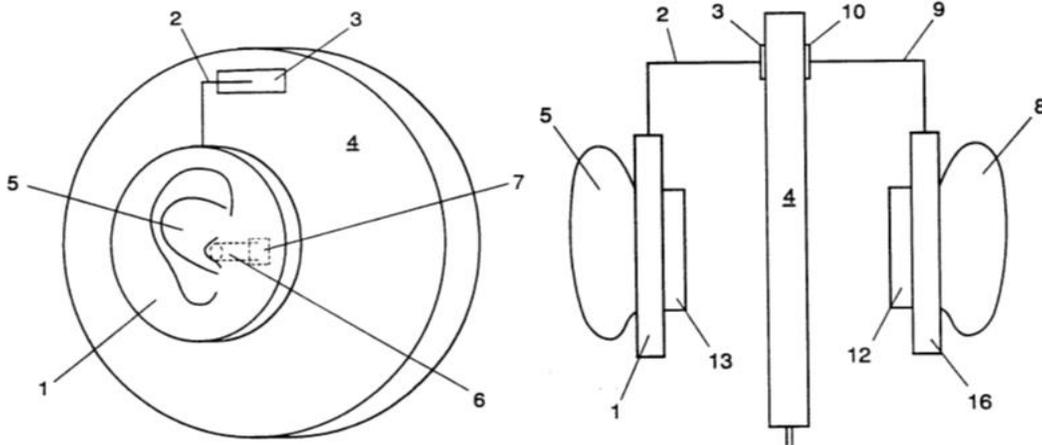
Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and images.

Spatial or constructional arrangements of microphones or microphone transducers for stereophonic sound capture.

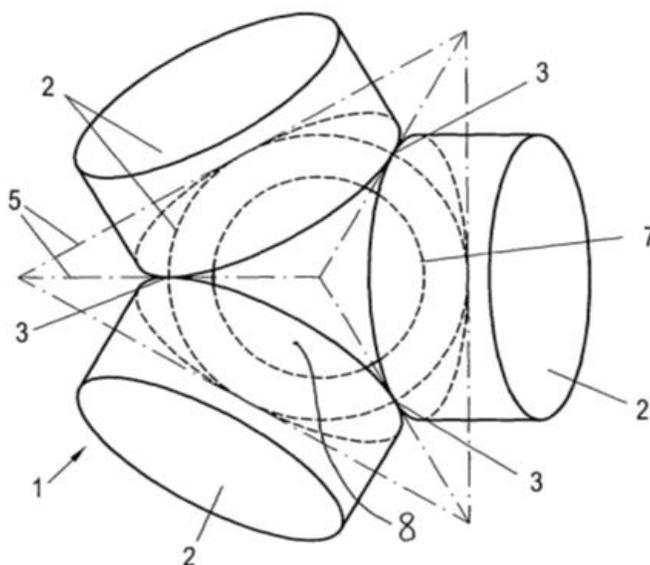
For example (dummy head):



For example (sound field microphone):

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Insert: The following **new** Informative references section.

Informative references

Arrangements for obtaining desired frequency or directional characteristics by combining a number of identical transducers {microphones}	H04R1/406
Circuits for combining the signals of two or more microphones for non-stereophonic purposes	H04R3/005
Hearing aid circuits for combining signals of transducers	H04R25/407
Binaural hearing aids	H04R25/552
Details of transducer arrays	H04R2201/40

H04R5/033

Definition statement

Delete: The entire Definition statement section.

References relevant to classification in this group

Insert: The following row as the **new first** row in the References relevant section.

Transceivers carried on the body, e.g. in helmets	H04B1/385
---	---------------------------

Special rules of classification within this group

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Delete: The entire paragraph in the Special rules section.

Insert: The following new paragraphs.

- Concerning inventions relating to hearing devices, if an application describes and shows the invention using only embodiments relating to ear- or headphones then [H04R1/10](#) or subgroups or [H04R5/033](#) or subgroups should be given as invention information. Dependent on the case, the mere statement that the invention is also applicable to hearing aids may render classification under [H04R25/00](#) useful, but only as additional information. Only if specific non-trivial embodiments for hearing aids are also shown, classification under [H04R25/00](#) as invention information may be considered as well.
- Further detail is covered by the subgroups of Indexing Code groups [H04R2201/103](#), [H04R2201/105](#), [H04R2420/09](#) and [H04R2460/03](#). Classification is obligatory.

H04R5/04

References relevant to classification in this group

Delete: The first row.

Insert: The following preamble and table.

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

Circuits or components specially adapted for stereophonic broadcast systems	H04H20/47
Broadcast systems for the distribution of stereophonic information	H04H20/88
Circuits or components specially adapted for stereophonic broadcast receiving	H04H40/36

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Insert: The following **new** Informative references section.

Informative references

Amplifiers	H03F
Low frequency amplifiers, e.g. audio preamplifiers	H03F3/181
Power amplifiers using a combination of several semiconductor amplifiers	H03F3/211
Combinations of amplifiers using coupling networks with distributed constants	H03F3/602
Combinations of amplifiers, e.g. multi-channel amplifiers for stereophonics	H03F3/68
Control of amplification	H03G
Remote control of amplification, tone, or bandwidth	H03G1/02
Transmission systems for stereophonic reception	H04B1/1646
Powerline communication in general	H04B3/54
Audio/video applications of powerline communications	H04B2203/545
Testing of transducer, loudspeaker or microphone connection for non-stereophonic purposes	H04R29/001; H04R29/004

Special rules of classification within this group

Delete: The entire paragraph in the Special rules section.

Insert: The following replacement paragraph.

Further detail is covered by Indexing Code groups [H04R2205/041](#), subgroups of [H04R2420/00](#), and [H04R2430/01](#). Classification is obligatory.

H04R7/00

Definition statement

Delete: The two existing statements in the Definition statement section.

Insert: The following three replacement statements.

- Diaphragms for electromechanical transducers.
- Cones
- Mountings thereof, e.g. outer suspension.

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References Relevant

Delete: The entire References relevant section.

Informative references

Delete: The existing Informative references table.

Insert: The following replacement table.

MEMS structures allowing for movement	B81B2203/01
Type of movement	B81B2203/05
Diaphragms in general	F16J3/00
Pressure measurement / constructional details associated with semiconductive diaphragm sensors, e.g. etching of diaphragms	G01L9/0042
Cones, diaphragms or the like, for emitting or receiving sound in general	G10K13/00
Apparatus or processes specially adapted for the manufacture of diaphragms or surrounds for transducers	H04R31/003

H04R7/02

Special rules of classification within this group

Delete: The paragraph in the Special rules section.

Insert: The following replacement paragraph.

Further detail is covered by Indexing Code groups [H04R2207/021](#), [H04R2231/001](#), [H04R2231/003](#) and [H04R2307/021](#) - [H04R2307/029](#).
Classification is obligatory.

H04R7/04

Insert: The following new Informative references section.

Informative references

In vehicles	B60R11/0217
Projection screens allowing free passage of sound	G03B21/565

Special rules of classification within this group

Delete: The paragraph in the Special rules section.

Insert: The following replacement paragraph.

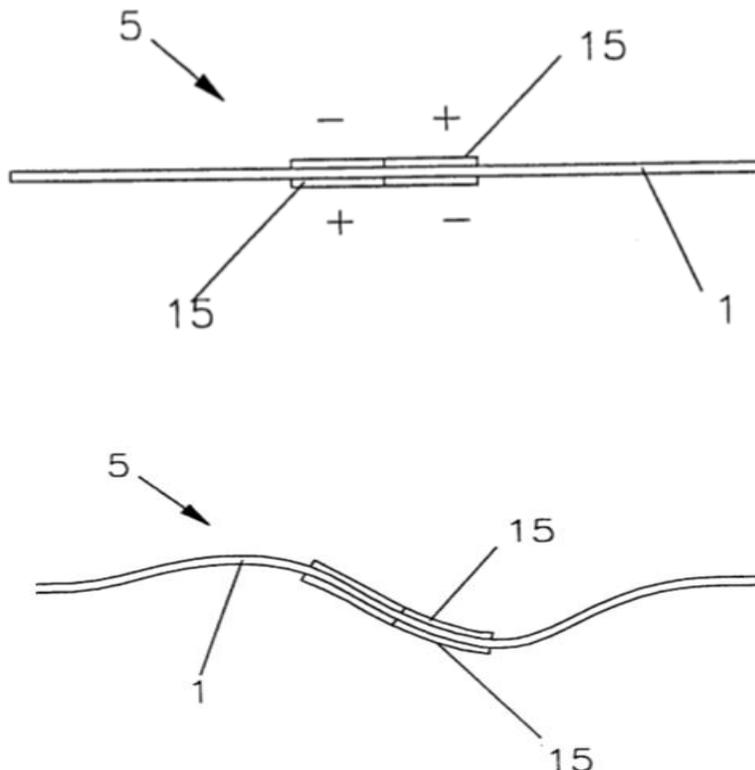
Further detail is covered by Indexing Code groups [H04R2440/01](#) and [H04R2440/07](#). Classification is obligatory.

H04R7/045

Insert: The following **new** Definition statement section.

Definition statement

For example: Upon excitation of diaphragm 1 by piezoelectric exciter 15 the diaphragm generating bending wave in itself and eventually produces sound by resonating.



Insert: The following **new** Informative references section.

Informative references

Touch screens using propagation of acoustic waves	G06F3/043
Using non-resonant travelling waves	H04R2440/01

Special rules of classification within this group

Delete: The paragraph in the Special rules section.

Insert: The following replacement paragraph.

Further detail is covered by Indexing Code groups [H04R2440/03](#) and [H04R2440/05](#). Classification is obligatory.

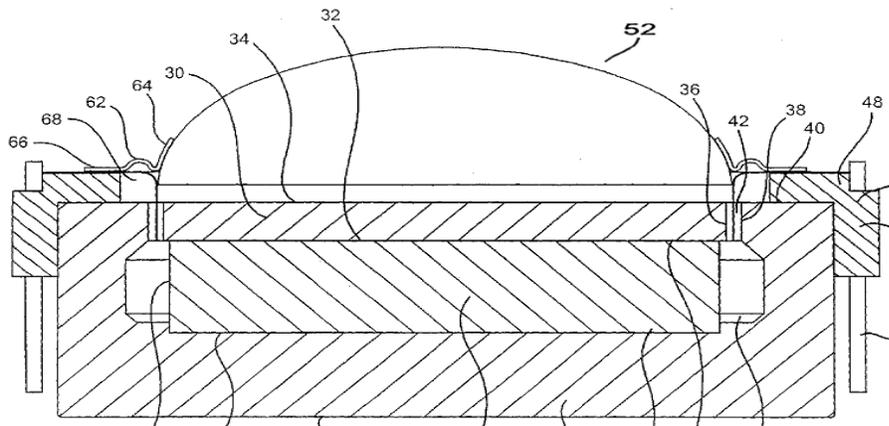
H04R7/127

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

For example: (dome 52).



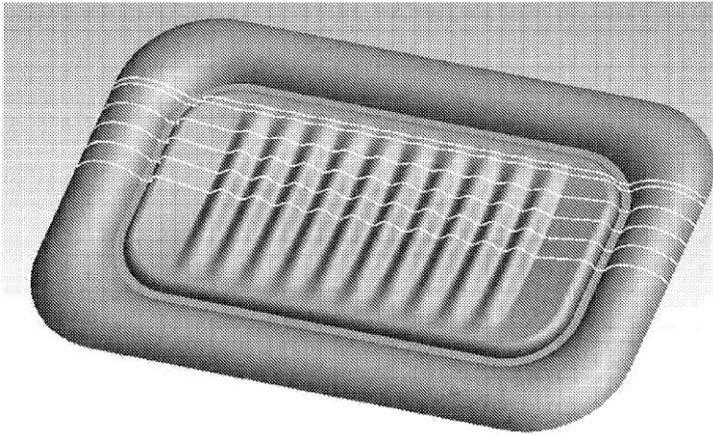
H04R7/14

Definition statement

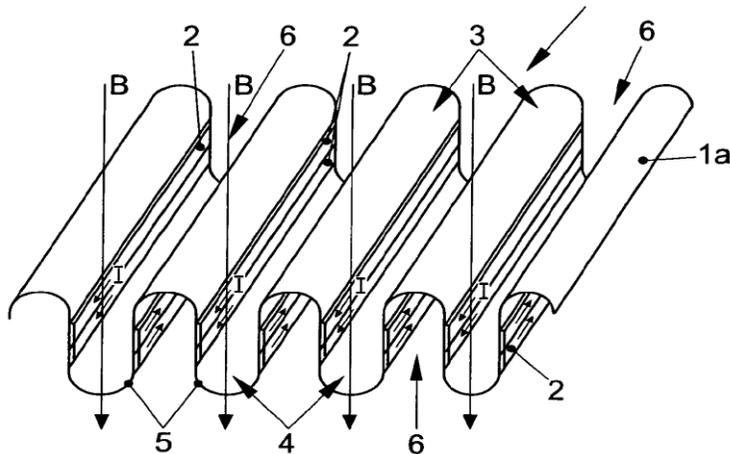
Delete: The existing text in the Definition statement section.

Insert: The following replacement text and images.

For example: ribs to provide rigidity to the central part of the loudspeaker diaphragm



For example: air motion transformer (AMT) with a meander shaped diaphragm and air pockets (6). Upon energising the transformer (current through conductors 2) and due to the magnetic field perpendicular to the current, the air in the pockets is pushed out or pulled in, thus producing sound.

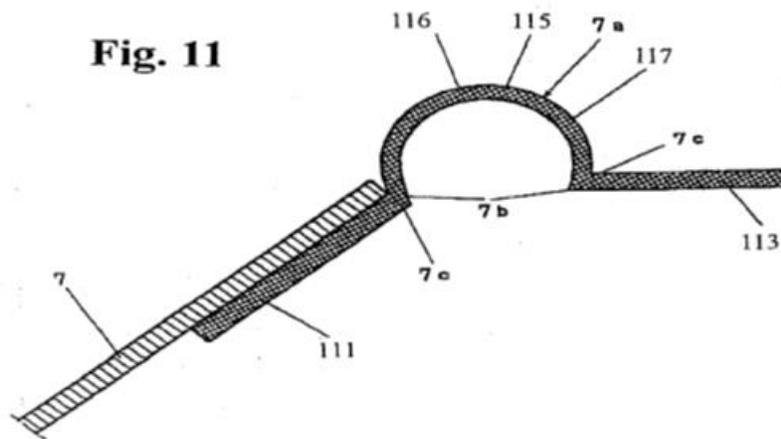


H04R7/20

Insert: The following **new** Definition statement section (text and image).

Definition statement

For example:



Special rules of classification within this group

Delete: The existing text in the Special rules section.

Insert: The following replacement text.

Further detail is covered by Indexing Code groups [H04R2231/001](#), [H04R2231/003](#), [H04R2307/201](#) - [H04R2307/207](#). Classification is obligatory.

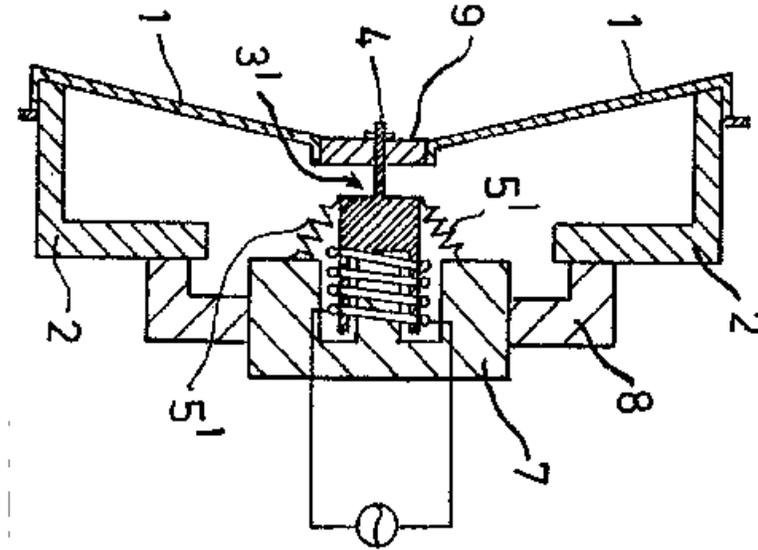
H04R7/24

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

For example: tensioning by springs 5'



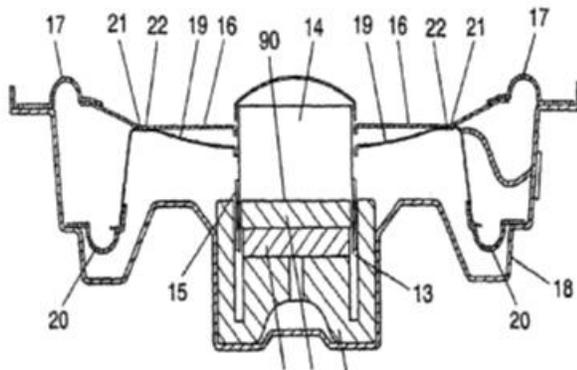
H04R7/26

Definition statement

Delete: The existing text in the Definition statement section.

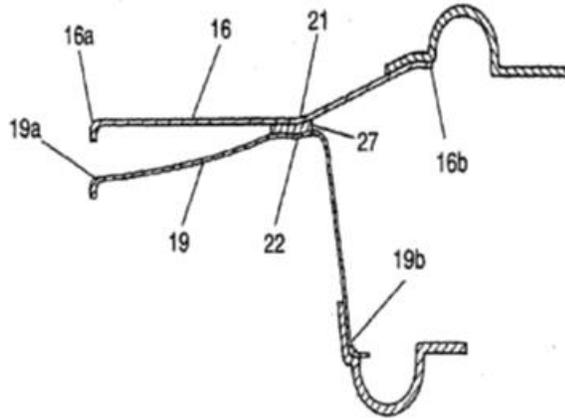
Insert: The following replacement text and images.

For example: damping by elastic material 27

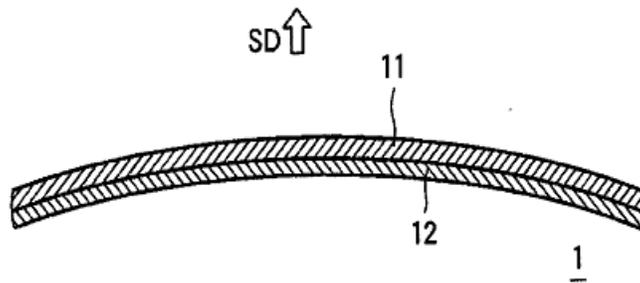


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For example: sound producing diaphragm provided with a damping layer (12) to dampen vibration in the diaphragm



Informative references

Delete: The existing table in the Informative references section.

Insert: The following replacement table

Transducer mountings or enclosures providing mechanical or acoustic impedances by air damping	H04R1/28
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H04R9/00

Insert: The following **new** Definition statement section.

Definition statement

Transducers of moving-coil, moving-strip, or moving-wire type, e.g.

- general constructional aspects thereof
- cooling aspects;
- constructional aspects of the magnetic circuit, e.g. to reduce eddy currents or stray flux;
- aspects of the voice coil, i.e. mounting, construction or centring thereof

Insert: The following **new** Informative references section.

Informative references

Generating mechanical vibrations of infrasonic, sonic, or ultrasonic frequency operating with electromagnetism, e.g. using vibrating magnet, armature or coil system	B06B1/045
Dynamo-electric motors with vibrating magnet, armature or coil system	H02K33/00

Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

Insert: The following replacement text.

Further detail is covered by Indexing Code group [H04R2201/003](#) and the subgroups of Indexing Code group [H04R2440/00](#). Classification is obligatory.

H04R9/02

Definition statement

Insert: A **bullet** before **each** of the sentences in the Definitions statement section.

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Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

Insert: The following replacement paragraph.

Further detail is covered by Indexing Code groups [H04R2209/021](#) - [H04R2209/027](#) and the subgroups of Indexing Code group [H04R2400/00](#). Classification is obligatory.

H04R9/04

Special rules of classification within this group

Delete: The following text in the Special rules paragraph.

[H04R2209/00](#) and [H04R2400/00](#)

Insert: The following replacement text.

[H04R2209/041](#) and [H04R2209/043](#)

H04R9/06

Definition statement

Insert: A **bullet** before **each** of the sentences in the Definition statement section.

Insert: The following **new** Informative references section.

Informative references

Telephone receivers	H04R9/10
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Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

Insert: The following replacement paragraph.

Further detail is covered by Indexing Code group and by [H04R2400/13](#).
Classification is obligatory.

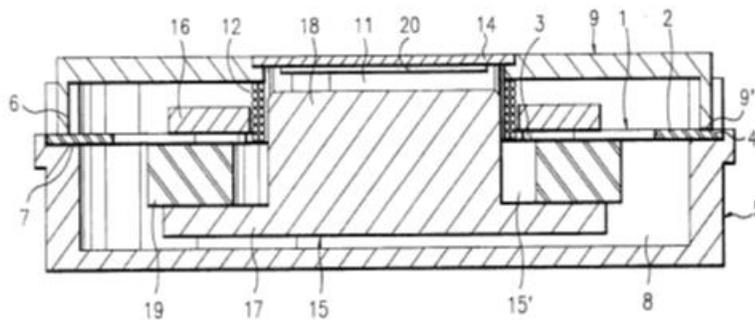
H04R9/066

Definition statement

Delete: The **second** statement (For example: ...) in the Definition section.

Insert: The following replacement text and two images.

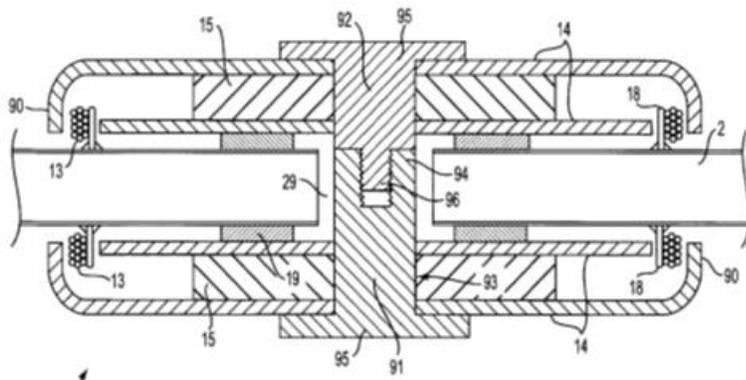
For example: (body sensed speaker, that can be placed in e.g. waistcoats, cushions, matrasses, belts



For example: (exciter for distributed mode loudspeakers (DML)

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Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

Insert: The following replacement paragraph.

Further detail is covered by Indexing Code group [H04R2400/07](#).
Classification is obligatory.

H04R11/00

References relevant to classification within this group

Delete: The existing paragraph in the References relevant section.

Informative references

Delete: The existing table in the Informative references section.

Insert: The following replacement table.

Generating mechanical vibrations of infrasonic, sonic, or ultrasonic frequency operating with electromagnetism, e.g. using vibrating magnet, armature or coil system	B06B1/045
Dynamo-electric motors with vibrating magnet, armature or coil system	H02K33/00
Transducers of moving-coil, moving-strip, or moving-wire type	H04R9/00

Loudspeaker transducers using the principle of inertia	H04R9/066
Acoustic diaphragm of magnetisable material directly co-acting with electromagnet	H04R13/00

Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

Insert: The following replacement paragraph.

Further detail is covered by the subgroups of Indexing Code groups [H04R2400/01](#), [H04R2400/03](#), and [H04R2440/01 - H04R2440/07](#).

H04R11/02

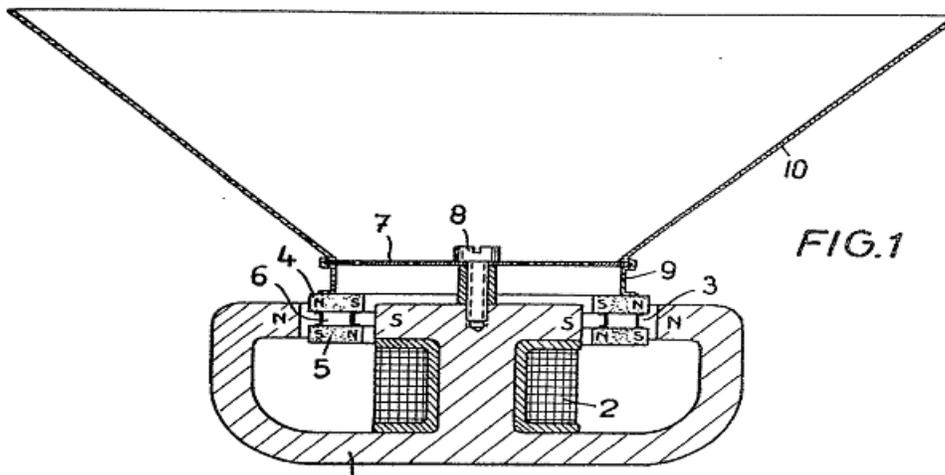
Definition statement

Delete: The existing text in the Definitions statement section.

Insert: The following replacement text and three images.

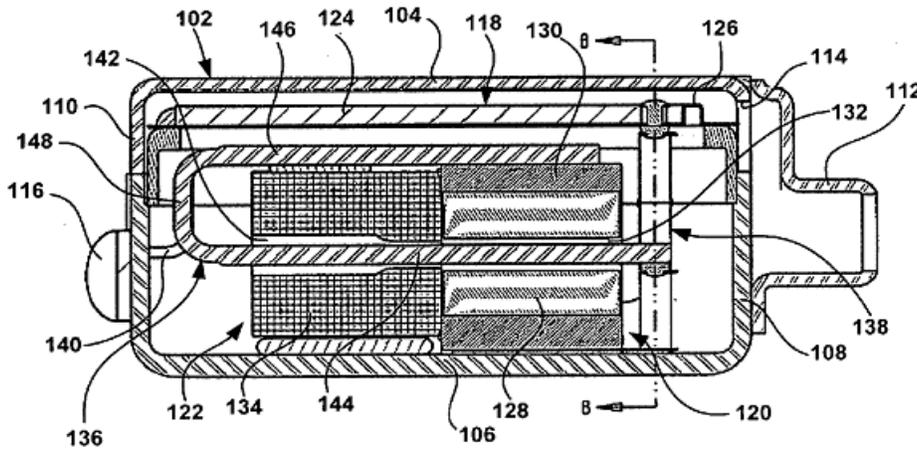
For example:

The voice coil (2) is static. Upon energising the magnets (4-6) move.

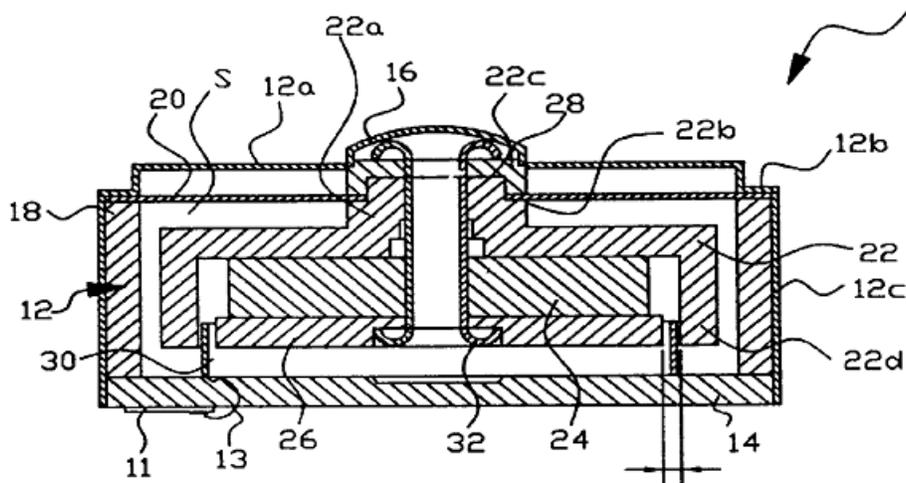


Example of a hearing aid receiver:

Armature 136 has a fixed (146) and a movable arm (144). When coil 134 is energised, movable arm 144 moves and drives membrane (118) via a linkage 138, thus producing sound.



Example of a bone conduction speaker:



Voice coil 30 is mounted directly to base plate 14 which is part of the transducer frame. The magnetic circuit (yoke 22, magnet 24, base plate 26) is movably attached to the frame 12 via damper 20, such that upon energising the voice coil the armature moves.

Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

Insert: The following replacement paragraph.

Further detail is covered by Indexing Code group [H04R2400/07](#) and [H04R2400/11](#). Classification is obligatory.

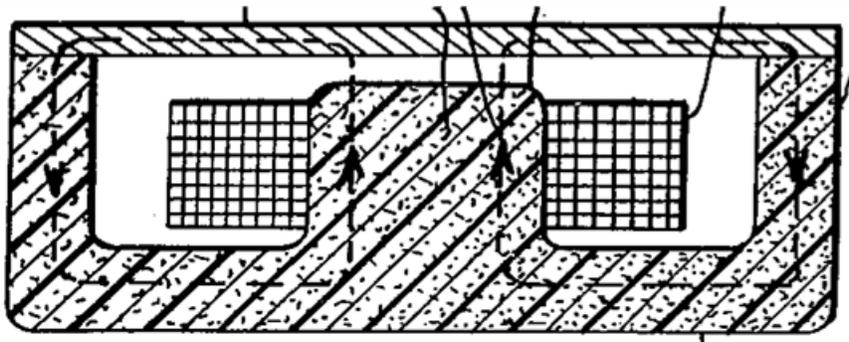
H04R13/00

Definition Statement

Insert: The following new text and image in the Definitions statement section.

Transducers for loudspeakers or microphones, in which the membrane is part of the magnetic circuit.

For example:



Special rules of classification within this group

Delete: The following symbol in the Special rules section.

H04R2400/00

Insert: The following replacement symbol.

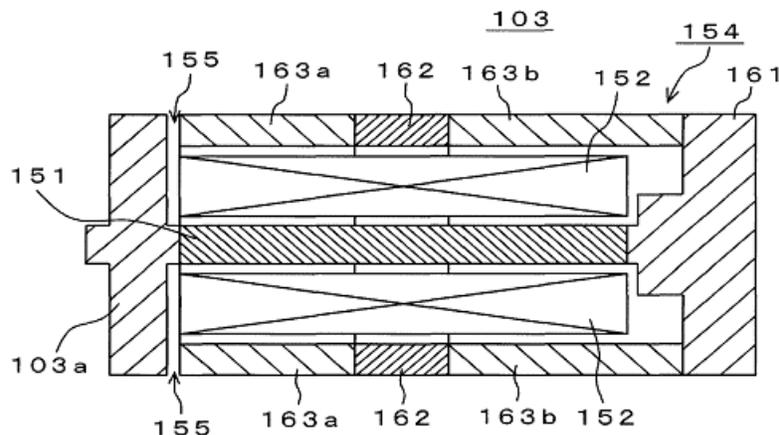
H04R2400/11

H04R15/00

Insert: The following **new** Definition statement section.

Definition Statement

In the example shown in the figure below a configuration of the magnetostrictive actuator 103 is presented. The magnetostrictive actuator 103 has a rod-like magnetostrictive element 151 that is displaced along its extension direction, a solenoid coil 152 for generating a magnetic field, which is positioned around this magnetostrictive element 151, a driving rod 103a as driving member, which is connected to an end of the magnetostrictive element 151 and transmits any displacement output of the magnetostrictive actuator 103, and a container 154 that contains the magnetostrictive element 151 and the solenoid coil 152 therein.



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Informative references

Insert: The following **new** two rows **under** the existing row.

Details of magnetostrictive devices	H01L41/06
Materials; Manufacture of magnetostrictive devices	H01L41/12 H01L41/20.

Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

Insert: The following replacement paragraph.

Further detail is covered by Indexing Code group [H04R2201/003](#), [H04R2217/01](#), [H04R2400/03](#) and [H04R2400/11](#). Classification is obligatory.

H04R17/00

Informative references

Insert: Under the existing last row in the table, the following four rows in the table.

Details of piezo-electric or electrostrictive devices	H01L41/04; H01L41/08
Selection of materials for piezo-electric or electrostrictive devices	H01L41/16
Manufacture of piezo-electric or electrostrictive devices	H01L41/22
Details of piezo-electric or electrostrictive motors, generators or positioners	H02N2/00

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Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

Insert: The following replacement paragraph.

Further detail is covered by Indexing Code group [H04R2201/003](#), [H04R2217/01](#), [H04R2400/03](#), [H04R2400/11](#) and the subgroups of Indexing Code group [H04R2440/00](#). Classification is obligatory.

H04R17/02

Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

Insert: The following replacement paragraph.

Further detail is covered by Indexing Code group [H04R2410/03](#). Classification is obligatory.

H04R19/00

Insert: The following new Informative references section.

Informative references

Generating mechanical vibrations of infrasonic, sonic, or ultrasonic frequency using electrostatic transducers, e.g. electret-type	B06B1/0292
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Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

Insert: The following replacement paragraph.

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Further detail is covered by Indexing Code groups [H04R2400/11](#) and [H04R2410/03](#). Classification is obligatory.

H04R23/00

References relevant to classification in this group

Delete: The existing preamble in the References relevant section.

Insert: The following replacement preamble.

Places in relation to which this subgroup is residual:

H04R25/00

Definition Statement

Insert: A **bullet** – in front of each of the six statements that follow this sentence: “Electrical or mechanical aspects thereof, e.g.”

Delete: Under the word “WARNING” the following words:

Concordance ECLA

Insert: The following replacement words:

Concordance CPC

Informative references

Delete: The existing Informative references table.

Insert: The following replacement table.

Ornaments for ears	A44C7/00
Earphones measuring physiological sounds, e.g. heartrate, breathing, pulse	A61B5/02

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Non-electric hearing aids	A61F11/008
Replacing direct auditory perception by another kind of perception	A61F11/04
Structural combination of hearing aids with spectacle frames	G02C11/06
Teaching or communicating with deaf persons	G09B21/009
Directing sound using electrical steering of transducer arrays, e.g. beam steering	G10K11/34
Coding or decoding of speech or audio signal, using source filter models or psychoacoustic analysis	G10L19/00
Processing of speech signals	G10L21/00
Automatic gain control in audio amplifiers	H03G3/3005
Telephone sets for the hearing impaired	H04M1/2475
Mobile telephones for the hearing impaired	H04M1/72591
Constructions of transducers per se	H04R9/00 - H04R23/00
Amplifying systems for the deaf	H04R27/02
Monitoring arrangements; Testing arrangements in general	H04R29/00

Special rules of classification within this group

Delete: The two paragraphs in Special rules.

Insert: The following three replacement paragraphs.

- Classification should be directed to groups, [H04R25/02](#), [H04R25/04](#) and [H04R25/50](#) and its subgroups, if and only if the technical subject in consideration cannot be classified elsewhere under this main group.
- Concerning inventions relating to hearing devices, if an application describes and shows the invention using only embodiments relating to hearing aids then [H04R25/00](#) or subgroups should be given as invention information. Dependent on the case, the mere statement that the invention is also applicable to ear- or headphones may render classification under [H04R1/10](#) or [H04R5/033](#) useful, but only as additional information. Only if specific non-trivial embodiments for ear- or headphones are also shown, classification under [H04R1/10](#) or [H04R5/033](#) as invention information may be considered as well.
- Further detail is covered by Indexing Code groups [H04R2225/31](#), [H04R2225/33](#), [H04R2410/07](#), [H04R2430/03](#), [H04R2460/03](#), [H04R2460/13](#) and [H04R2460/17](#). Classification is obligatory.

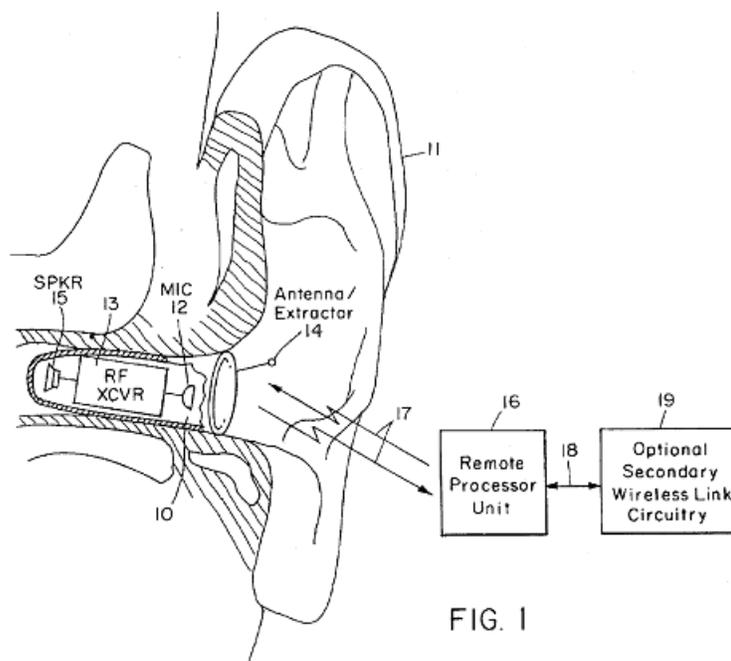
H04R25/04

Definition statement

Delete: The existing text in the Definition statement.

Insert: The following text and image.

The signal processing is done external to the hearing aid part that is in the ear (as for example shown in the figure)



H04R25/30

Insert: The following new Definition statement section.

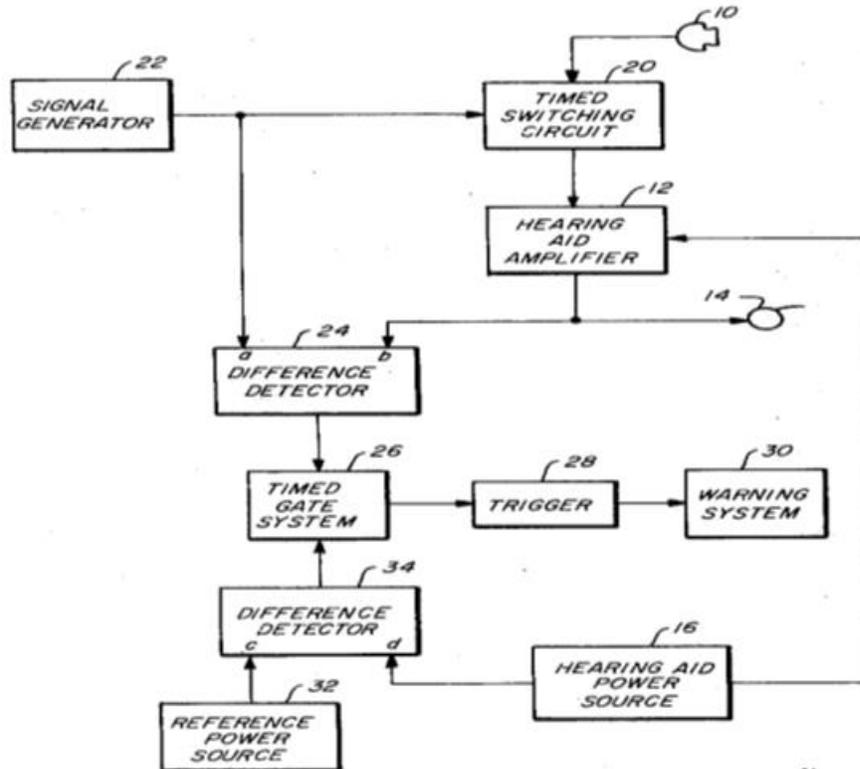
Definition statement

For example testing of the functioning of an amplifier in a hearing aid (see figure). Switching circuit 20 measures a time period T , and interrupts the signal from the microphone 10 once every such period T . The interruption,

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or test time interval, lasts for another measured time segment t where t is less than T . During the interruption, the switching circuit 20 transmits the signal from the signal generator 22 to the hearing aid amplifier 12 to act as a test signal. Difference detector 24 detects malfunction of the amplifier. Difference detector 34 low battery status.



Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

Insert: The following replacement paragraph.

Further detail is covered by Indexing Code group [H04R2460/15](#).
Classification is obligatory.

Insert: The following new **Glossary of terms** section.

Glossary of terms

Monitoring	also encompasses indicating
------------	-----------------------------

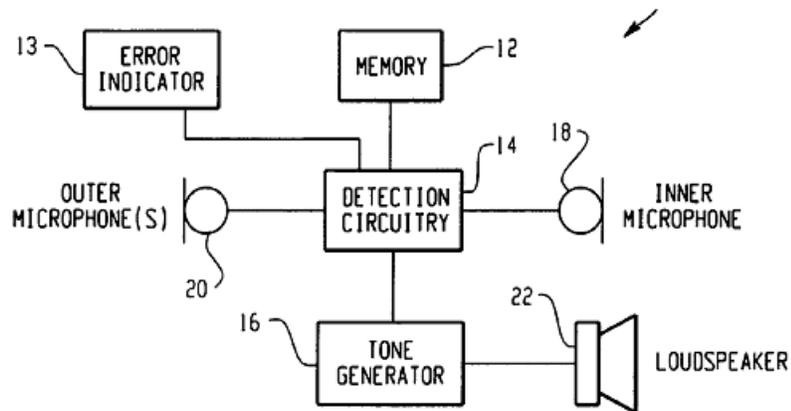
H04R25/305

Definition statement

Delete: The existing text in the Definition statement.

Insert: The following text and image.

Example of a self-diagnosis system with which the transducers and other component can be checked, see figure.



Special rules of classification within this group

Delete: The existing text in the Special rules section.

Insert: The following replacement text.

Further detail is covered by Indexing Code subgroup [H04R2225/39](#).
Classification is obligatory.

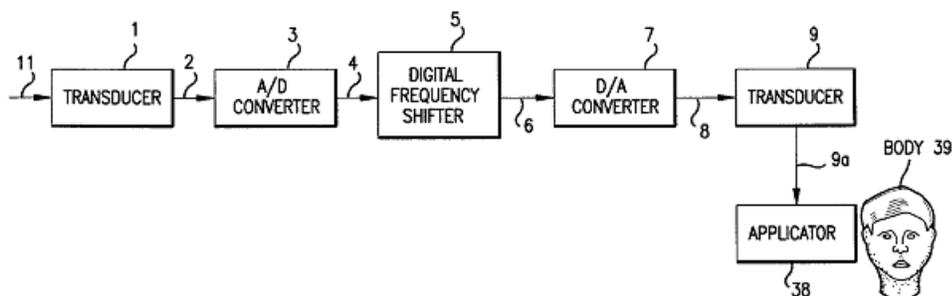
H04R25/353

Definition statement

Delete: The existing text in the Definition statement.

Insert: The following text and image.

For example:



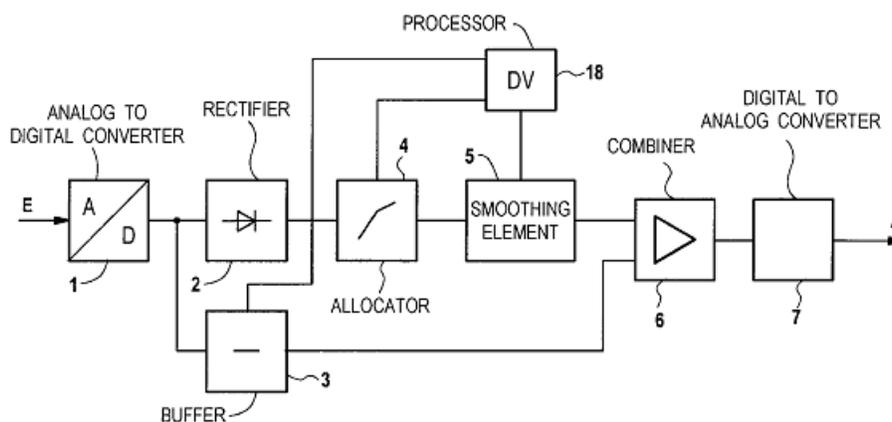
H04R25/356

Definition statement

Delete: The existing text in the Definition statement.

Insert: The following text and image.

For example:



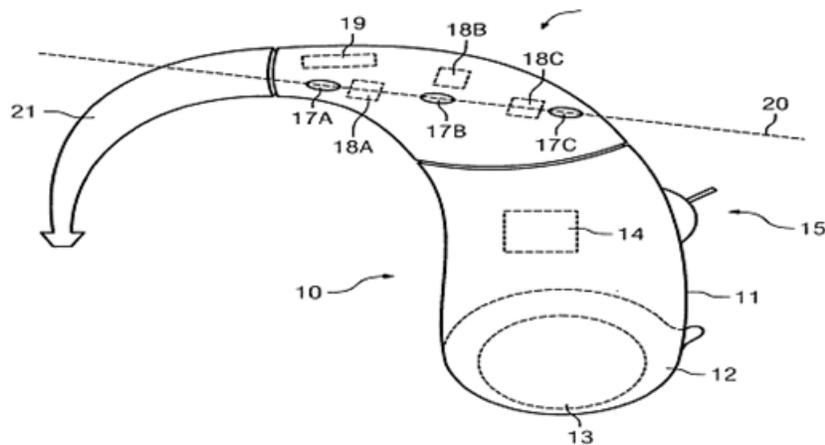
H04R25/405

Definition statement

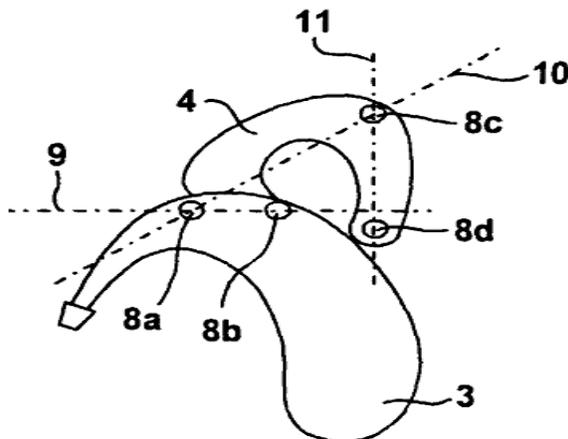
Delete: The second paragraph in the Definition statement.

Insert: The following text and two images.

For example microphone openings (17A-17C) arranged along a straight line (see figure):



For example microphones (8a,8b) mounted in a BTE housing and additional microphones (8c, 8d) mounted in a lever (4) which can be swung away from the housing to adapt the directivity of the hearing aid.



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Special rules of classification within this group

Delete: The second paragraph in the Special rules section.

Insert: The following replacement paragraph.

Further detail is covered by Indexing Code group [H04R2410/01](#).
Classification is obligatory.

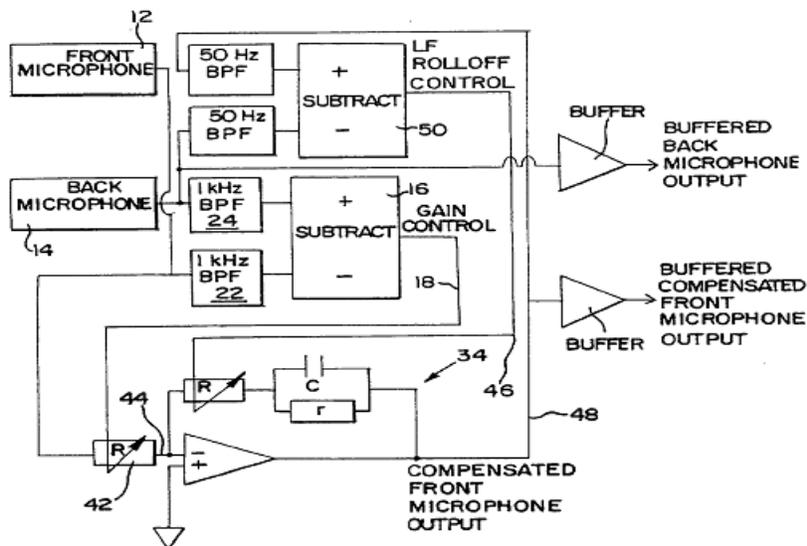
H04R25/407

Definition statement

Delete: The sentence in the Definition statement section.

Insert: The following text and image.

For example:



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Informative references

Delete: The entire table in the Informative references section.

Insert: The following replacement table.

Direction-finders for determining the direction from which infrasonic, sonic, ultrasonic, not having a directional significance, are being received	G01S3/80
Systems for determining distance or velocity not using reflection or re-radiation and using ultrasonic, sonic, or infrasonic waves	G01S11/14
Circuits for sound-focusing or directing using electrical steering of transducer arrays, e.g. beam steering	G10K11/34
Speech recognition techniques specially adapted for robustness in adverse environments	G10L15/20
Speech enhancement using two microphones, one receiving mainly the noise signal and the other one mainly the speech signal	G10L2021/02165
Speech enhancement using microphone arrays or beamforming	G10L2021/02166
Telephonic conference arrangements	H04M3/56
Video conference systems	H04N7/15
Circuits for combining signals of a plurality of acoustic transducers in general	H04R3/005 ; H04R3/12

Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

Insert: The following replacement paragraph.

Further detail is covered by Indexing Code groups [H04R2410/01](#) and [H04R2430/20](#) listed below. Classification is obligatory.

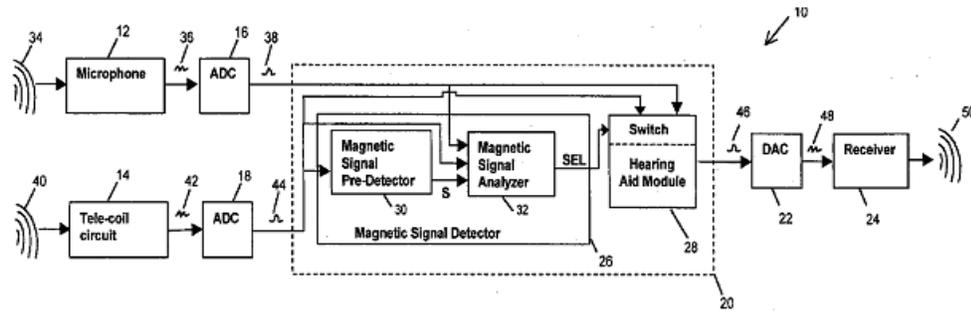
[H04R25/43](#)

Definition statement

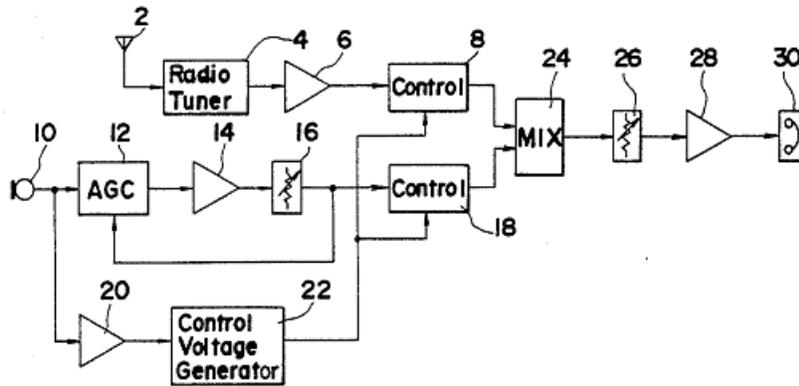
Delete: The text in the Definition statement section.

Insert: The following text and two images.

Example for input selection:



Example for mixing:



H04R25/50

Informative references

Delete: The entire table in the Informative references section.

Special rules of classification within this group

Delete: The existing paragraphs in the Special rules section.

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Insert: The following three paragraphs.

- Classification should be directed to this group and its subgroups, if and only if the technical subject in consideration cannot be classified elsewhere under this main group
- Inventions relating to the interaction of analogue and digital signal processing are to be classified here in combination with both [H04R25/502](#) and [H04R25/505](#) as additional information.
- Further detail is covered by Indexing Code subgroups [H04R2225/41](#), [H04R2225/49](#), [H04R2460/01](#), [H04R2460/05](#), [H04S2420/01](#) and [H04S2420/05](#). Classification is obligatory.

H04R25/55

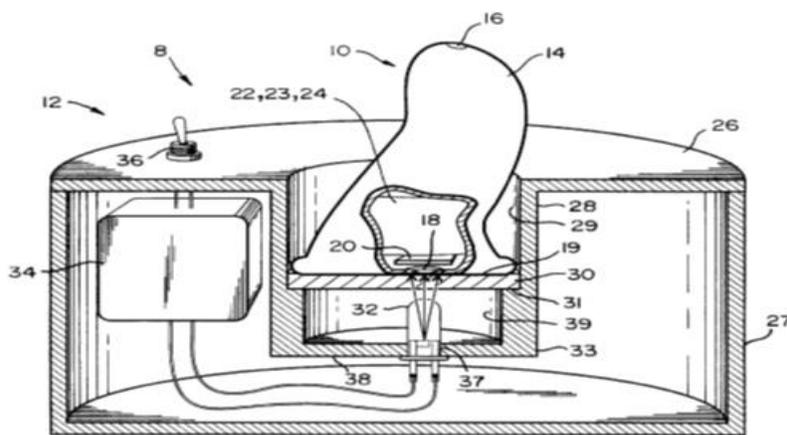
Definition statement

Delete: The text in the Definition statement section.

Insert: The following text and image.

External connection for the purpose of data exchange between hearing aids, e.g. binaural hearing aids, or between hearing aid and external device, e.g. telecoil, remote control, or for charging of batteries in hearing aids

Example for wirelessly charging accumulators in a hearing aid (see figure)



Special rules of classification within this group

Delete: The existing paragraphs in the Special rules section.

Insert: The following two paragraphs.

- If battery charging is wireless only [H04R25/55](#) is to be given in combination with [H04R2225/31](#). If however charging is wired [H04R25/556](#) (as additional information) is to be added as well.
- Further detail is covered by subgroups [H04R2225/51](#), [H04R2225/53](#), [H04R2225/55](#) and [H04R2460/07](#). Classification is obligatory.

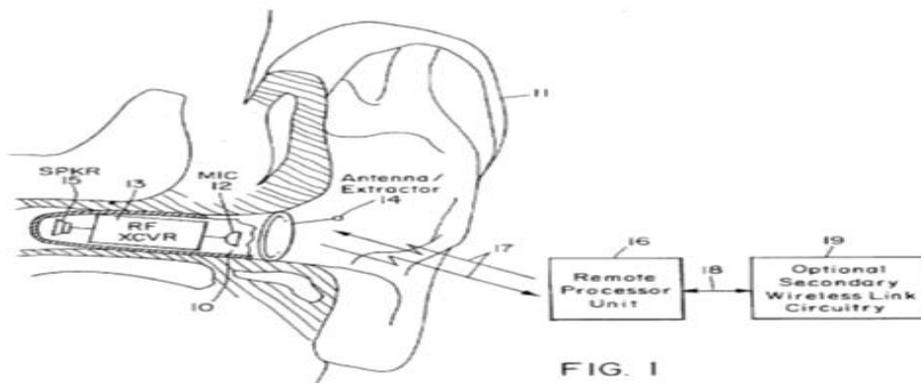
H04R25/554

Definition statement

Delete: The text in the Definition statement section.

Insert: The following text and image.

Electric hearing aids using wireless connection for the transmission audio representative data, e.g. T-coils, FM receivers (see e.g. the figure below)



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Informative references

Delete: The Informative references table.

Insert: The following replacement table.

Near field transmission in general	H04B5/00
Transmission systems in which the medium consists of the human body	H04B13/005
Non-intrusive coupling means between telephone set and auxiliary equipment	H04M1/215
Wireless connection in general	H04R2420/07

Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

Insert: The following replacement paragraph.

Binaural hearing aids (invention) are not to be classified in this group but in [H04R25/552](#). No classification in [H04R25/554](#) (as invention of additional information) is in principle needed.

H04R25/556

Definition statement

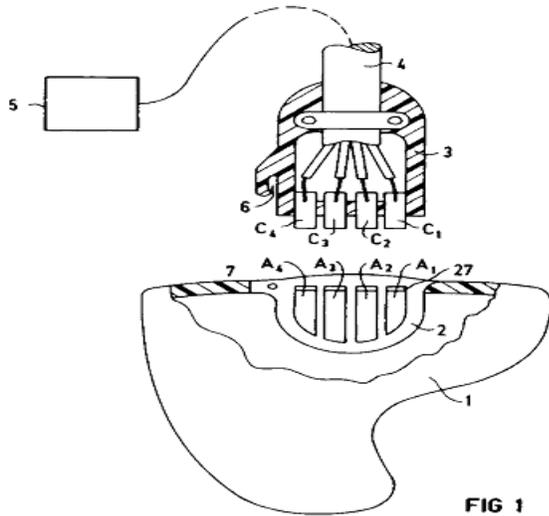
Delete: The text in the Definition statement section.

Insert: The following text and two images.

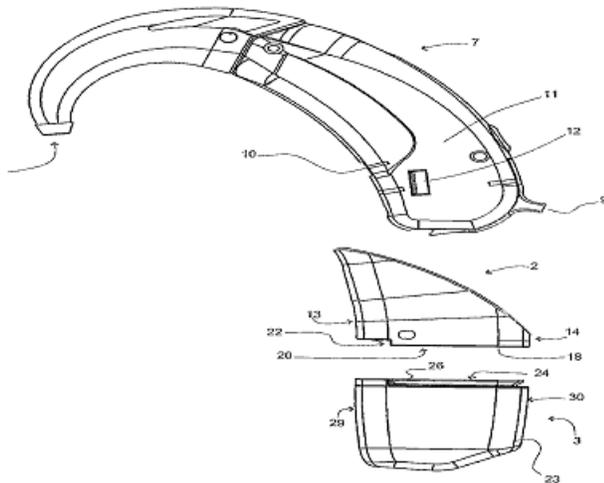
Example for an ITE hearing aid connected to a programmer (5):

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Example for a BTE hearing aid additionally provided with an FM receiver (3):



H04R25/558

Informative references

Delete: The existing Informative references table.

Insert: The following replacement table.

Telemetry systems for implants such as pace makers or cochlear implants	A61N1/37211
Input or output devices integrated in time-pieces	G04G21/00
Audio-frequency transformers or mutual inductances, i.e. not suitable for handling frequencies considerably beyond the audio range	H01F19/02
Indicators for indicating switching condition	H01H9/16
Remote control of amplification, tone, or bandwidth	H03G1/02
Combined remote-control of tuning and other functions, e.g. brightness, amplification	H03J9/00
remote control, e.g. for HiFi systems or audio/video combinations	H04B1/20

H04R25/60

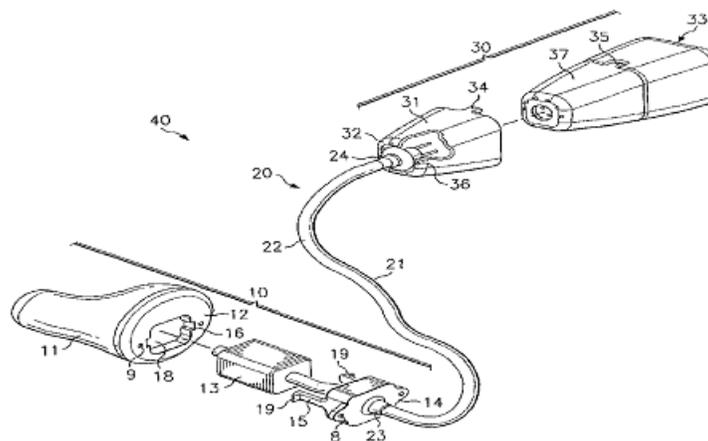
Definition statement

Delete: The existing text in the Definitions statement section.

Insert: The following text and image.

Arrangements for mounting or interconnection of hearing aid parts.

Example: Details of mounting of ear tip (11) via tube (21 to BTE housing (30):



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Insert: The following **new** References relevant section.

References relevant to classification in this subclass/group

Ear wax retarders, e.g. their mounting	H04R25/654
--	----------------------------

Special rules of classification within this group

Delete: The existing paragraphs in the Special rules section.

Insert: The following replacement paragraph.

Further detail is covered by Indexing Code subgroups [H04R2225/49](#), [H04R2225/59](#), [H04R2225/61](#), [H04R2225/63](#) and [H04R2225/67](#).
Classification is obligatory.

Insert: The following **new** **Glossary of terms** section.

Glossary of terms

Interconnection	covers both mechanical as well as electrical interconnection
-----------------	--

H04R25/602

Insert: The following **new** Definition statement section

Definition statement

Arrangements for mounting or interconnection of batteries in hearing aids

H04R25/606

Insert: The following **new** Definition statement section.

Definition statement

Mounting or interconnection aspects of implantable hearing aid transducers

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Informative references

Delete: The existing table in the Informative references section.

Insert: The following replacement table.

Electrode placement of cochlear implants	A61N1/0541
Controlling aspects of cochlear implants	A61N1/36032
Electrical supply for implants	A61N1/378
Earphones or headphones using bone-conduction transducers	H04R1/10 H04R5/033
Constructions of transducers per se	H04R9/00 - H04R23/00
Implantable hearing aids or parts thereof	H04R2225/67

H04R25/608**Definition statement**

Delete: The existing Definition statement section.

Insert: The following new Special rules section.

Special rules of classification within this group

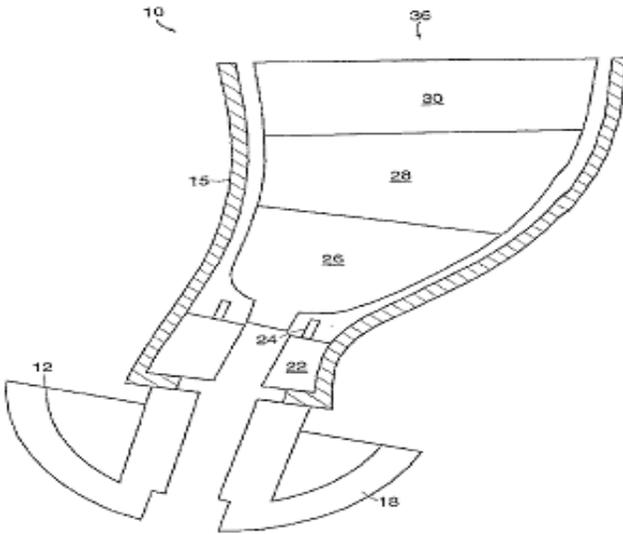
This group is no longer used for classification, its content is transferred to [H04R25/60](#).

H04R25/65**Definition statement**

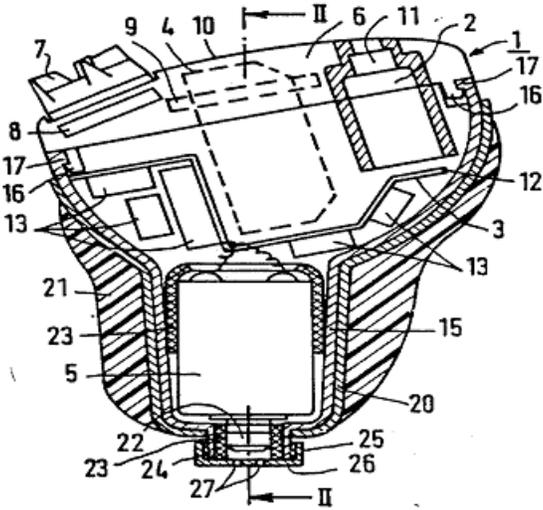
Delete: The existing text in the Definition statement section.

Insert: The following new text and three images.

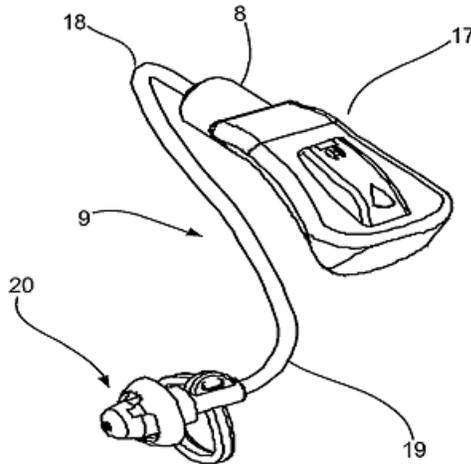
Example CIC: housing (15) and ear tip (18)



Example ITE: housing (15) and ear mould (21)



Example BTE: housing (17) and ear tip (20).



Informative references

Insert: The following new row as the last row in the Informative references table.

Hearing aid ear hooks	H04R2225/63
-----------------------	-----------------------------

Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

Insert: The following replacement paragraph.

Further detail is covered by Indexing Code group [H04R2225/77](#).
Classification is obligatory.

H04R25/652

Definition statement

Delete: The existing paragraph in the Definition statement section.

Insert: The following replacement paragraph.

For examples, please see [H04R25/65](#).

Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

Insert: The following replacement paragraph.

Further detail is covered by Indexing Code groups [H04R2460/09](#) and [H04R2460/11](#). Classification is obligatory.

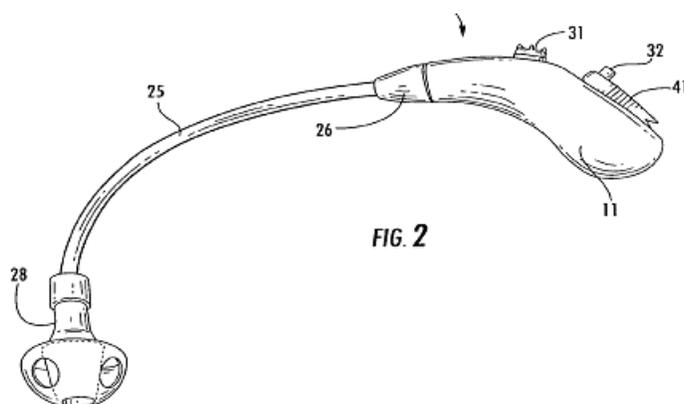
H04R25/656

Definition statement

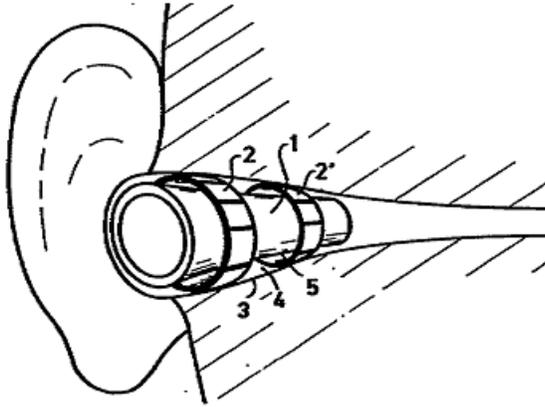
Delete: The existing text in the Definition statement section.

Insert: The following replacement text and three images.

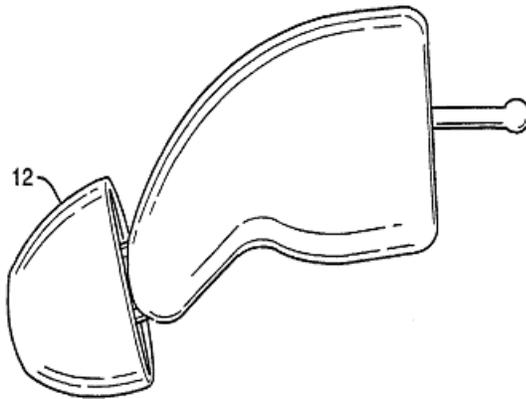
Example BTE:



Example ITE:



Example CIC:



H04R25/658

Definition statement

Delete: The existing text in the Definition statement section.

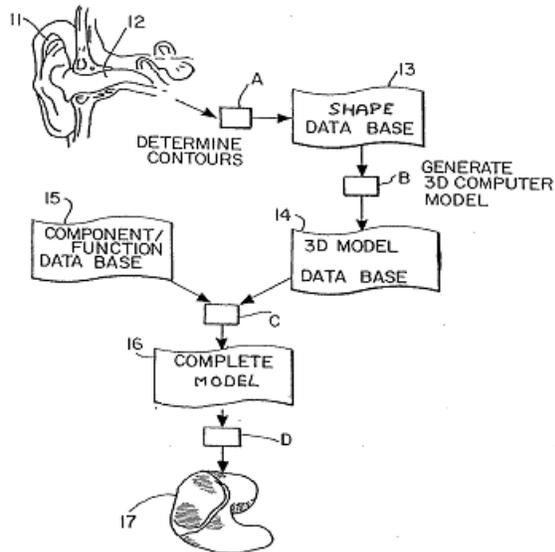
Insert: The following replacement text and two images.

Aspects of design and manufacturing of housing parts.

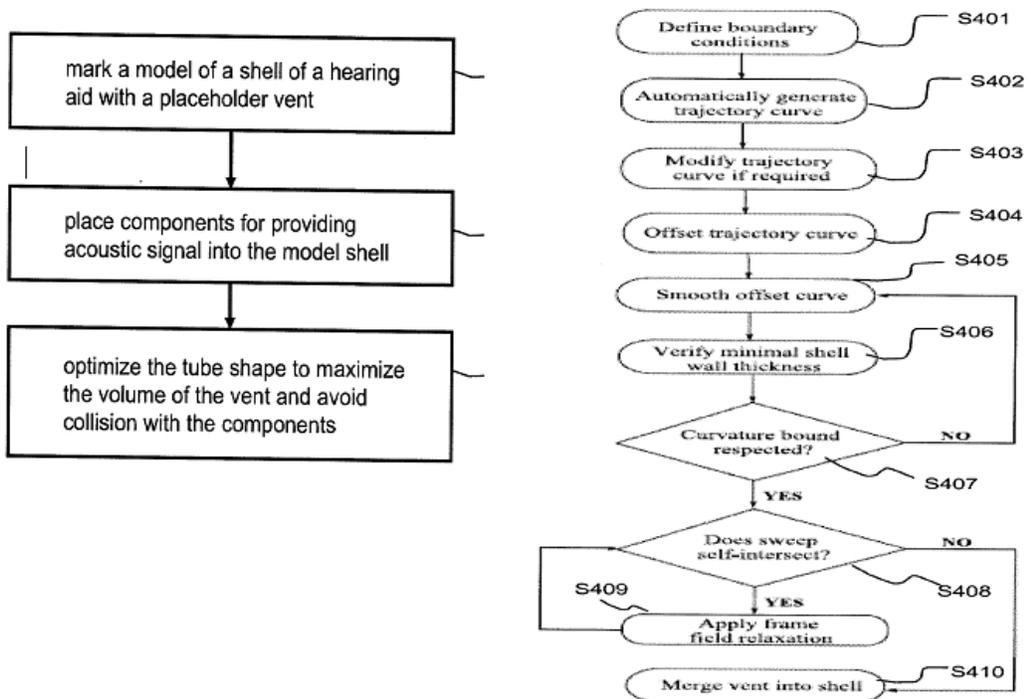
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Example of design and subsequent manufacture of ear mould:



Example of design of a vent in a hearing aid shell (left-hand figure: general modelling and right-hand figure a method for optimising the shape of the vent)



Informative references

Delete: The last row from the table.

H04R25/70

Insert: The following **new** Definition statement section.

Definition statement

Electronic adaptation of the hearing aid settings in response to audiological test signals to compensate for hearing aid loss or changes therein, i.e. initial or subsequent fitting.

Initial fitting is generally carried out by an acoustician. Subsequent fitting can be carried out by the acoustician or by the user, e.g. with audiological test signals generated in the hearing aid.

Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

Insert: The following replacement paragraph.

Further detail is covered by Indexing Code subgroups [H04R2225/39](#), [H04R2225/81](#) and [H04R 2225/83](#). Classification is obligatory.

H04R25/75

Insert: The following **new** definition statement section.

Definition statement

Electric tinnitus maskers providing an auditory perception e.g. an acoustic noise signal around the tinnitus frequency. The tinnitus maskers can be stand-alone devices or can be integrated in a hearing aid.

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H04R27/00

Definition statement

Delete: The existing paragraph in the Definition statement section.

Insert: The following replacement paragraph.

Public address systems for buildings, e.g. stations or religious facilities, for open air, for indoor and outdoor venues, e.g. in stadiums or in concerts halls, or for domestic use, i.e. multiroom.

Informative references

Insert: The following new row as the 4th row in the existing table.

Speech enhancement, e.g. noise reduction, echo cancellation in public address systems	G10L21/0208
---	-----------------------------

Insert: The following new three rows under the existing row with this text: "Amplifiers...H03F".

Powerline communication in general	H04B3/54
Audio/video applications of powerline communications	H04B2203/545
Broadcasting	H04H

Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

Insert: The following replacement paragraph.

Further detail is covered by the subgroups of Indexing Code group [H04R2227/00](#) and by Indexing Code groups [H04R2420/05](#) and [H04R2430/03](#). Classification is obligatory.

H04R29/00

Definition statement

Delete: The existing paragraph in the Definition statement section.

Insert: The following replacement paragraphs.

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- Monitoring or testing arrangements for transducers, loudspeakers, microphones or public address systems;
- Testing of transducer, loudspeaker or microphone connection
- Visual indication of acoustic signal levels.

References relevant to classification in this group

Delete: The existing preamble and table in the References relevant section.

Insert: The following replacement preamble and table.

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

Circuits or components specially adapted for stereophonic broadcast systems	H04H20/47
Detection of loudspeaker or microphone connection for stereophonic purposes	H04R5/04
Monitoring or testing of hearing aids	H04R25/30

Informative references

Insert: The following new row as the first row in the existing table.

Measurement of mechanical vibrations or ultrasonic, sonic or infrasonic waves, e.g. sound dosimeter	G01H
---	------

Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

Insert: The following replacement paragraph.

Further detail is covered by the subgroup of Indexing Code groups [H04R2420/05](#) and [H04R2430/03](#). Classification is obligatory.

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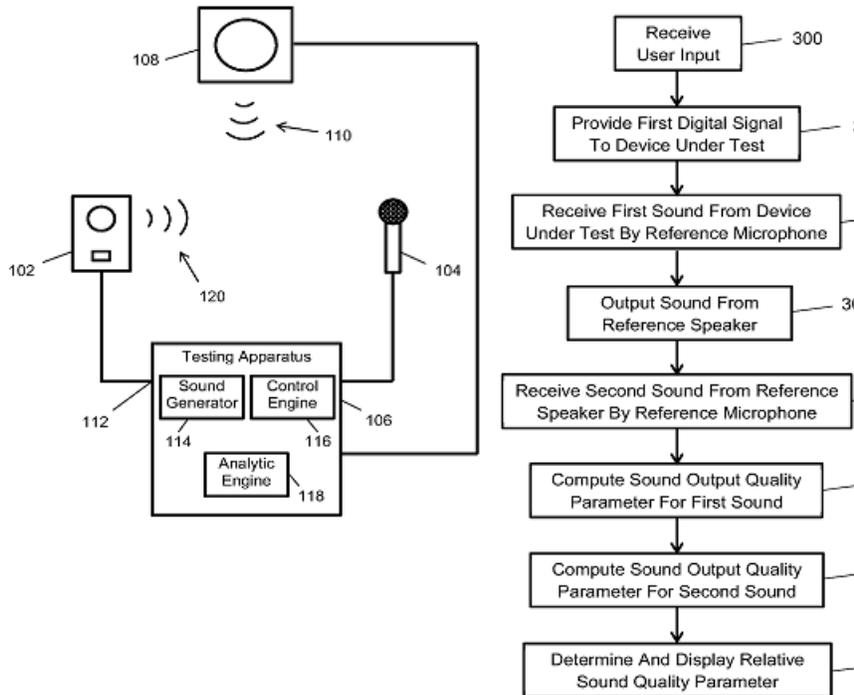
H04R29/001

Definition statement

Delete: The existing paragraph in the Definition statement section.

Insert: The following replacement text and images.

Loudspeaker 102 the one under test is in the exemplary figures below.
Loudspeaker 108 is the reference loudspeaker.



Insert: The following **new** Informative references section.

Informative references

Signal processing adapting stereophonic sound system to listener position	H04S7/302
---	---------------------------

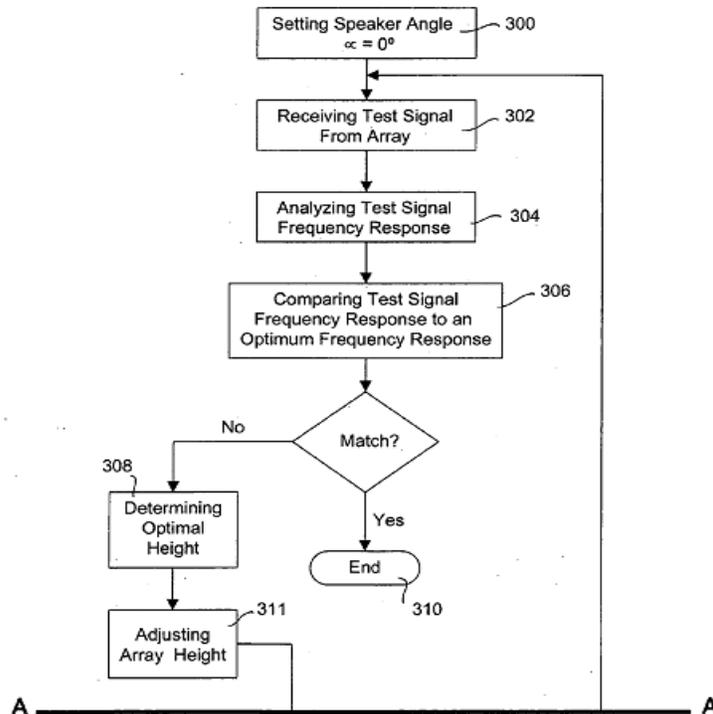
H04R29/002

Definition statement

Delete: The existing text in the Definition statement section.

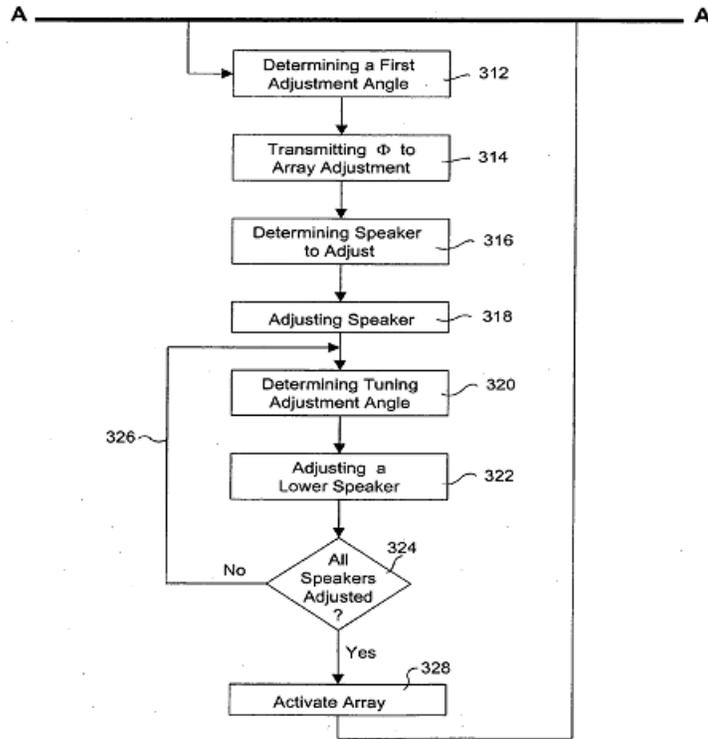
Insert: The following replacement text and images.

As an illustrative example:



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H04R29/003

Definition statement

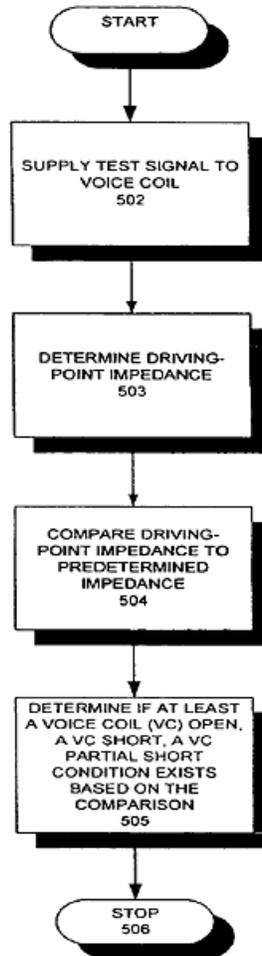
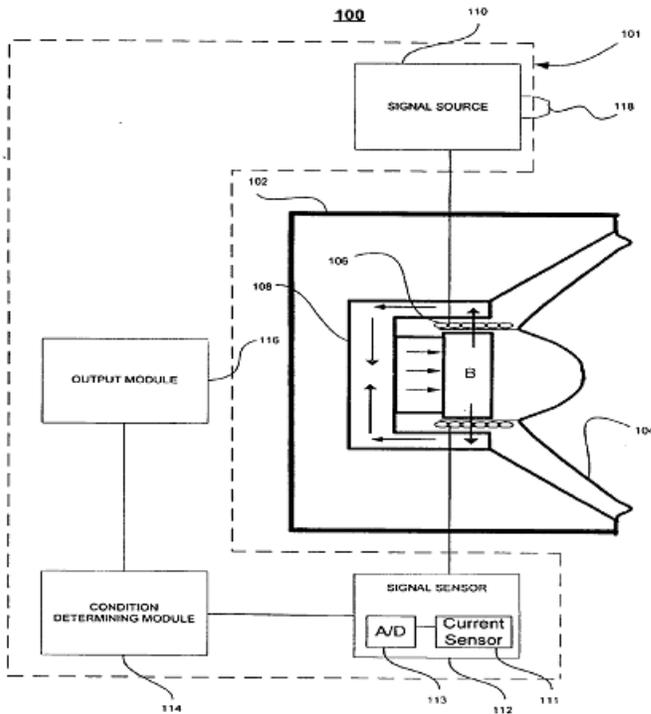
Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

For example:

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H04R29/004

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following text and two images.

Example for test method:

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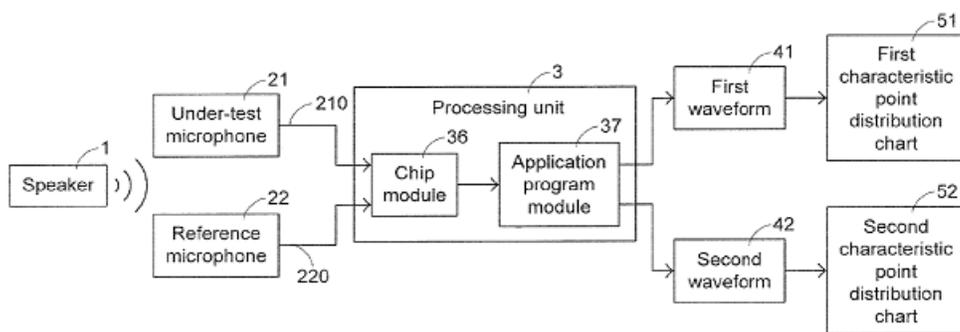
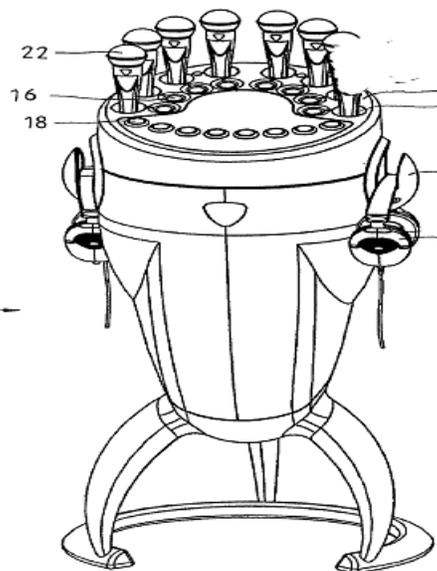


FIG.1

Example for testing arrangement to test a plurality of microphones:



H04R29/005

Definition statement

Delete: The existing text in the Definition statement section.

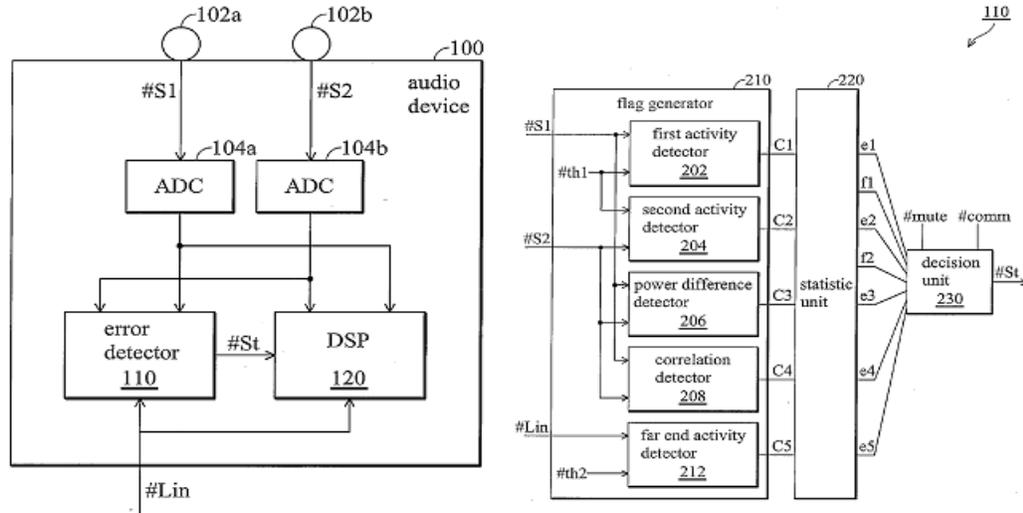
Insert: The following text and image.

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For example:

Functioning of the microphones (102a, 102b) is monitored (error detection 110) and if one microphone is considered defect, its signal is not used for further processing.



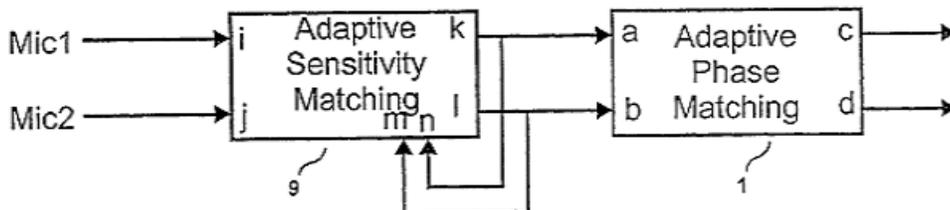
H04R29/006

Definition statement

Delete: The existing text in the Definition statement section.

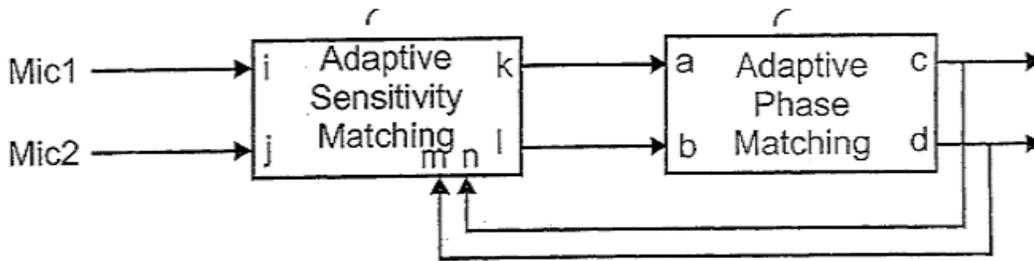
Insert: The following text and three images.

For example: microphone matching in a microphone array in general

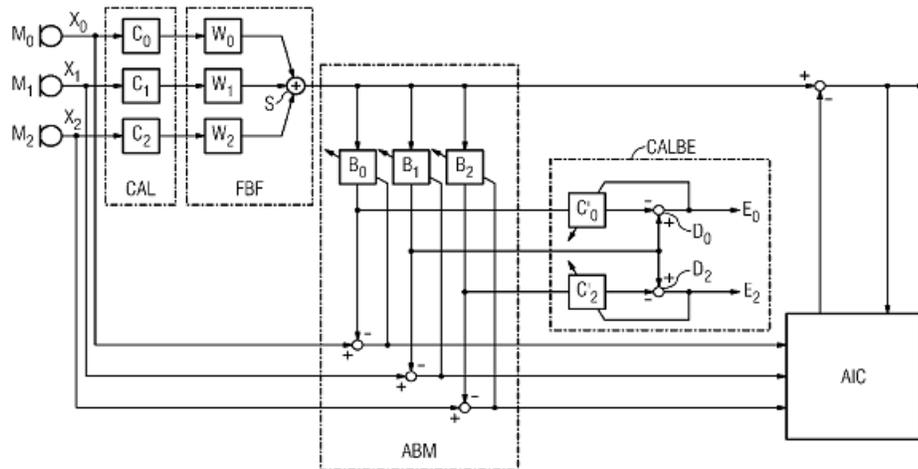


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For example: microphone matching (CABLE) in an adaptive interference canceller (side-lobe canceller):



H04R29/007

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following text and image.

For example:

In the PA system shown in the figure control device (CD) polls all monitoring devices 12,14 and line monitoring devices 16 to check if errors

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deformable or non-deformable structures in general	
Interconnecting the MEMS and the processing unit	B81C1/00238
Processes for packaging MEMS	B81C1/00261
Pressure measurement / constructional details associated with semiconductive diaphragm sensors, e.g. etching of diaphragms	G01L9/0042

Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

Insert: The following replacement paragraph.

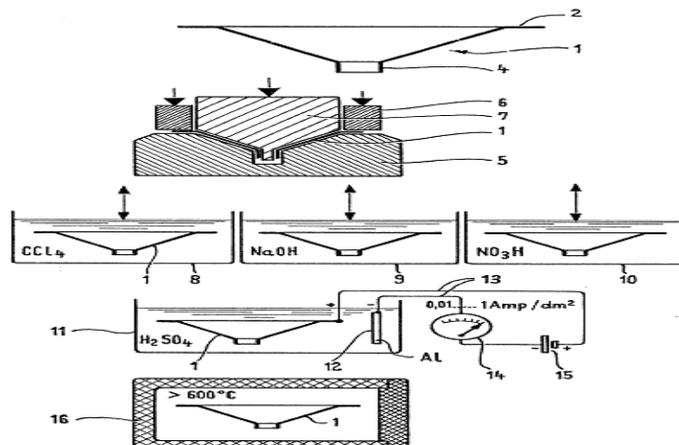
Further detail is covered by Indexing Code groups [H04R2201/003](#), [H04R2231/001](#) and [H04R2231/003](#). Classification is obligatory.

H04R31/003

Insert: The following new Definitions statement section.

Definition statement

For example: Aluminium diaphragm (1) is pressed (5-7) out of an aluminium plate. The diaphragm is chemically treated cleaned (8-10) and the resulting diaphragm is treated with anodic oxidation to form an amorphous ceramic diaphragm of Al_2O_3 . The amorphous diaphragm is heat treated to create corundum, a crystalline form of Al_2O_3 .



Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

Insert: The following replacement paragraph.

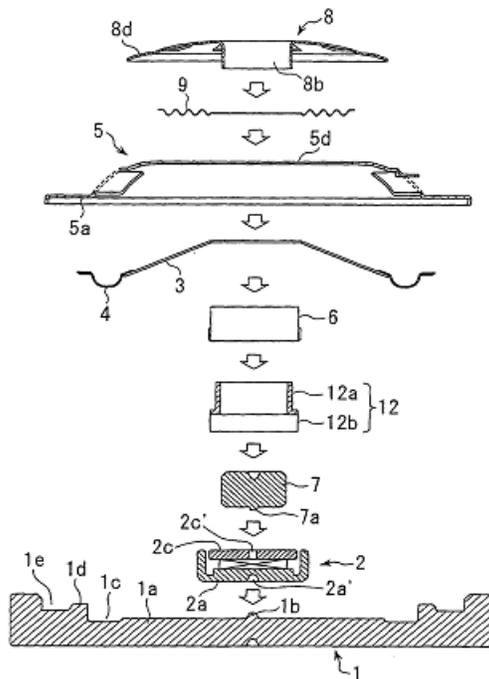
Further detail is covered by Indexing Code group [H04R2207/021](#) and the subgroups of [H04R2307/00](#). Classification is obligatory.

H04R31/006

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and two images.

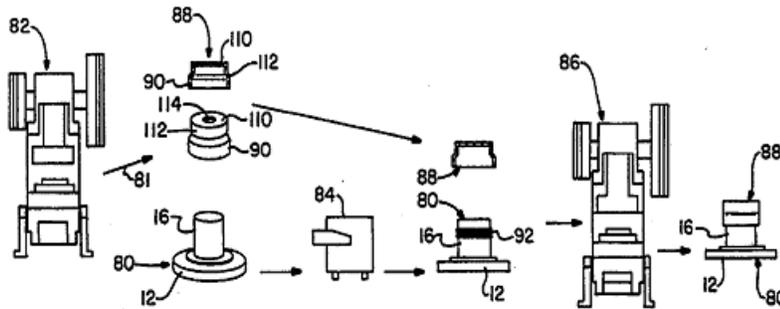
For example: A transducer is assembled with the help of jig 1 and jig 12 used for relative positioning of the parts during assembly. Jig 12 is removed before mounting of bottom frame 8. Jig 1 is removed after complete assembly.



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For example: A centre pole cap 88 is formed with cap die press 82. With help of pattern roller 82 an axial gripping surface 92 is formed on the centre pole 16, after which the cap is pressed on the pole with press 86. The cap is held in place by interference fit.



H04R2201/003

Insert: The following **new** Informative references section.

Informative reference

Arrangements for avoiding sticking of the flexible or moving parts of MEMS devices having such parts	B81B3/0002
MEMS packages and encapsulations	B81B7/0032
Microphones and microspeakers	B81B2201/0257
MEMS structures allowing for movement	B81B2203/01
Type of movement	B81B2203/05

Insert: The following **new** Glossary of terms section.

Glossary of terms

In this group, the following terms (or expressions) are used with the meaning indicated:

MEMS	Microelectromechanical system
------	-------------------------------

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H04R2201/021

Informative references

Delete: In the **first** column, **second row** of the table, delete the following reference:

E04B1/99

H04R2201/023

Informative references

Delete: The existing table in the Informative references section.

Insert: The following replacement table.

Garments adapted to accommodate electronic equipment	A41D1/002
Footwear provided with sound or music source	A43B3/0021

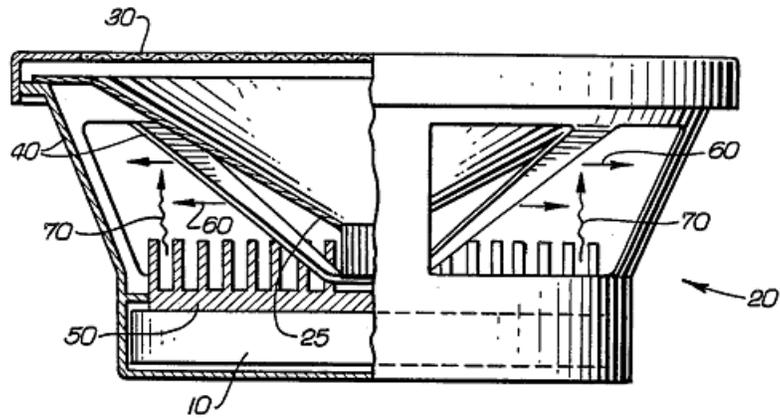
H04R2201/028

Definition statement

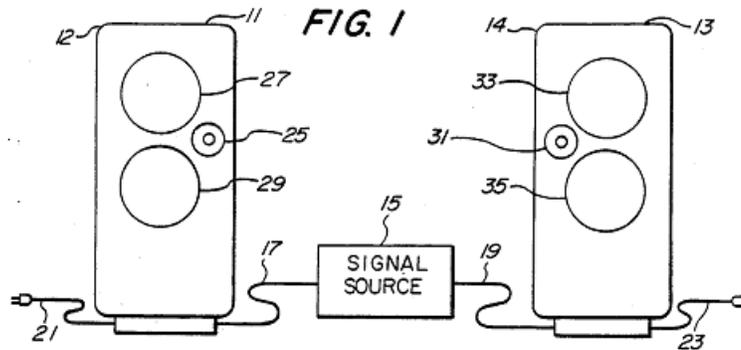
Delete: The existing text in the Definition statement section.

Insert: The following replacement text and three images.

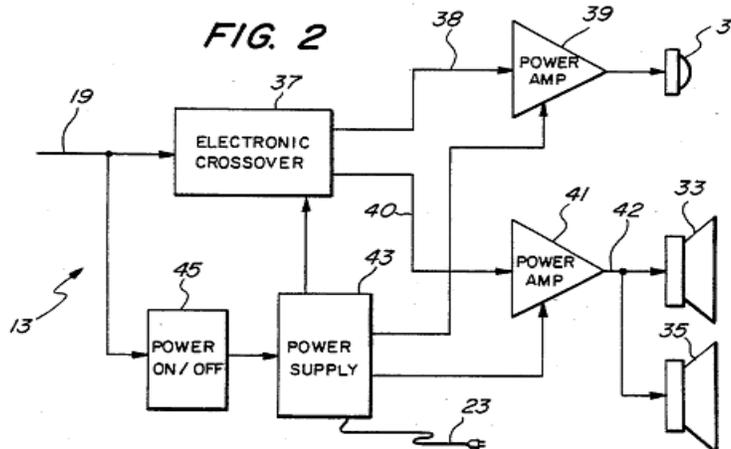
For example: (amplifier (10) mounted to transducer (20))



(amplifier mounted to loudspeaker enclosure)



For example: (the active loudspeaker (311,312) is placed in a separate enclosure (11,12) used in a television)



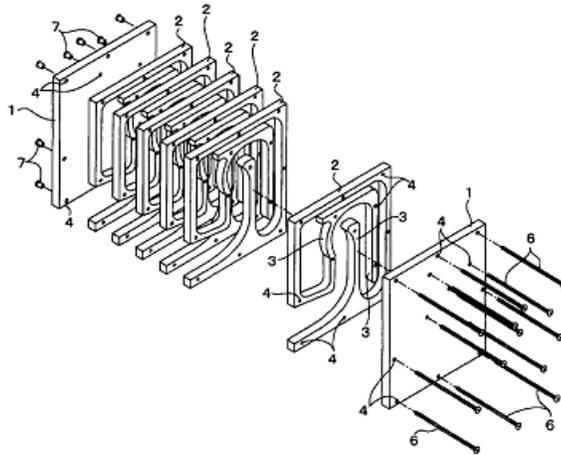
H04R2201/029

Definition statement

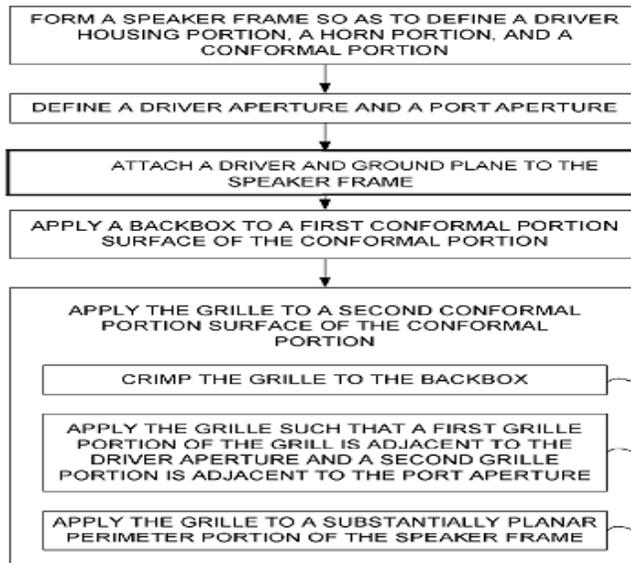
Delete: The existing text in the Definition statement section.

Insert: The following replacement text and two images.

For example: manufacture of loudspeaker casing with backloaded horn using two lateral plates (1) and a plurality of intermediate plates (2) which are screwed together (6,7).



For example: assembly of loudspeaker.



H04R2201/105

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text.

Typical components are earpiece supports, ear tips, and ear cushions, transducers specially adapted for earphones or headphones.

Informative references

Delete: The entire second row in the existing Informative references table.

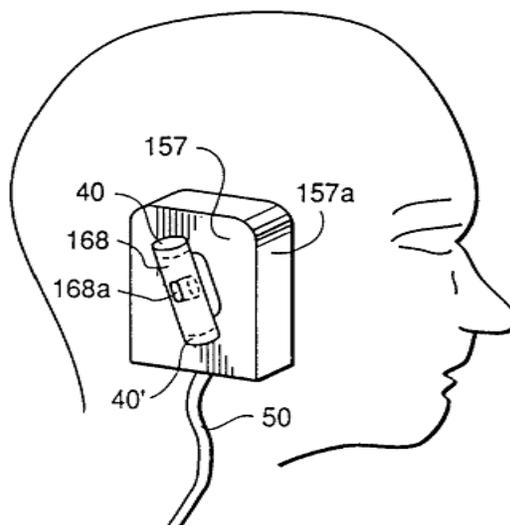
H04R2201/107

Definition statement

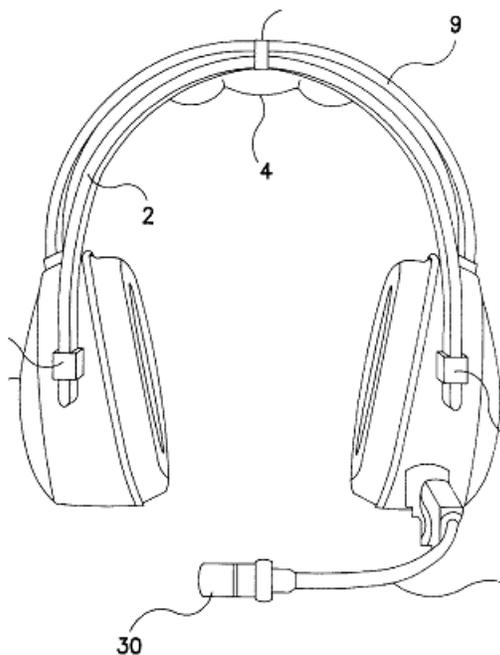
Delete: The existing text in the Definition statement section.

Insert: The following replacement text and graphics.

For example: (monophonic: microphone (40)).



For example: (stereophonic; microphone (30)).

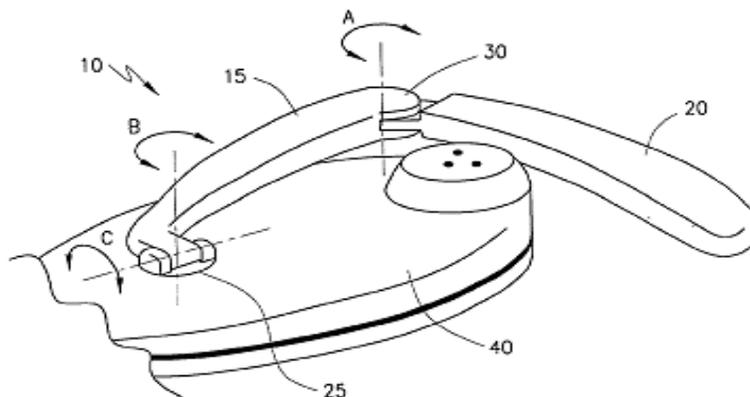


H04R2201/109

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and three graphics.

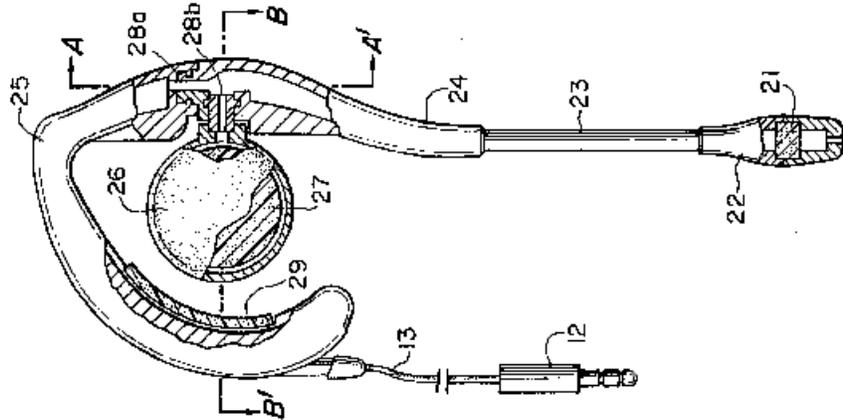
For example: (monophonic) rotatable joint 25 enables rotation about axes B and C.



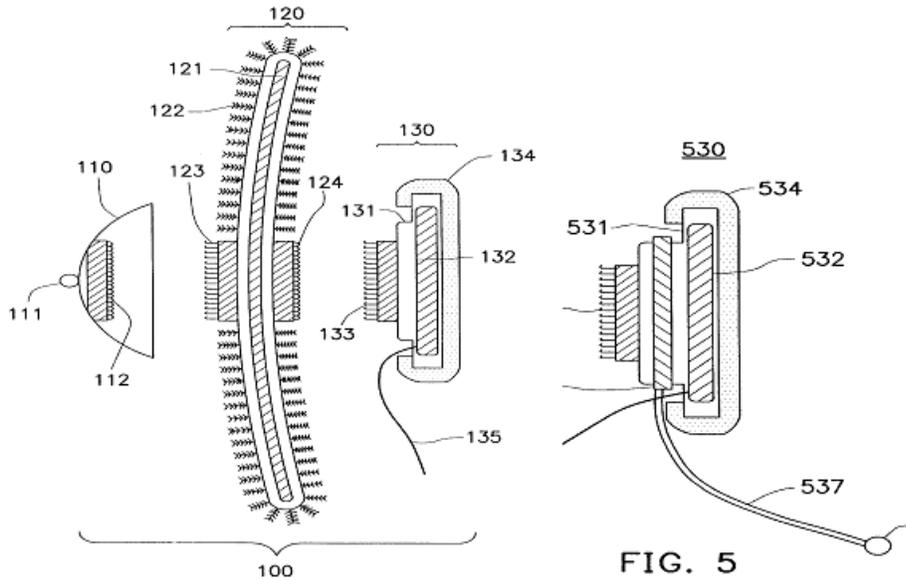
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For example US5210792 (monophonic): rotatable joints 28a and 28b enable rotation of the microphone arm 24 and of the earpiece, respectively.



For example: (stereophonic) earpieces are releasably mounted using Velcro.



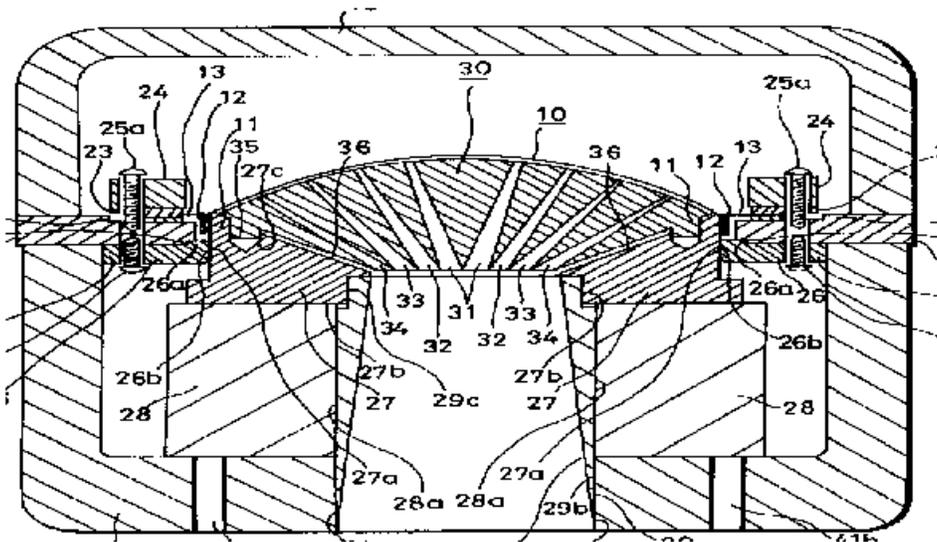
H04R2201/34

Definition statement

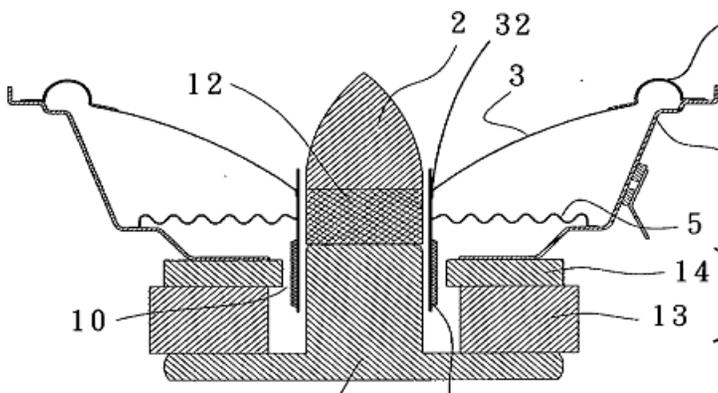
Delete: The existing text in the Definition statement section.

Insert: The following replacement text and two images.

For example: (phase plug (30) of a compression driver)



For example: (phase plug used with a transducer)



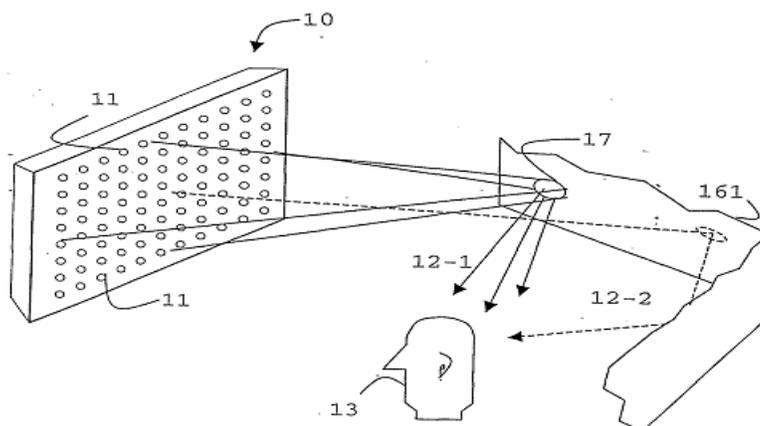
H04R2203/12

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

See for example: generation of multiple sound channels (12-1, 12-2) to reproduce stereophonic sound



Insert: The following new Informative references section.

Informative reference

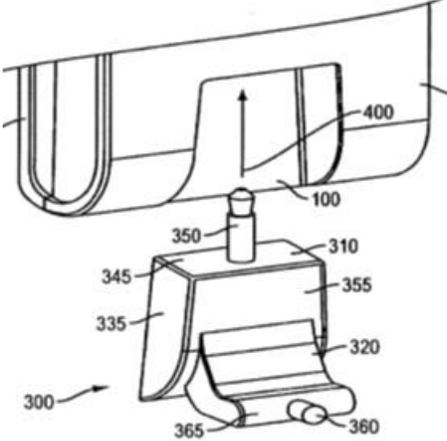
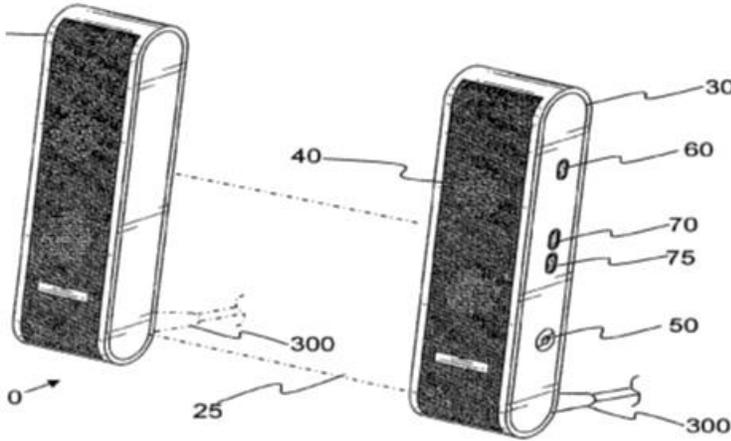
Beamforming aspects for sound reproduction in general	H04R2430/20
---	-----------------------------

H04R2205/021

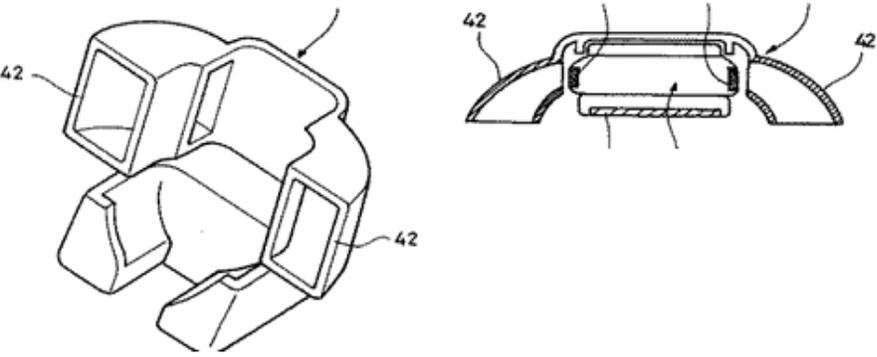
Delete: The existing text in the Definition statement section.

Insert: The following replacement text and three images.

For example: (electric connection)



JP2005136895 (acoustic connection)



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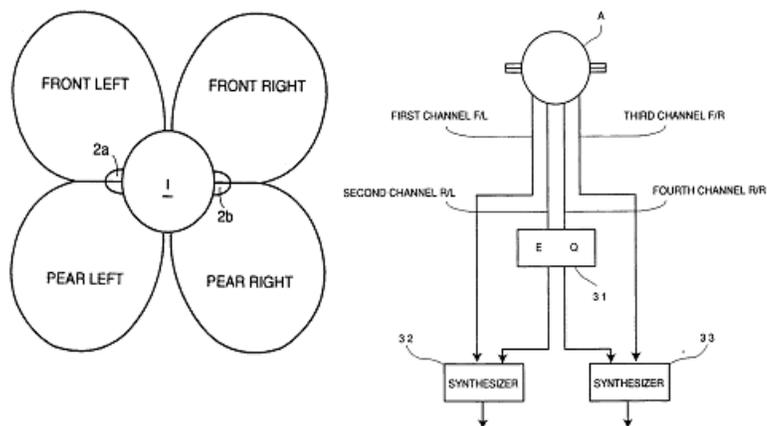
H04R2205/022

Definition statement

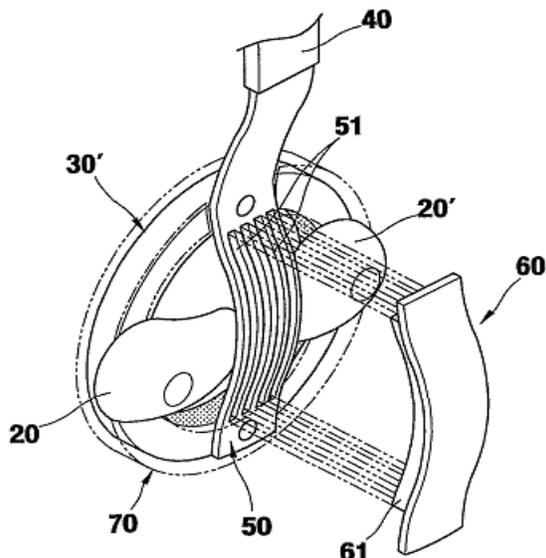
Delete: The existing text in the Definition statement section.

Insert: The following replacement text and four images.

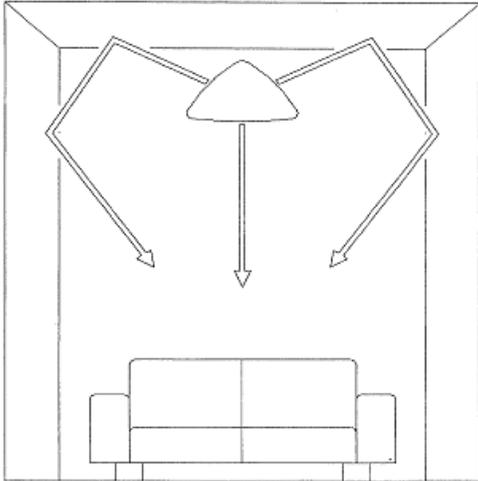
For example: (two-channel microphones in earpiece (2a, 2b) mounted on a spherical structure (1) for four-channel sound capture).



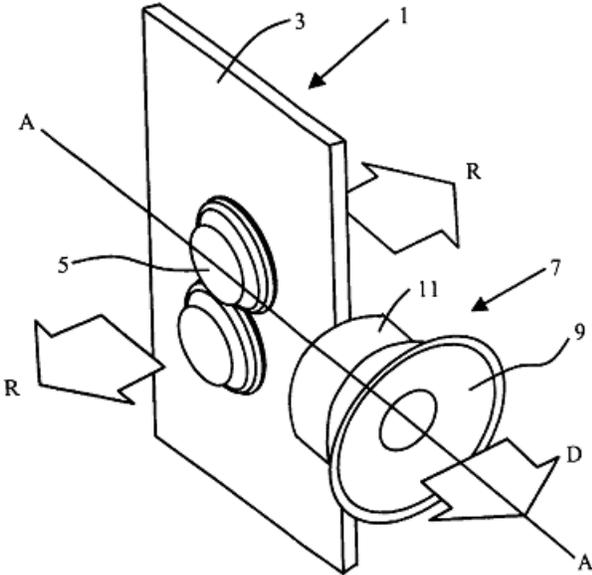
For example: (multiple channels (20, 20') in earpiece (30) of headphones).



For example: (multiple channels in single loudspeaker box).



For example: (multiple channels in single loudspeaker box, comprising a pistonic loudspeaker transducer (7) and a distributed mode panel (3) with exciters (5)).



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Insert: The following new Informative references section.

Informative references

Positioning of loudspeaker enclosures for spatial sound reproduction	H04R5/02 H04R2205/024
Positioning of microphones for spatial sound recording in general	H04R5/027

H04R2205/024

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text.

Aspect relating to the relative positioning of loudspeaker enclosures, e.g. determination of their actual position

Insert: The following **new** References relevant section.

References relevant to classification in this group

Mounting of transducers in earphones or headphones	H04R1/1075
Public address systems	H04R27/00
Electronic adaptation of stereophonic sound system to listener position or orientation	H04S7/302

H04R2205/026

Definition statement

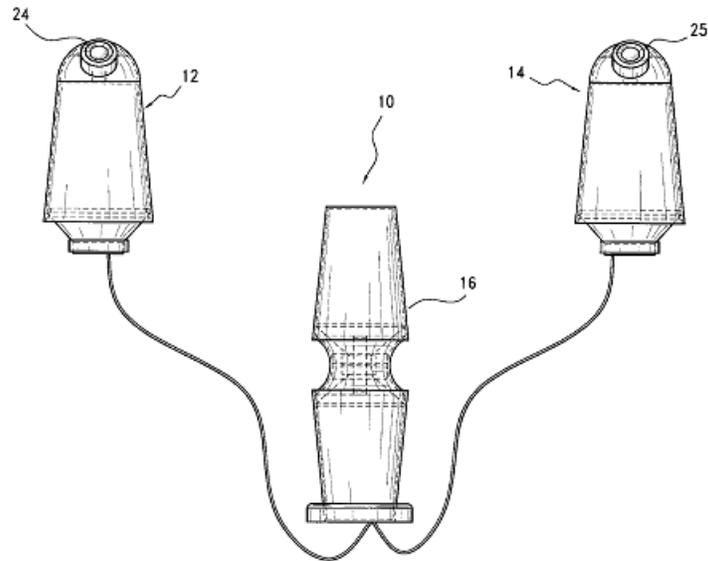
Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

For example:

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H04R2205/041

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following new References relevant section.

References relevant to classification in this group

Deaf-aid sets	H04R25/00
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Insert: The following new Informative references section.

Informative references

Telephone sets for the hearing impaired	H04M1/2475
Mobile telephones for the hearing impaired	H04M1/72591

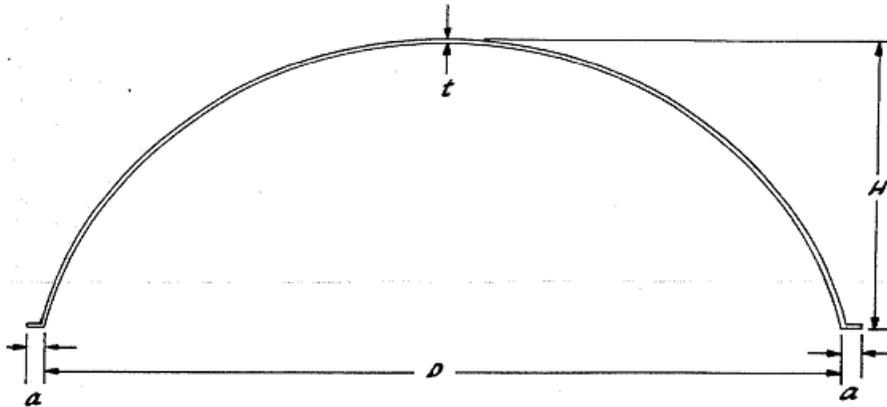
H04R2207/021

Definition statement

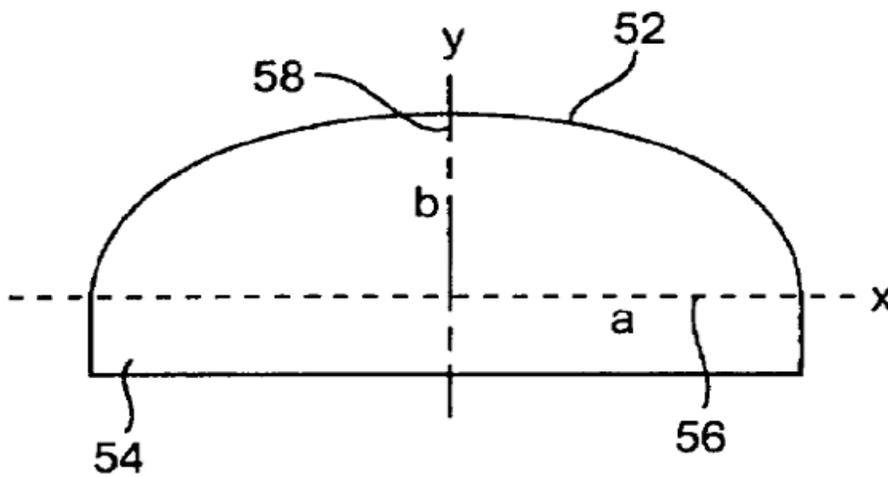
Delete: The existing text in the Definition statement section.

Insert: The following replacement text and two images.

For example: (flange (a) to prevent deformation of dome during firing to obtain a ceramic diaphragm



For example: (annular skirt (54) extending from the dome (52), around which a voice coil is wound)



H04R2209/024

Definition statement

Delete: The existing text in the Definition statement section.

Informative references

Insert: The following new row as the second row in the existing table.

Magnetic circuits for electrodynamic loudspeaker transducers	H04R9/025
--	---------------------------

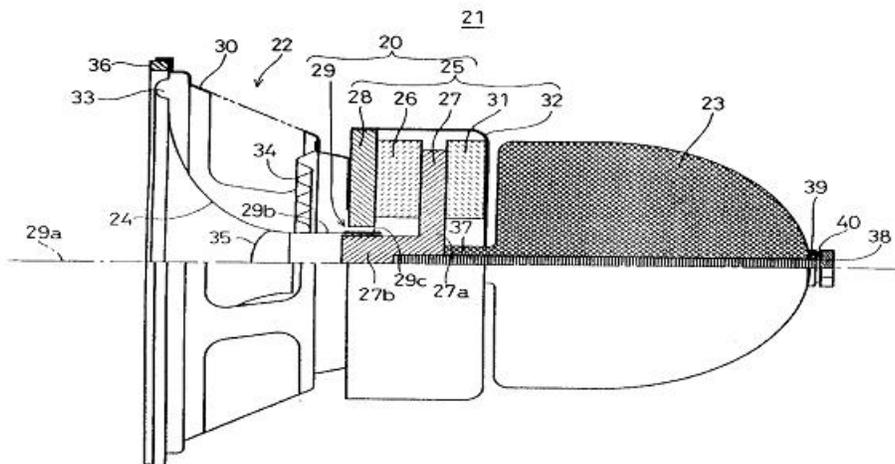
H04R2209/027

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and two images.

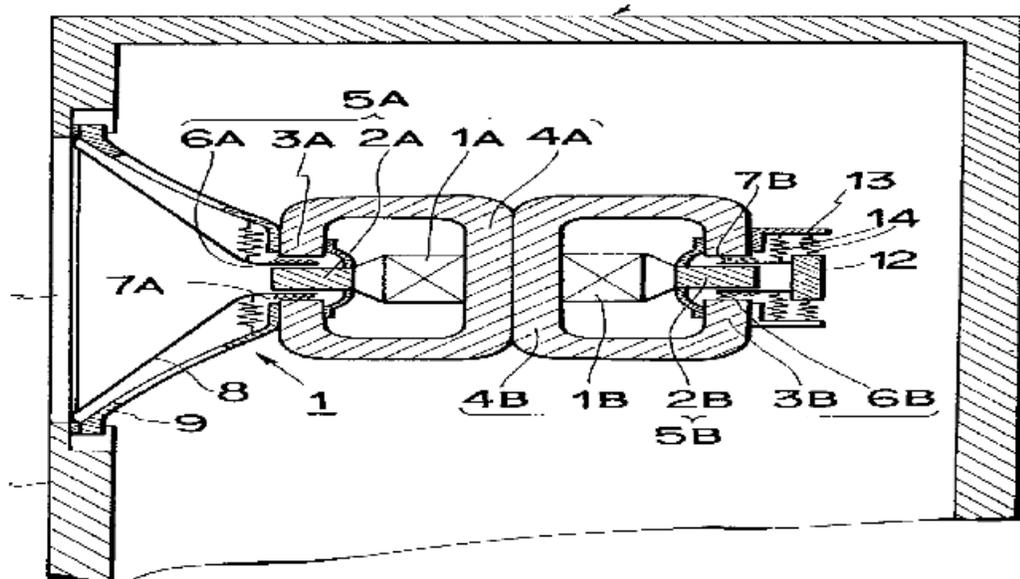
For example: (passive reduction with the help of a weight (23) mounted at the rear side of the magnetic circuit (25) of loudspeaker transducer (25)).



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For example (active reduction with the help of a second magnetic circuit (5B). This second magnetic circuit is similar to the first magnetic circuit (5A) driving the diaphragm (8 and attached thereto. Voice coil 7B is driven with part of the signal with which voice coil 7A is driven, such that a weight coupled to the coil 7B move in a direction opposite to that of the diaphragm (8)).



H04R2209/043

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

For example: (short circuited moving coil (28) and static driving coil (23)

H04R2217/03

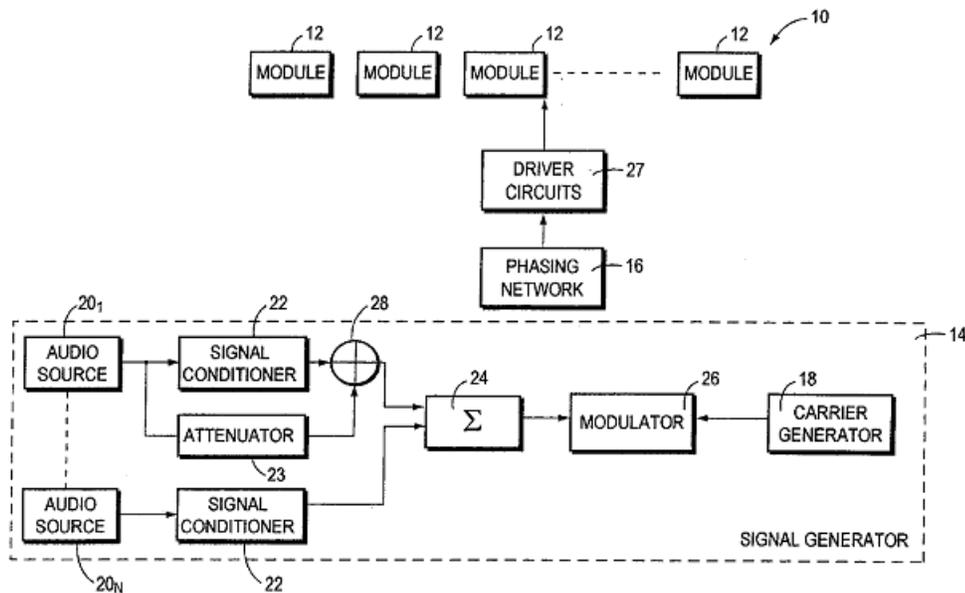
Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and three images.

Construction or application of such transducers. Sound generation may be using piezoelectric, electrostatic, or other principles.

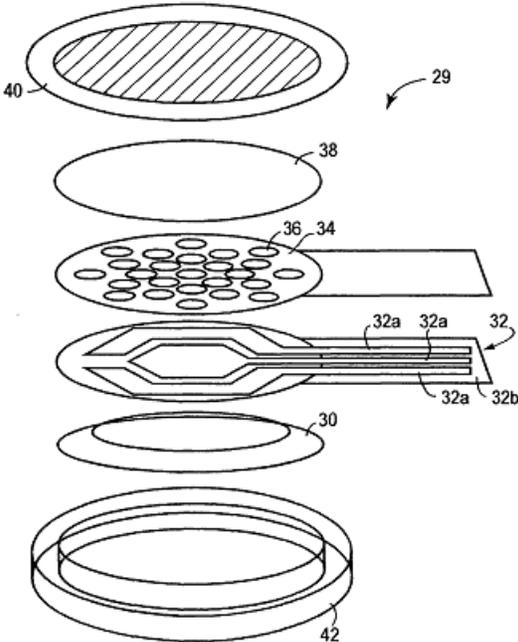
For example: schematic driving circuit (14, 6, 27) for a parametric loudspeaker array comprising a plurality of modules (12, 29).



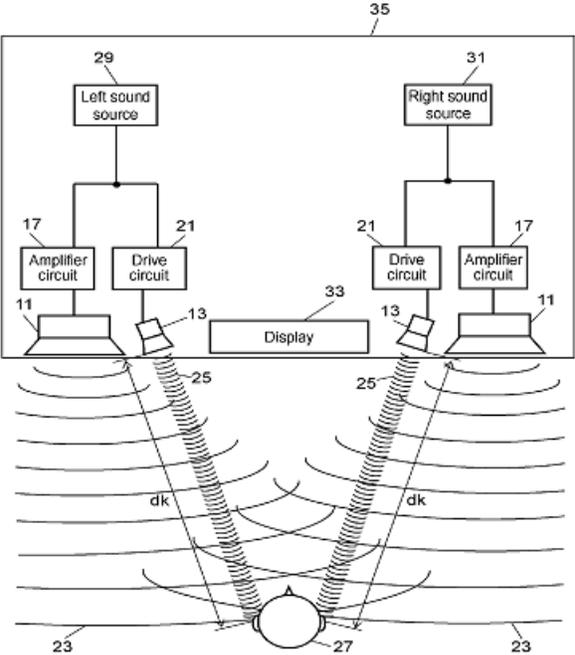
An example for the modules used with the driving circuit above is shown in the figure directly below. A conductive electrode unit (32), a dielectric spacer (34) provided with an array of apertures (36), and a metallized polymer membrane (38). The components (32-38) are compressed against the spring (30) by an upper ring (40) that bears against the film (38) and threadably engages a base member (42) that supports the spring (30). The module (29) comprises a plurality of electrostatic transducers, corresponding with the respective apertures (36) in the polymer spacer (34).

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For example: sound reproduction for a TV, one parametric loudspeaker and one conventional nonparametric loudspeaker per channel.



Insert: The following new Synonyms and Keywords section.

Synonyms and Keywords

In patent documents the expression/word "parametric loudspeaker" is often used with the meaning "superdirective loudspeaker".

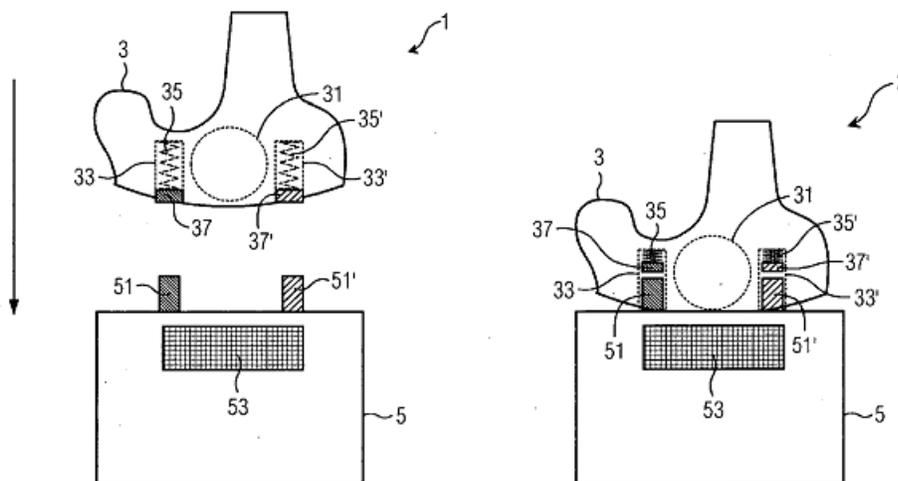
H04R2225/31

Definition statement

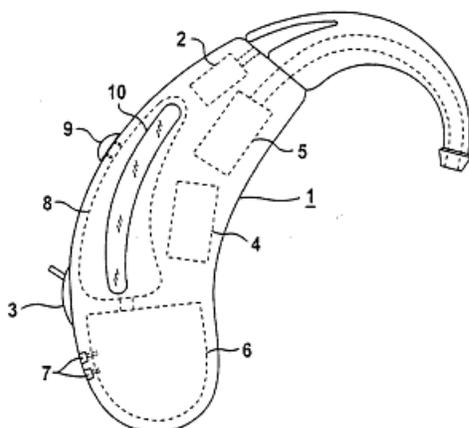
Delete: The existing text in the Definition statement section.

Insert: The following replacement text and three images.

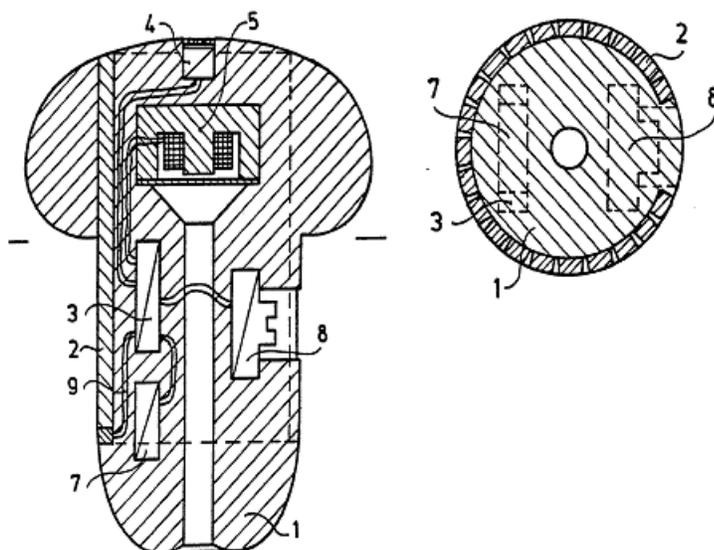
For example: Rechargeable battery (31) and battery charger 5 with charging contacts (51, 51')



For example: Fuel cell (6) with fuel cell tank (8). Valve (9) is used for filling the tank and with the help of window (10) the amount of fuel can be checked.



For example: Thermic semiconductor elements (2) arranged on the outer surface of hearing aid.



Informative references

Insert: The following **two** rows under the **last** row in the table.

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For earphones and headphones	H04R1/1025
Reduction of energy consumption in hearing aids	H04R2460/03

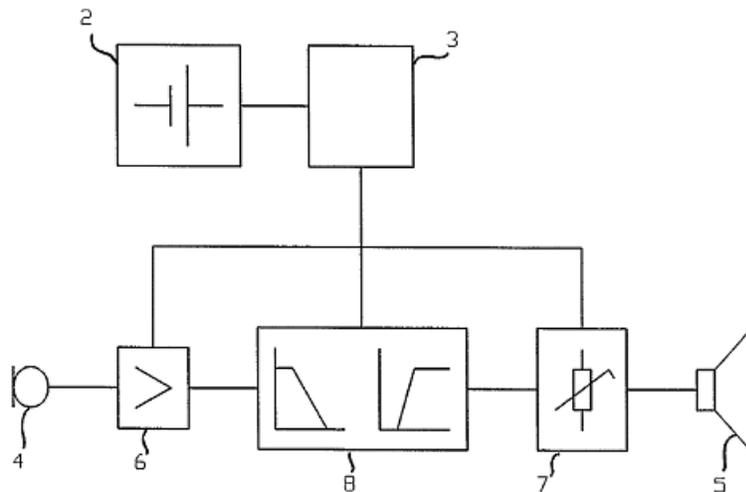
H04R2225/33

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and two images.

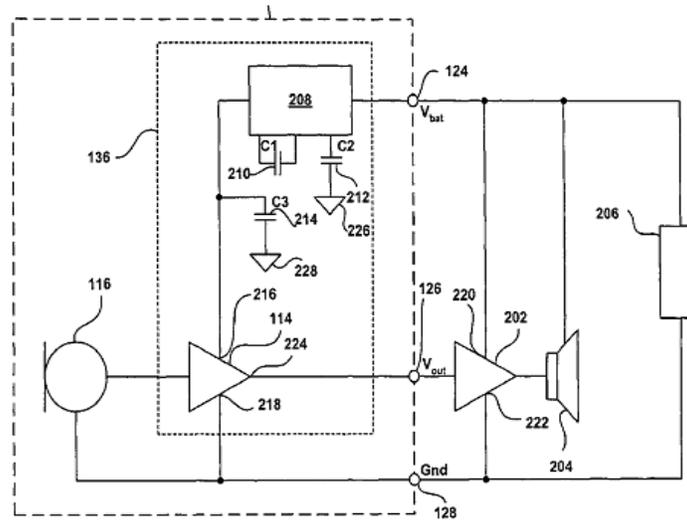
For example: A hearing aid comprises a step-down/step-up converter (3) as voltage regulator, which transforms both higher as well as lower operating voltage into at least one stabilised supply voltage.



For example: Power source (206) is connected to a charge pump and voltage regulator (208), which generates a larger or smaller output voltage depending on the value of the power source (206) and stabilises the output voltage.

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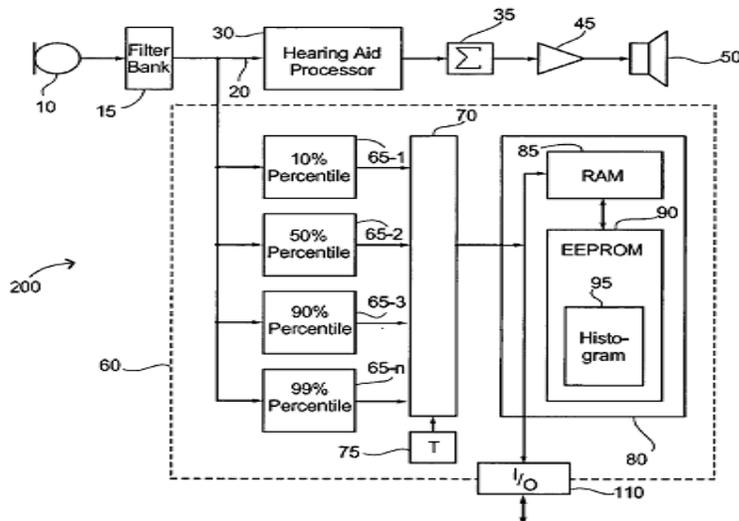
H04R2225/39

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

For example: Hearing aid with data logger (60) which logs data relating to sound environment, programs used, etc. The data stored can be used by subsequent fitting.



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Insert: The following **new** Informative references section.

Informative references

Hearing aid fitting	H04R25/70
Adaptation of hearing aid parameters to listening situation	H04R2225/41

H04R2225/41

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text.

For example: Acoustic scene identification method for hearing device, which involves extracting characteristic feature of input signal and generating revised class information in processing stages to characterize and identify acoustic scenes. The settings can be adapted to the encountered acoustic scene, if its characteristics are detected.

Insert: The following new Glossary of Terms section.

Glossary of terms

Listening situation	Acoustic scene, acoustic environment
---------------------	--------------------------------------

H04R2225/43

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text.

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Application of speech processing techniques, e.g. formant processing, determination or use of speech intelligibility threshold, detection of voiced speech, to control a hearing aid to enhance speech intelligibility.

Informative references

Delete: The existing rows in the Informative references section.

Insert: The following two replacement rows.

Speech enhancement, e.g. noise reduction or echo cancellation	G10L21/02
Speech enhancement using noise filtering characterised by the method used for estimating noise	G10L21/0216

Insert: The following new Special rules section.

The mere mentioning of increasing speech intelligibility, which is a general aim for hearing aids, should not be classified.

H04R2225/49

Definition statement

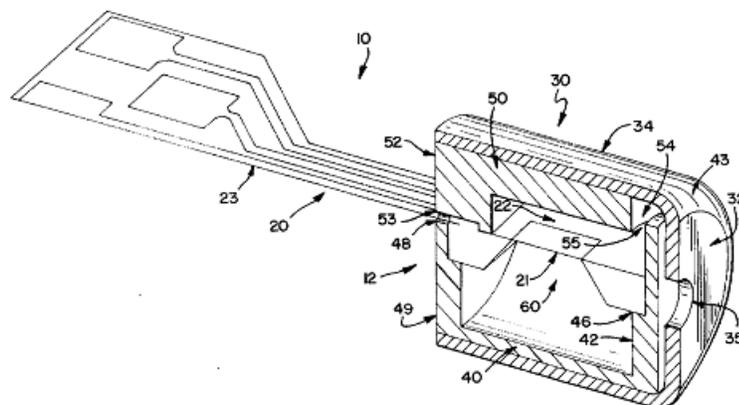
Delete: The existing text in the Definition statement section.

Insert: The following text and three images.

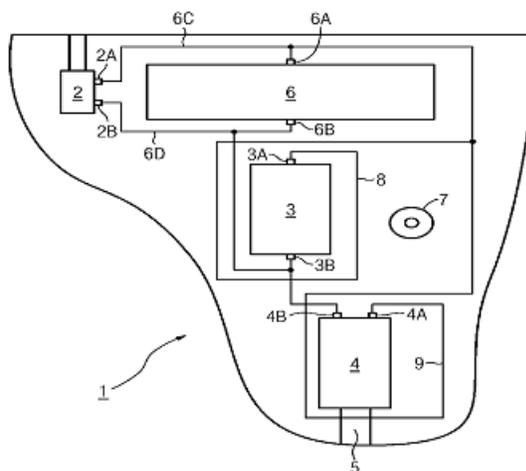
For example: Passive shielding of a microphone transducer (21) by metal jacket (30)

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For example: Active shielding by attenuation loops (8, 9) to attenuate electromagnetic interference resulting from supply lines (6C, 6D, coming from battery (6)) or the amplifier (3) and receiver (4) at the site of antenna (7)

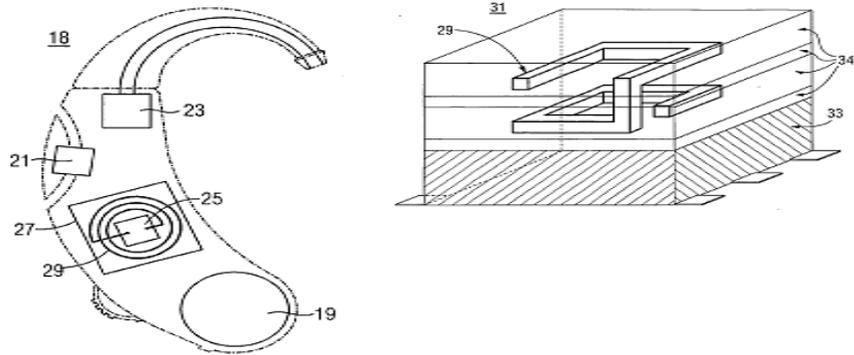


For example: Compensation for em-noise in signal processing:

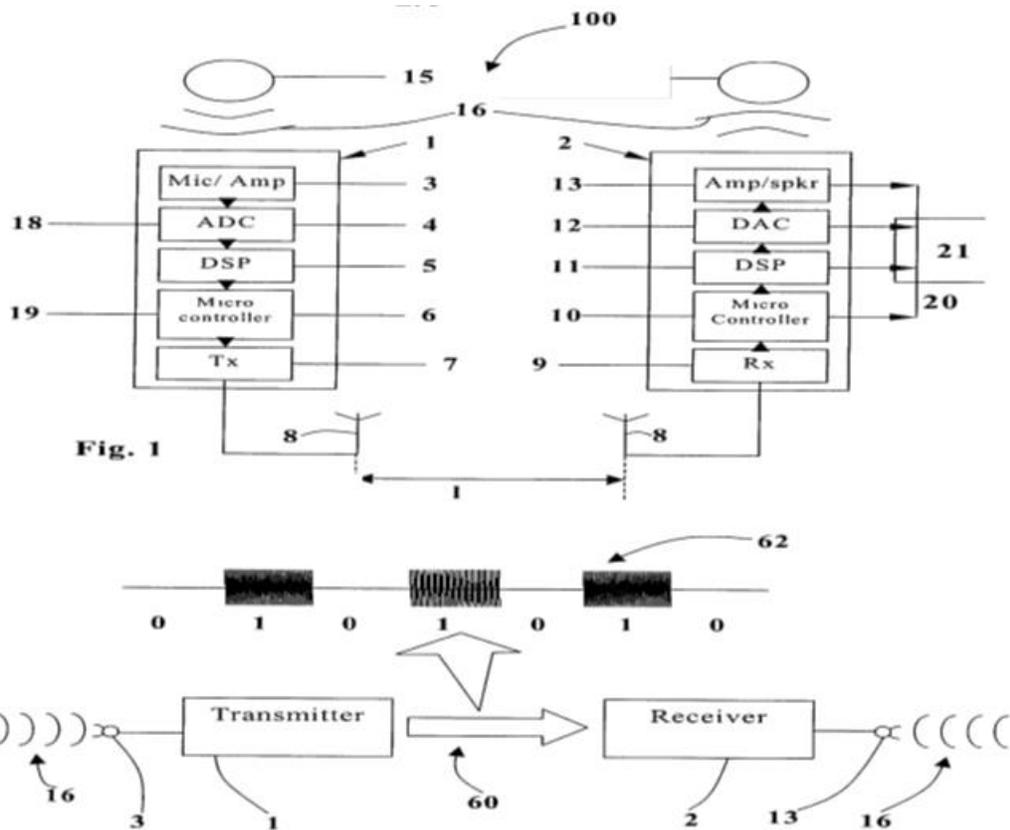
A hearing aid receives the electromagnetic disturbance signal (14) via the detector element (12) and therefore detects the presence of, for example, a GSM telephone in the D1 network. The detector element (12) transmits the information about the detected noise field type (namely GSM telephone, D1 network) to the DSP element (3), so that the filter element (13) can be

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For example: Circuitry for transmitting signal between hearing aid (2) and an external device (1):



H04R2225/53

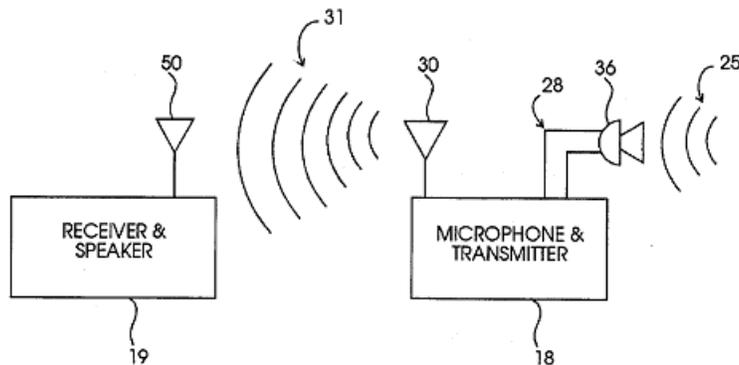
Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

For example: Sound delivered to the deaf ear (18) is sent to the other ear (19) and processed to maintain some directional hearing.

If the other ear is also impaired it is called Bi-CROS.



H04R2225/55

Definition statement

Delete: The existing text in the Definition statement section.

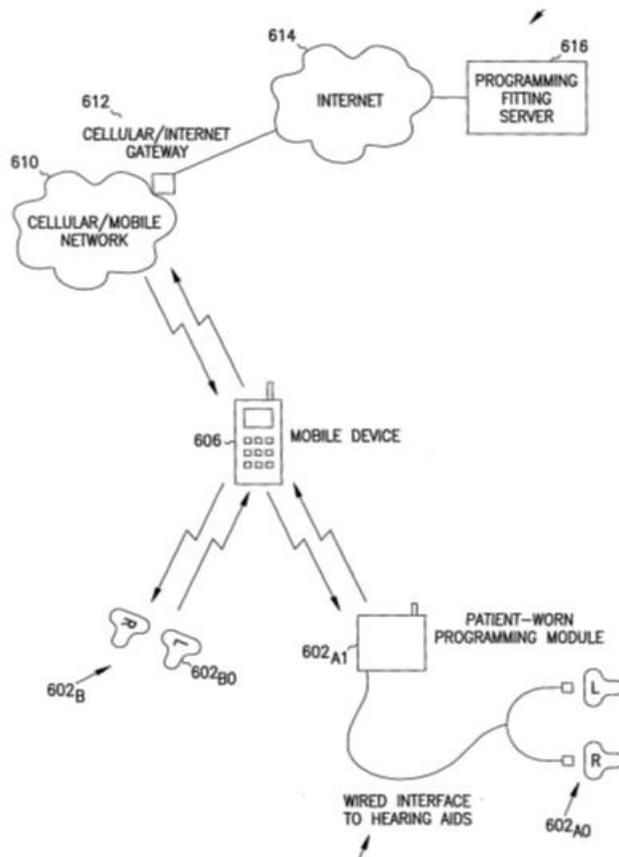
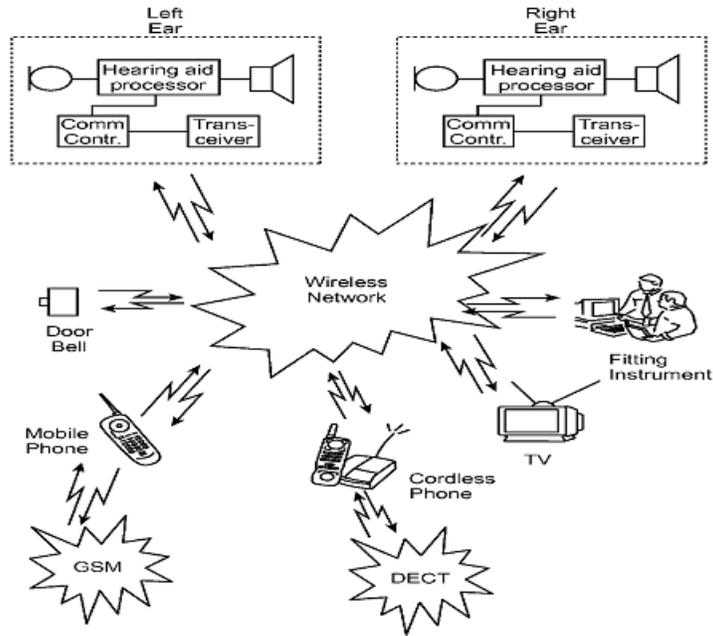
Insert: The following replacement text and two images.

For example:

CPC NOTICE OF CHANGES 222

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Insert: The following **new** Informative references section.

Informative references

Remote monitoring using telemetry, e.g. using a communication network	A61B5/0002
Home automation networks, e.g. Home Audio Video Interoperability [HAVI] networks	H04L12/2803

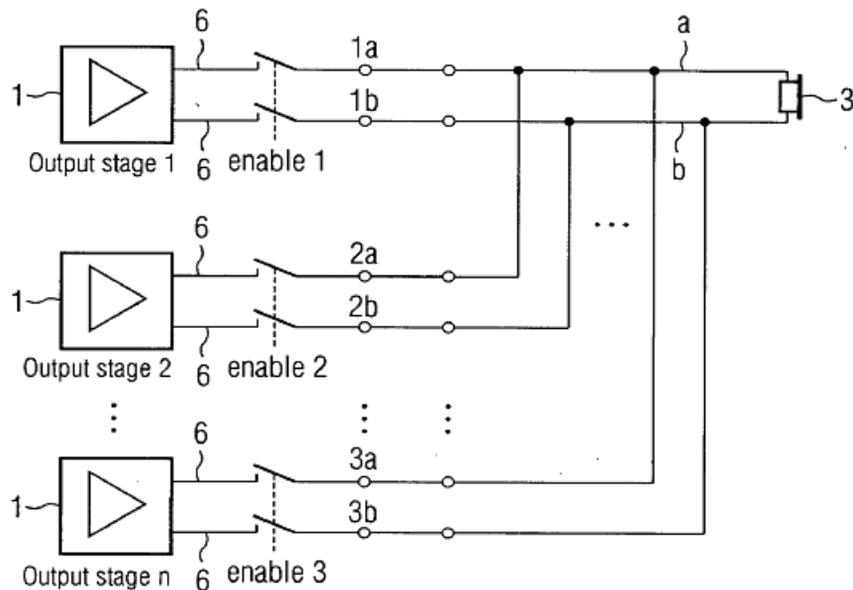
H04R2225/59

Definition statement

Delete: The existing text in the Definition statement section.

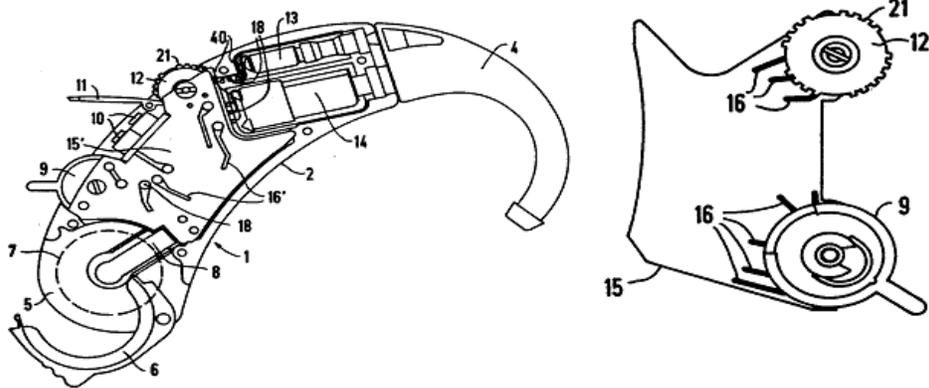
Insert: The following replacement text and two images.

For example: multiple amplifiers to one single receivers



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Insert: The following **new** Informative reference section.

Informative reference

Switching (mechanical) in general	H01H
Switches in or for hearing aids in general	H01H2300/004
For earphones or headphones	H04R1/1041
Electronic switching in general	H03K17/00

H04R2225/63

Definition statement

Delete: The existing text in the Definition statement section.

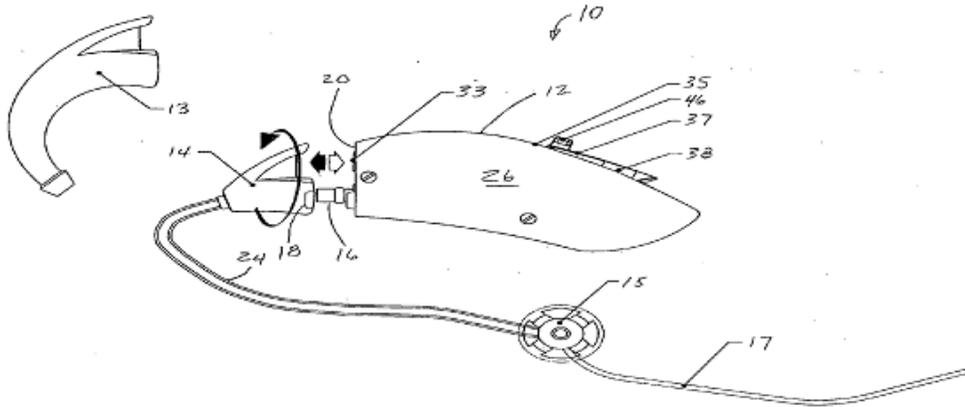
Insert: The following replacement text and image.

Details regarding the interconnection between housing of a BTE hearing aid and the earmould. Generally the complete interconnection involves an earhook (13) or a connector portion (14) connected to the housing (12), which earhook or connector portion is connected to a tube (24) (hollow or with an electrical conductor). The tube is connected to the earmould (15)

For example:

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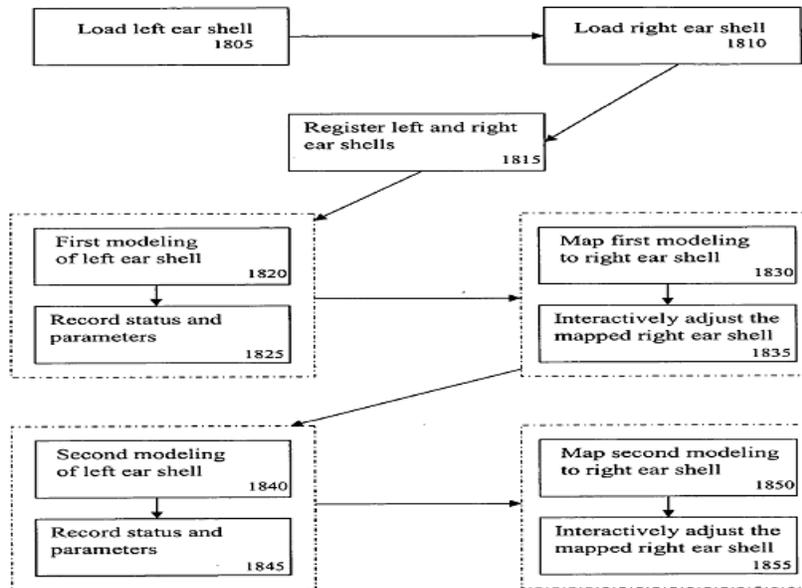
H04R2225/77

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

For example:



Insert: The following **new** Informative references section.

Informative references

Computer aided design in general	G06F17/50
----------------------------------	---------------------------

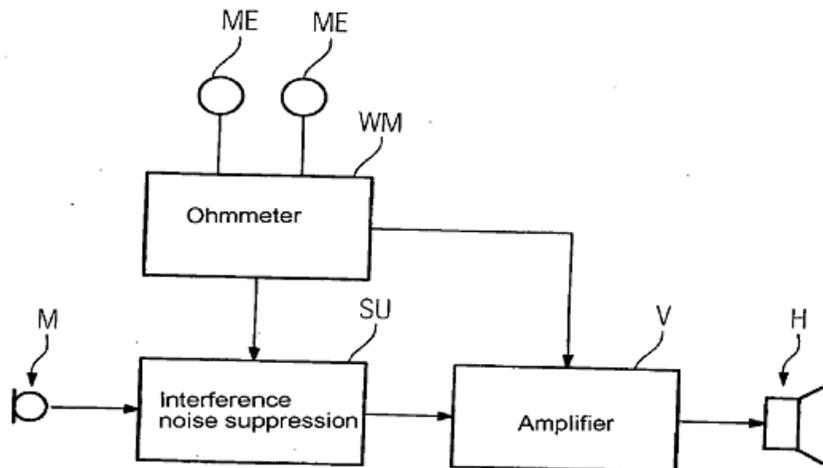
H04R2225/81

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

For example: The ohmic resistance of the skin is measured. Under stress the ohmic resistance reduces due to sweating. Thus this resistance can be taken as a measure of psychoacoustic variables, e.g. loudness, sharpness, audio stress, etc.



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H04R2225/83

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text.

For example: compensation for the change in characteristics of a child's ear during growth

H04R2227/001

Definition statement

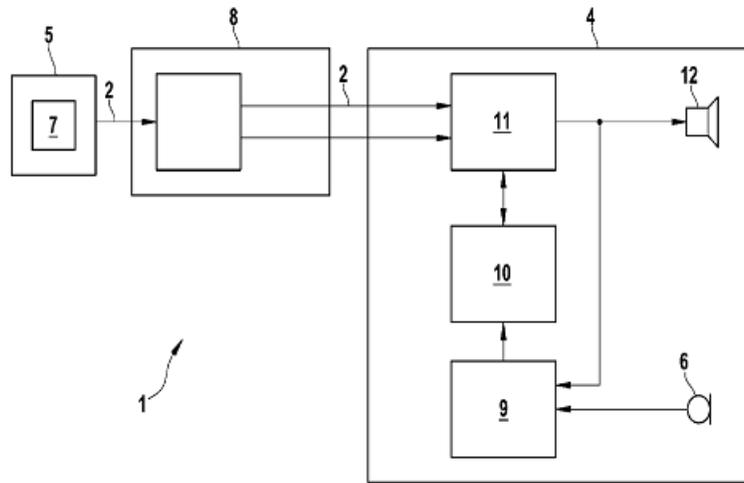
Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

Adaptation of the signal processing is generally done by sensing the interference signal or noise. For example: A PA system has two audio inputs (6, 7) provided for interference signal and a utility signal, respectively. An adjustment device (11) adjusts the utility signal with the interference signal in such manner that a modified utility signal is produced. An audio output is provided for the modified utility signal. The interference signal contains information about local distribution of static noises.

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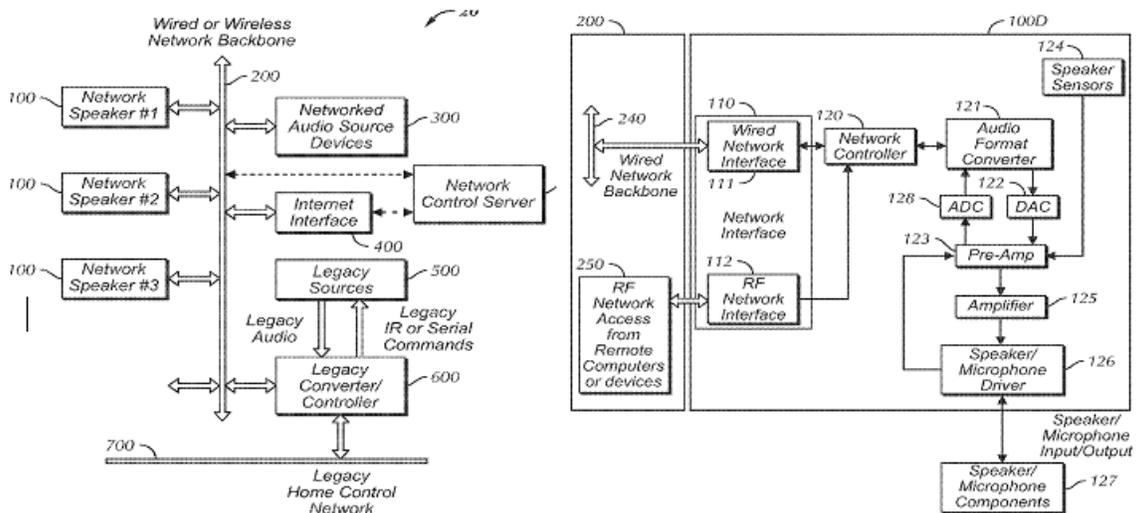
H04R2227/003

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

For example:



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Informative references

Delete: The existing row in the Informative references section.

Insert: The following replacement row.

Home automation networks, e.g. Home Audio Video Interoperability [HAVI] networks	H04L12/2803
--	-----------------------------

H04R2227/005

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

For example:

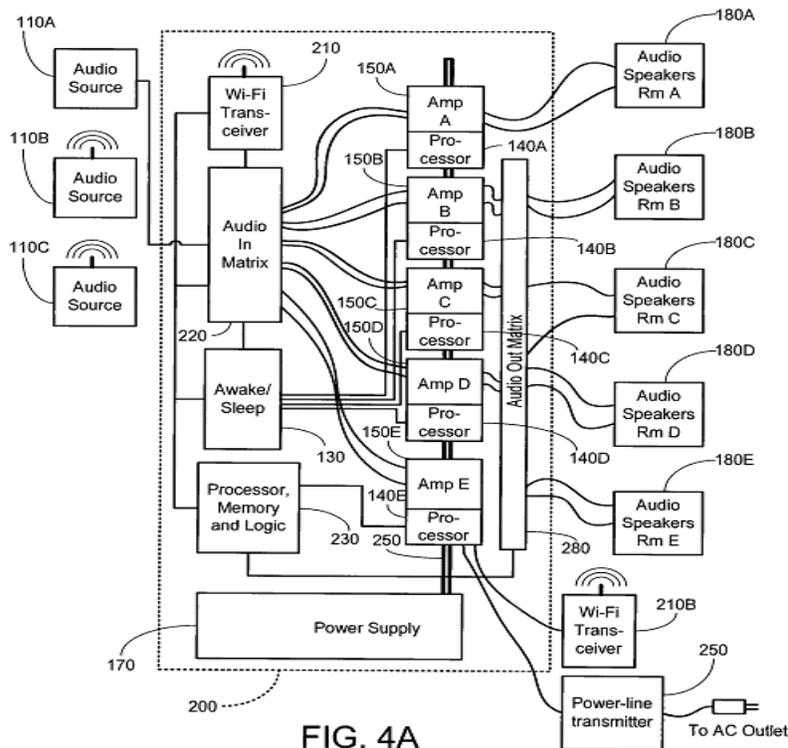


FIG. 4A

Insert: The following **new** Informative references section.

Informative references

Receiver circuits for HiFi systems or audio/video combinations	H04B1/20
Audio mixers	H04H60/00

Insert: The following **new** Glossary of Terms section.

Glossary of terms

Room	zone
------	------

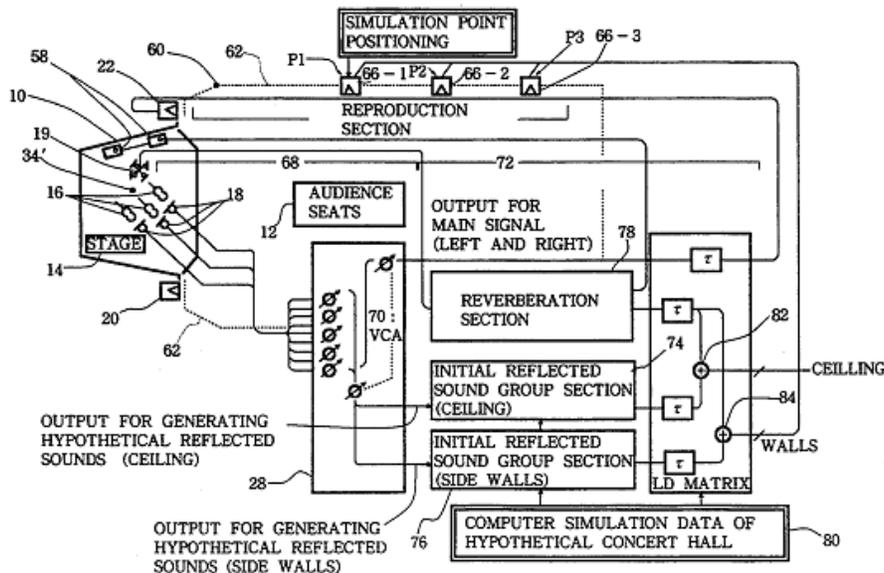
H04R2227/007

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

For example: reverberation adaptation for indoor or outdoor venues for PA-systems.



Informative references

Delete: The **first** row in the Informative references section.

Insert: The following replacement **first** row.

Measuring reverberation time; Room acoustic measurements	G01H7/00
--	----------

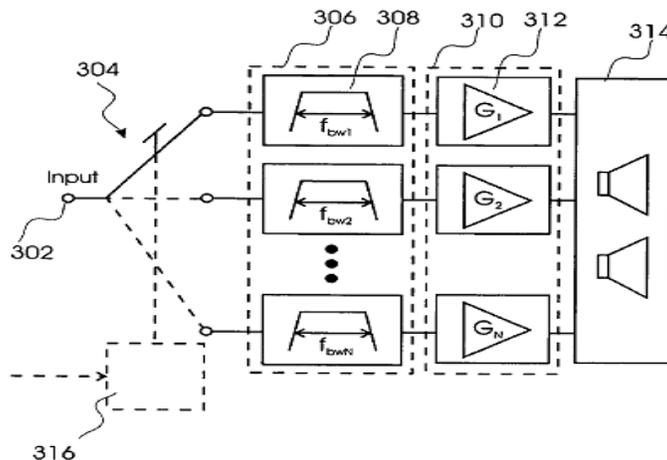
H04R2227/009

Definition statement

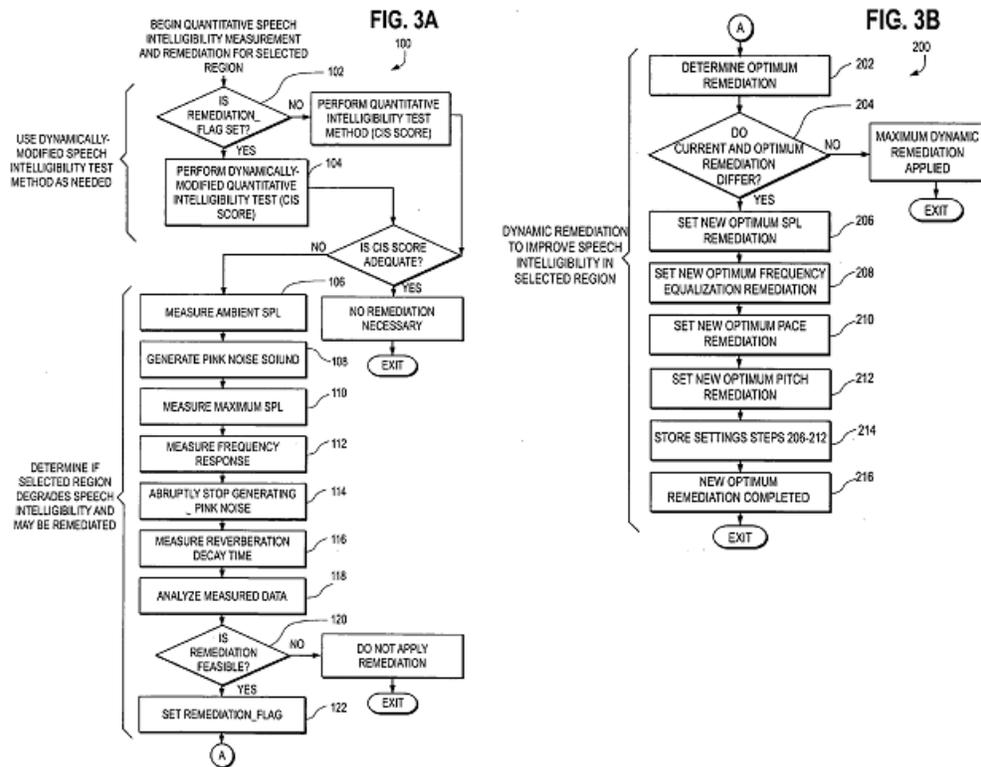
Delete: The existing text in the Definition statement section.

Insert: The following replacement text and two images.

For example: Amplifiers (312) have the amplification gain, which is the function of the bandwidth (308) of the filter (306), thus effectively augmenting the speech in noisy conditions, and hence preserving the overall sound pressure level and increasing speech intelligibility. The appropriate amplifier/filter combination is selected by a switch (304), which can be manually or automatically controlled by a switch controller (316) (cf. figure).



For example: A method involves sensing the ambient sound in a region for a predetermined time interval, analyzing sensed ambient sound and overlaying ambient sound with test audio signals having predetermined characteristics. The overlaid ambient sound is sensed. The degradation of speech intelligibility beyond acceptable level is determined by analyzing ambient sound pressure level and ambient frequency domain characteristics (cf. figure).



Informative references

- Delete: The **first** and **second** rows in the Informative references section.
- Insert: The following replacement row as the **second** row in the table.

Speech enhancement using two microphones, one receiving mainly the noise signal and the other one mainly the speech signal	G10L2021/02165
--	--------------------------------

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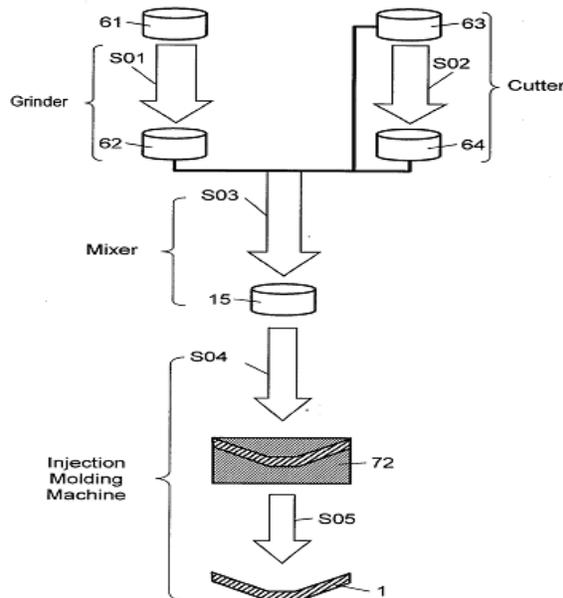
PROJECT DP0034

H04R2231/001**Definition statement**

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

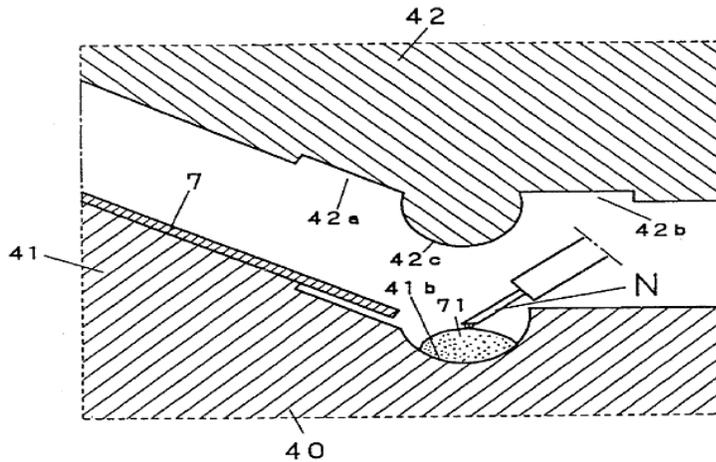
For example: Polypropylene pellets (61) are grinded (S01) to prepare granulated polypropylene resin (62). Fibres 63 are partly cut (S02; 64) and mixed (S03) with the resin to produce a compound (15 which can be injection moulded (S04, S05) to produce a loudspeaker diaphragm.

**H04R2231/003****Definition statement**

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

For example: Surround press-moulded onto a loudspeaker diaphragm (7)



H04R2307/023

Definition statement

Delete: The Definition statement section.

H04R2307/025

Definition statement

Delete: The Definition statement section.

Informative references

Delete: The **third row** in the Informative references section.

Insert: The following replacement third row.

Moulding aspects of diaphragm or surround	H04R2231/001
---	--------------

H04R2307/027

Definition statement

Delete: The entire Definition statement section.

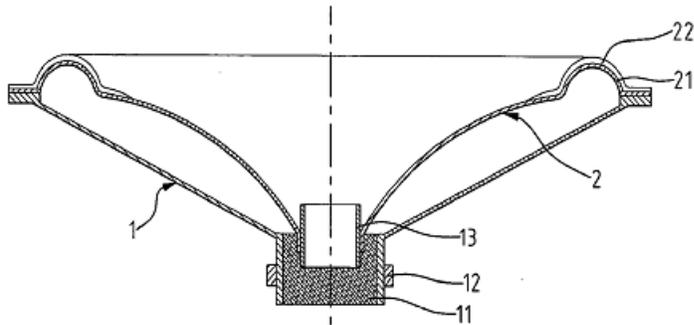
H04R2307/201

Definition statement

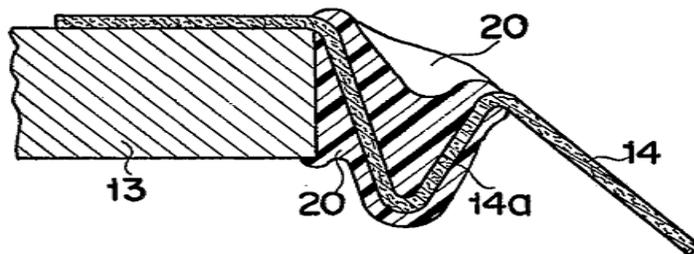
Delete: The Definition statement section.

Insert: The following replacement text and two images.

For example: membrane (2) is extended to form outer suspension (21), whose elastic properties are adapted by the elastic layer (22).



For example: dampening material (20) for the edge (14a)



Insert: The following **new** Glossary of terms section.

Glossary of terms

Outer suspension	surround
------------------	----------

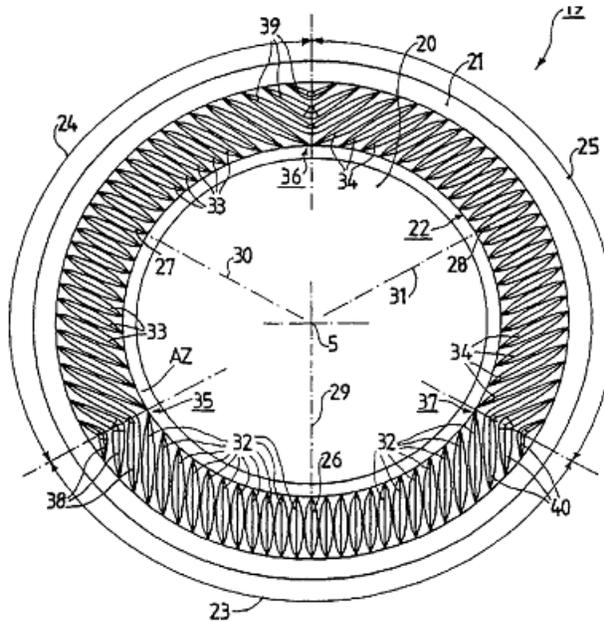
H04R2307/207

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

For example: Pleats (26,27, 28,32, 33,34, 38,39, 40) are provided in the outer suspension in such a way the vibration of membrane is more uniform over the frequency range the transducer is to be used for.



Insert: The following **new** Glossary of terms section.

Glossary of terms

Outer suspension	surround
------------------	----------

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H04R2400/00

Special rules of classification within this group

Delete: The **second** and **third** paragraphs in the Special rules section.

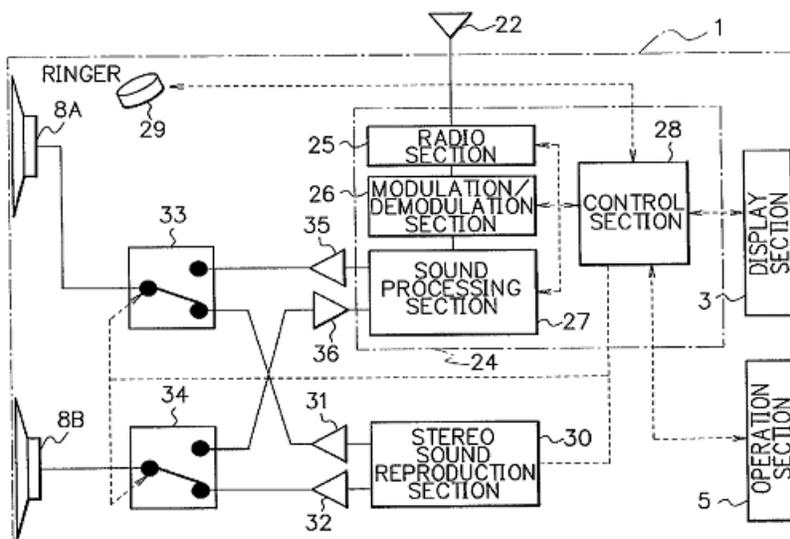
H04R2400/01

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

For example: Cellular telephone (1) has pair of transducers (8A,8B) functioning as stereo speakers during sound reproduction and functioning separately as speaker (8A) and microphone (8B) during conversation.



H04R2400/07

Definition statement

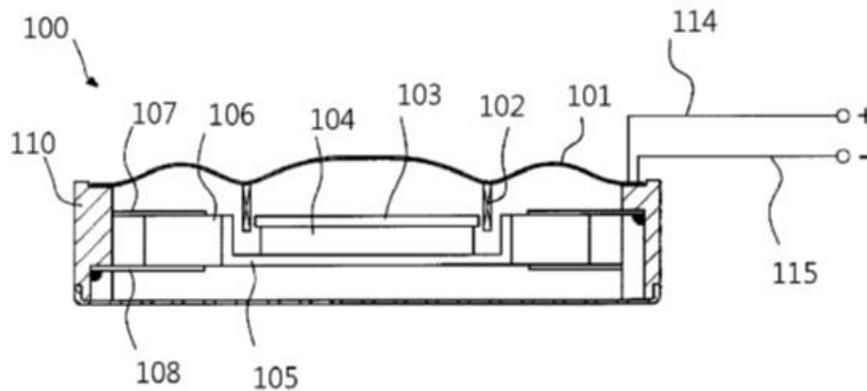
Delete: The existing text in the Definition statement section.

Insert: The following replacement text and two images.

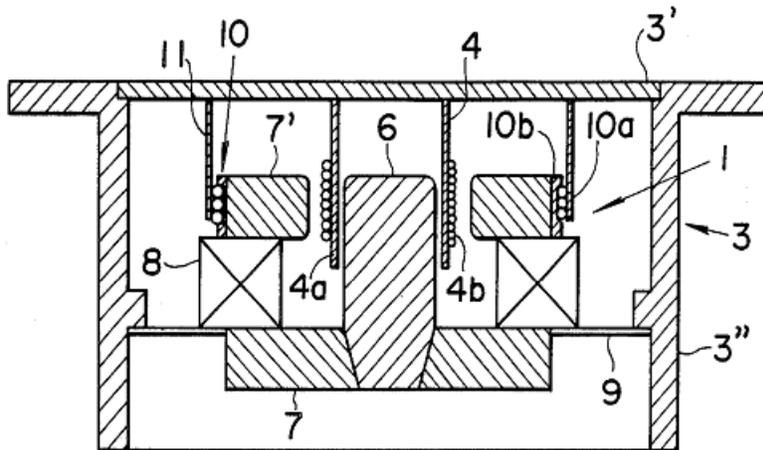
DATE: AUGUST 1, 2016

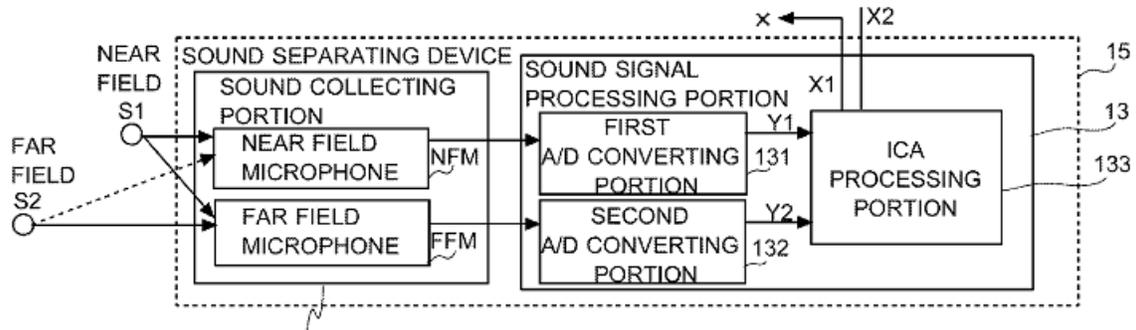
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For example: The transducer shown in the figure below, comprises magnetic circuit (103, 104, 105) and a movable diaphragm (101) to produce sound when the voice coil (102) is supplied with a signal having a higher frequency. When the magnetic circuit and a weight (106) constitute a vibrator which is elastically supported against the case (110) by an upper and a lower suspension (107, 108). If the voice coil is supplied with a low frequency signal the vibrator starts vibrating, resulting in a tactile vibration.



For example: an inertial transducer with a flexible membrane (3') and magnetic circuit elastically supported by a suspension (9). Upon energising the voice coil (4b) the membrane starts producing sound and the magnetic circuit move as well, causing a tactile vibration to be simultaneously generated.





H04R2410/03

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text.

Intrinsic noise is the noise which is generated inside the microphone (transducer) without any ambient acoustic signal (noise) being present, e.g. noise caused by parasitic capacitances in MEMS microphones or thermal noise.

H04R2410/05

Informative references

Delete: The existing row in the Informative references table.

Insert: The following replacement row.

Speech enhancement using two microphones, one receiving mainly the noise signal, and the other one mainly the speech signal	G10L2021/02165
---	--------------------------------

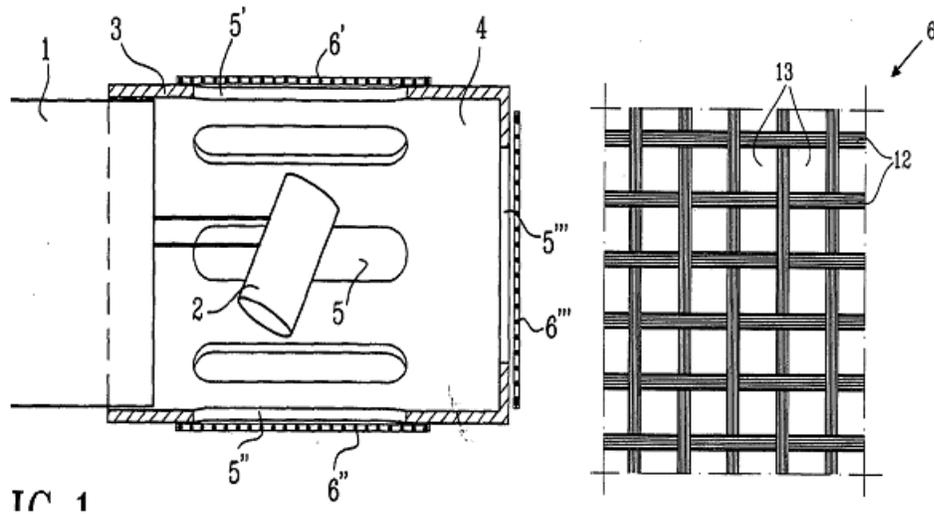
H04R2410/07

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and two images.

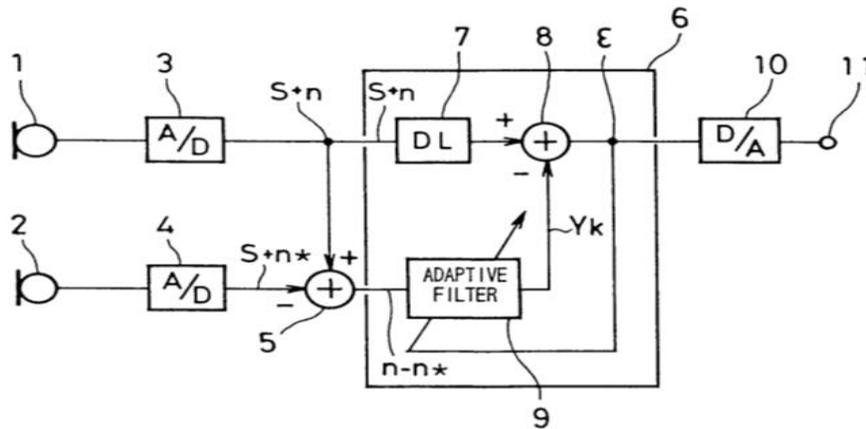
For example: mechanical reduction with the help of a mesh (6,6',6") over the sound openings (5,5',5") of a microphone



For example: electrical reduction using primary microphone (1) and a reference microphone (2) placed closely together. The microphone signals are input to adaptive noise canceller (6) (cf. Figure below).

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Informative references

Delete: The existing row in the Informative references section.

Insert: The following replacement rows.

Speech enhancement using noise filtering	G10L21/02
Speech enhancement using noise filtering characterised by the method used for estimating noise	G10L21/0216

H04R2420/01

Definition statement

Delete: The existing text in the Definition statement section.

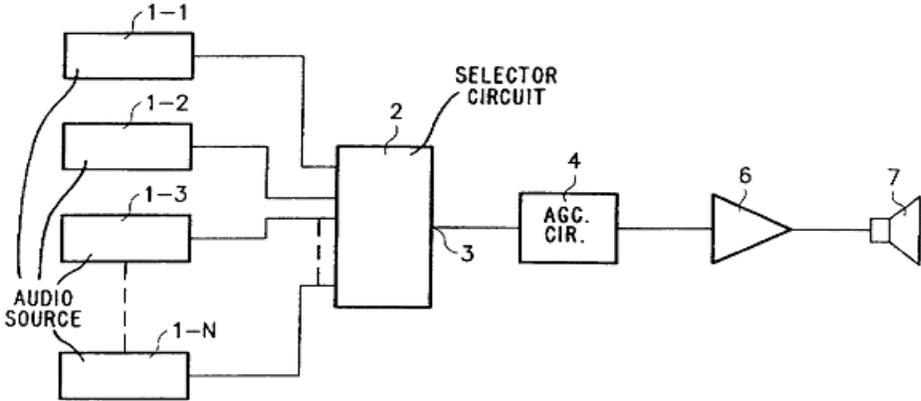
Insert: The following replacement text and two graphics.

For example: selection

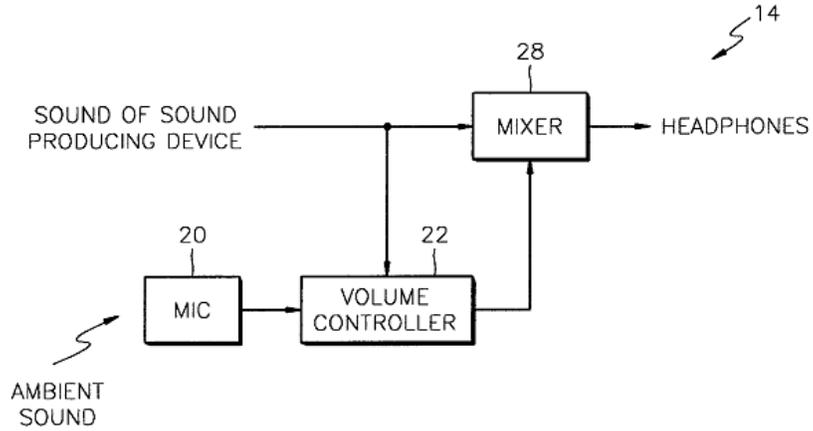
CPC NOTICE OF CHANGES 222

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For example: mixing



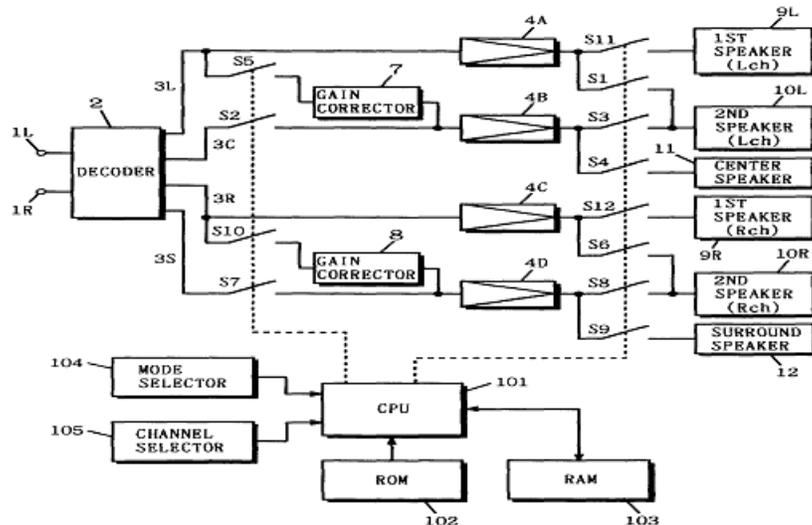
H04R2420/03

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and graphic.

For example:



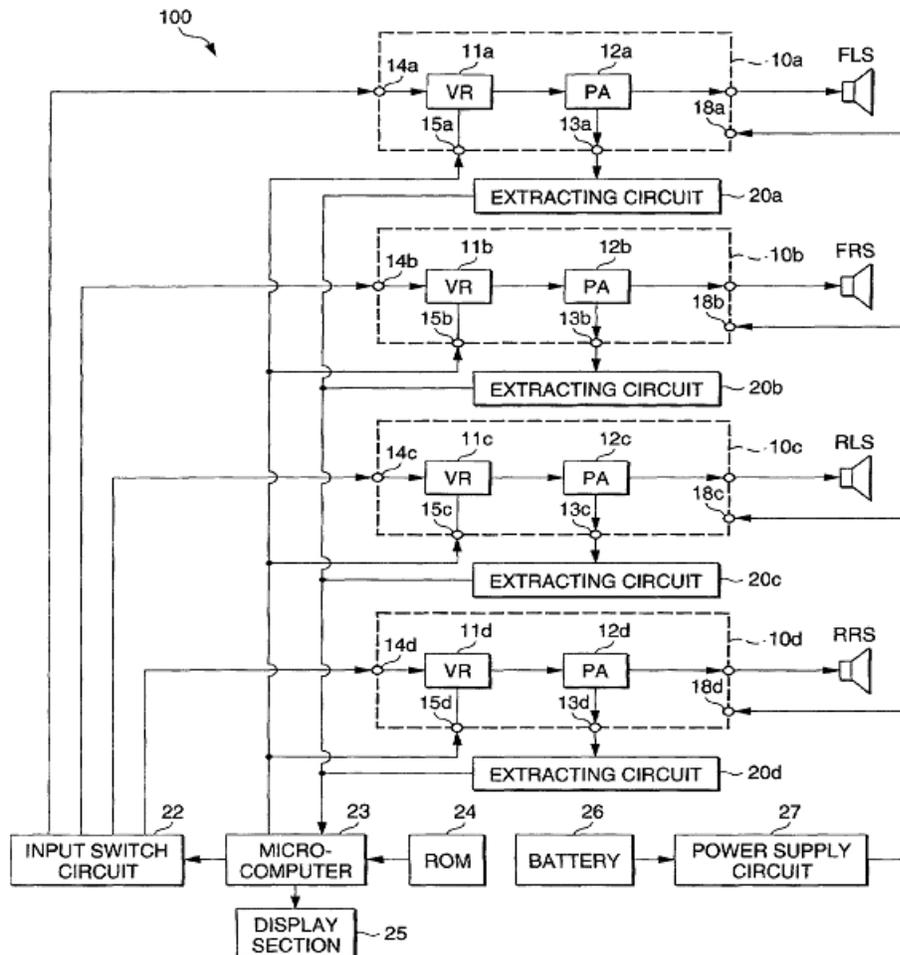
H04R2420/05

Insert: The following **new** Definition statement section.

Definition statement

Detection of state of connection of acoustic transducers, microphones, loudspeakers and headphones to amplifiers

For example: The information apparatus (100) includes speakers (FLS, FRS, RLS, RRS) connected to the amplifiers (12a-12d). An input switch circuit (22) performs the input of a predetermined inspection signal into the amplifier. A microcomputer (23) determines whether the speaker is connected to the amplifier based on a signal to be inspected which is produced from the input inspection signal in the input switch circuit (cf. Figure).



Insert: The following **new** Special rules section.

Special rules of classification within this group

To be used in combination with [H04R5/04](#) (stereophonic) or [H04R29/00](#) (not stereophonic) (or its subgroups) to indicate detection of connection.

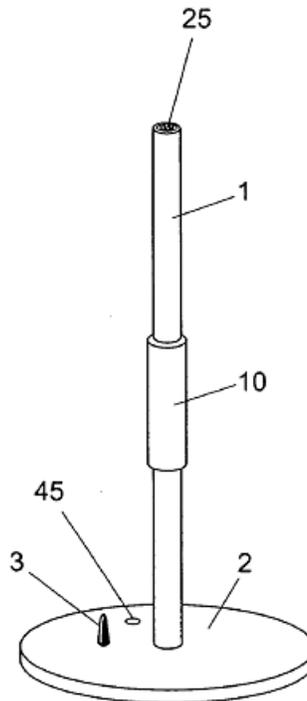
H04R2420/07

Definition statement

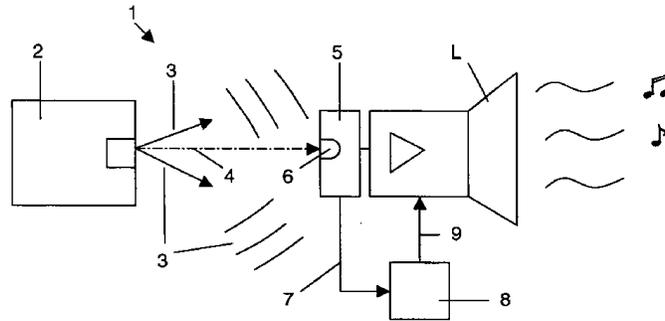
Delete: The existing text in the Definition statement section.

Insert: The following replacement text and two images.

For example: stand for a microphone (not shown) having an antenna (3) and a transmitter (45))



For example: loudspeaker



Informative references

Delete: In the 5th row, second column, the following text.

[IPC 2013.01]

Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

Insert: The following replacement paragraph.

The mere fact that a wireless connection for data transfer is used should not be classified.

H04R2420/09

Special rules of classification within this group

Delete: The existing paragraph in the Special rules section.

H04R2430/01

Definition statement

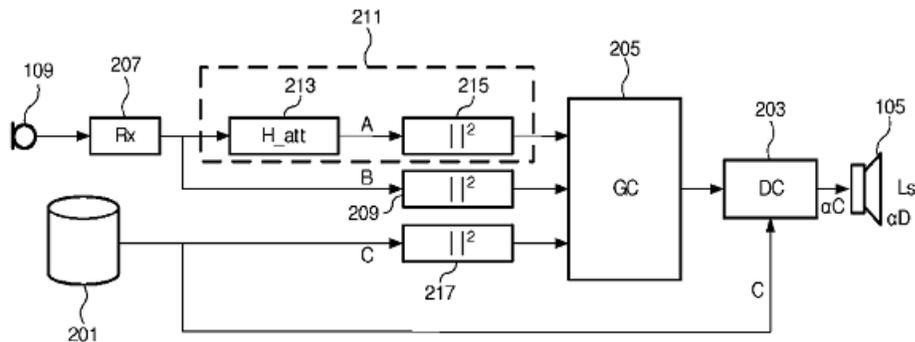
Delete: The existing text in the Definition statement section.

Insert: The following replacement text and two images.

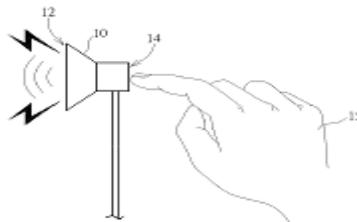
Electronic aspects of volume control, e.g. for control based on sensor signals or for limiting the maximum sound level, or aspects of elements used for volume control, e.g. for simplicity in use or the construction of control element.

The mere presence of a volume control should not be classified.

Example (electronic aspects of volume control): The volume level set by the gain controller (205) of a headphone is determined in dependence of the ambient signal (B) picked up by a microphone (109) and an attenuated version (A) thereof.



Example (aspects of the element used for control): The earphone 10 has a front side 12, from which sound is emitted from a speaker, and a back side 14 which the user can press with the user's finger or hand 15 in order to activate a switch that raises the volume level of the sound produced by the earphone 10.



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H04R2430/03

Delete: The existing text in the Definition statement section.

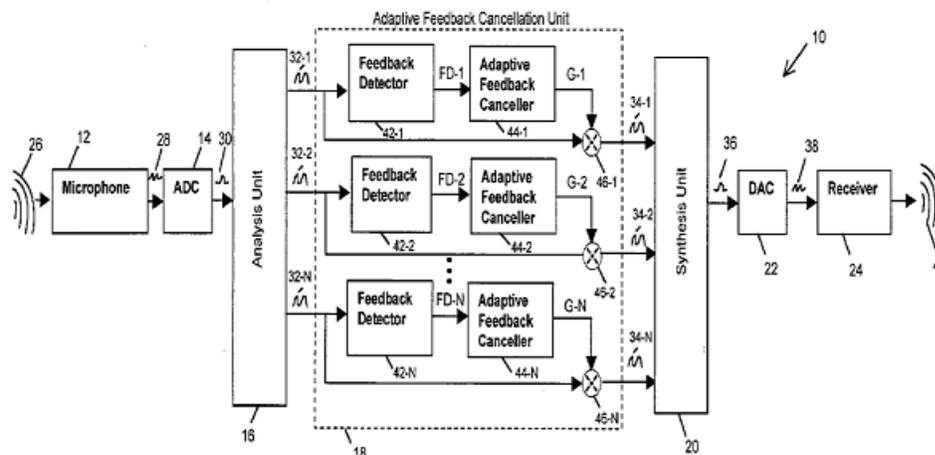
Insert: The following replacement text and two images.

Definition statement

Only if additional effects due to the combination of band splitting and sub-band processing are present (cf. the examples below).

The mere fact that band splitting and sub-band processing is applied should not be classified.

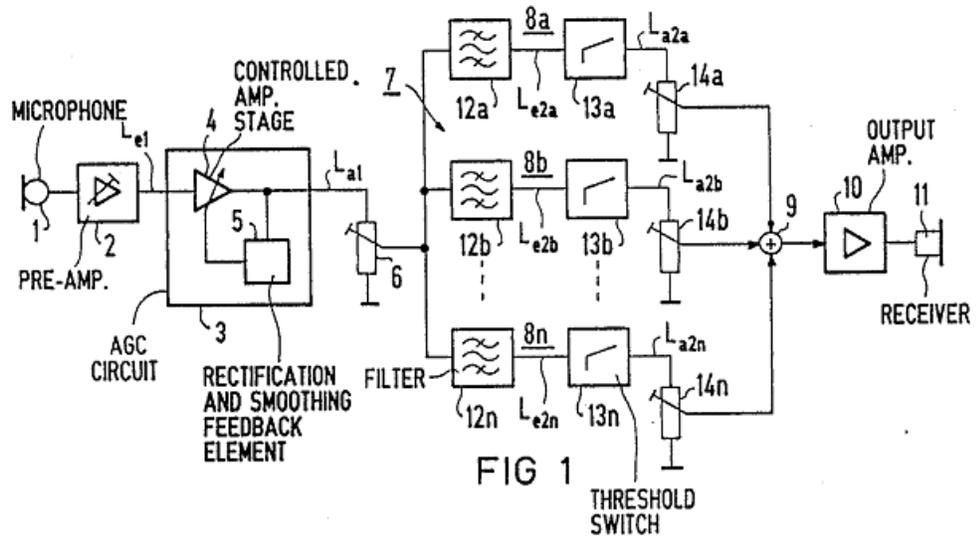
For example: Adaptive feedback cancellation for individual frequency band, which reduces computational effort, thus making cancellation faster and a good sound quality can be maintained.



For example: For each frequency band (122a, 12b, ...) an automatic threshold switch (13a, 13b, ...) is opened if speech is present. Thus noise is only transmitted in the presence of louder speech in a frequency band and is suppressed if no speech is present in said band. Because the unwanted signals are transmitted only in those frequency channels wherein louder speech signals are simultaneously present, the unwanted signals are always covered by the louder speech signals, and the unwanted signals are thus no longer audible.

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H04R2430/20

Insert: The following **new** Definitions statement section.

Definition statement

Signal processing of the output signals of an array of microphones for direction finding or of the input signals of an array of loudspeakers for steering sound in a desired direction

H04R2430/25

Definition statement

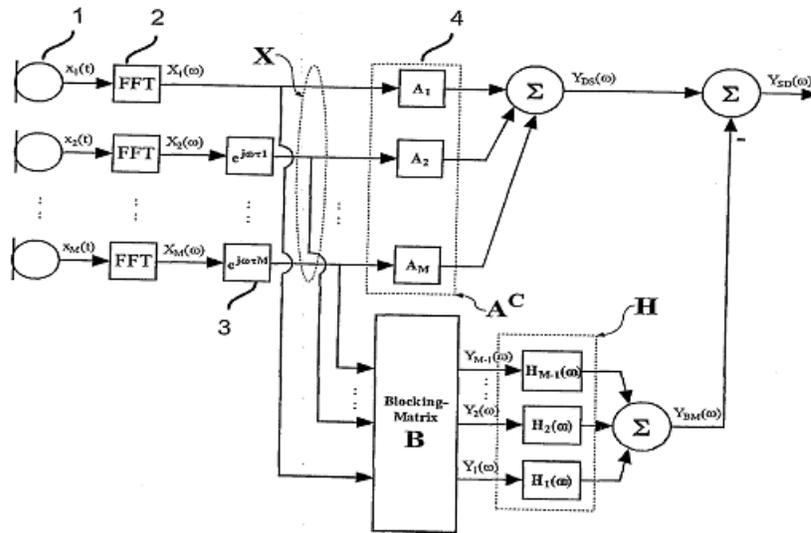
Delete: The existing text in the Definition statement section.

Insert: The following replacement text and two images.

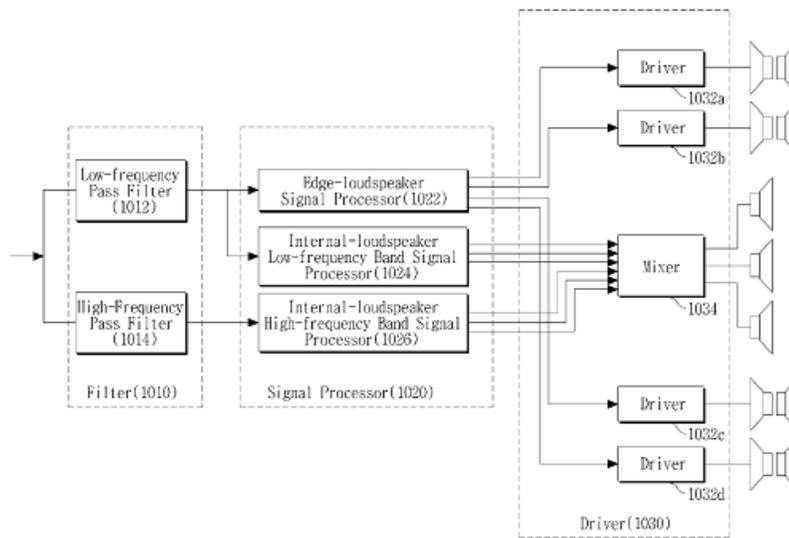
For example: microphone array

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For example: loudspeaker array comprising additionally high-directivity edge loudspeakers which are driven with only low-frequency signal, to cancel side-lobes.



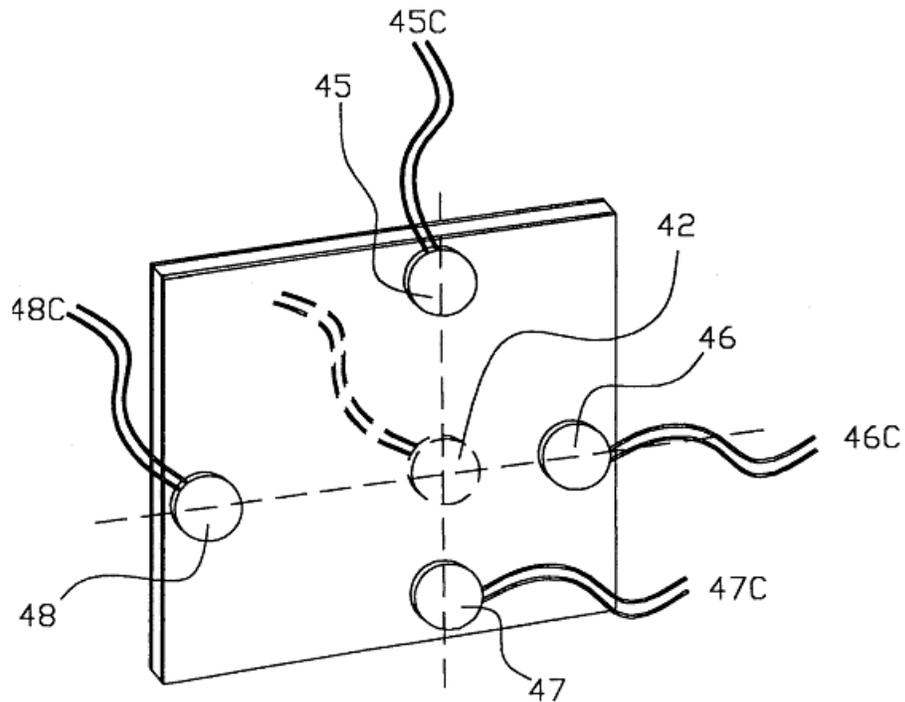
H04R2440/05

Definition statement

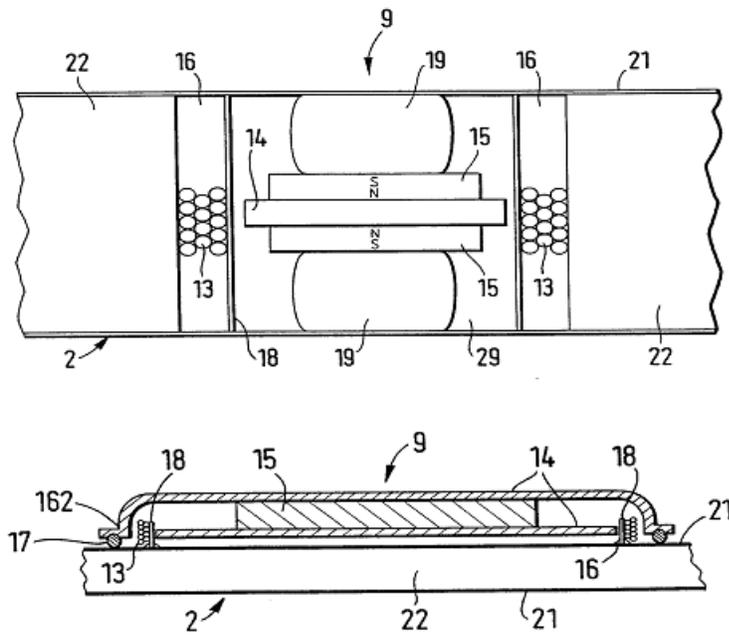
Delete: The existing text in the Definition statement section.

Insert: The following replacement text and two images.

For example: Repositioning of central exciter (42) which has to be positioned at the edge of a transparent panel to be used for a visual display.



For example: mounting of the exciter (9) in the panel (2) (upper figure) or on the panel (2) (lower figure).



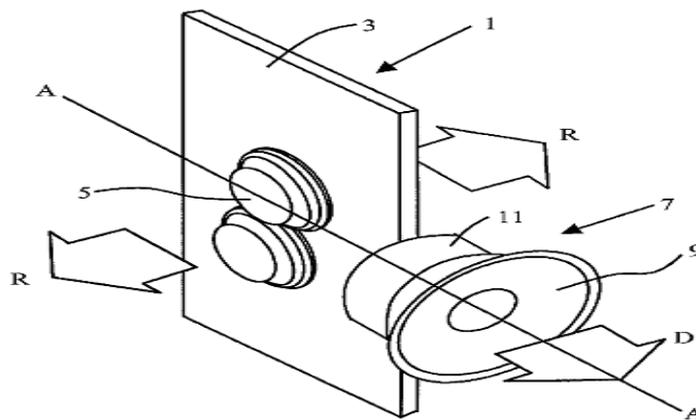
H04R2440/07

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and two images.

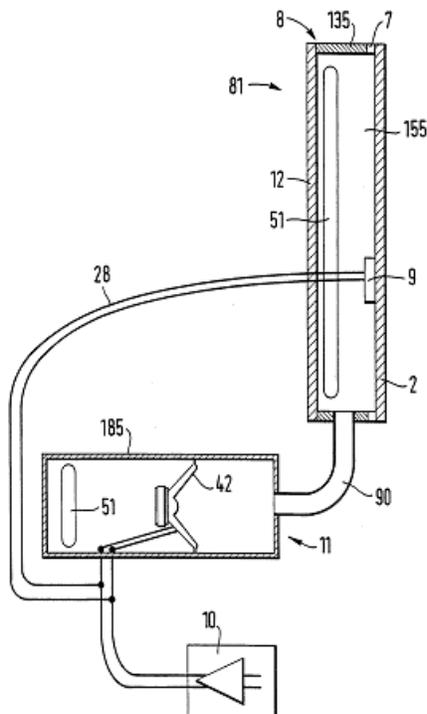
For example: Bending wave resonance speaker (1) for surround channels and pistonic loudspeaker transducer (7) for the main channel



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For example: The membrane (2) of loudspeaker (81) is actively driven with resonant bending waves by an exciter (9) for the high frequencies and is passively driven by a pistonic loudspeaker transducer (42) for the low frequencies.



H04R2460/01

Definition statement

Delete: The entire existing Definition statement section.

Informative references

Delete: The table in the Informative references section.

Insert: The following replacement table.

Ear defenders (electric or acoustic)	A61F11/06 A61F11/14
--------------------------------------	------------------------

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	A61F2011/145
Active noise cancellation in general	G10K11/175
Reduction of ambient noise in headphones in general	H04R1/1083
Active noise control in general for earphones or microphones	G10K2210/1081

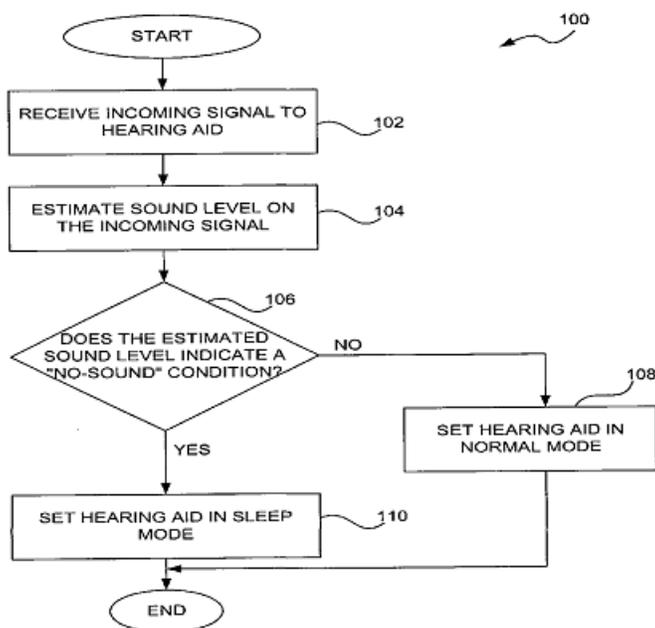
H04R2460/03

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

For example:



Informative references

Delete: The table in the Informative references section.

Insert: The following replacement table.

Battery saving arrangements in cordless telephones	H04M1/73
--	--------------------------

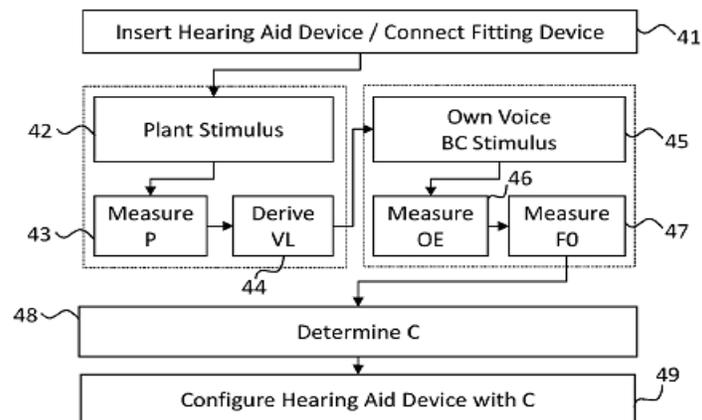
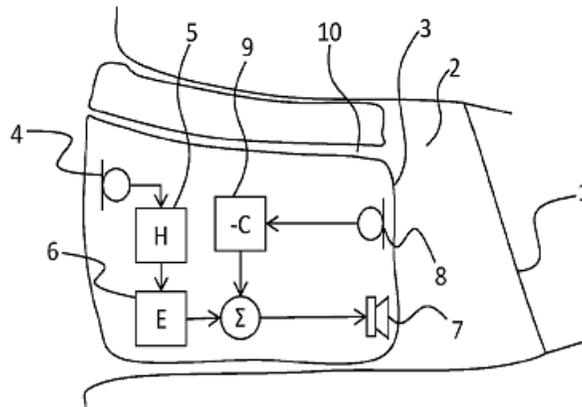
H04R2460/05

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and two images.

For example: Fitting a hearing aid including occlusion compensation filter (C).



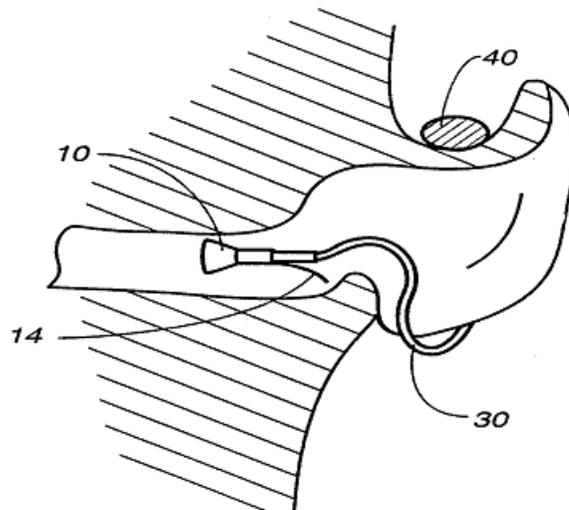
H04R2460/09

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

For example:



H04R2460/11

Definition statement

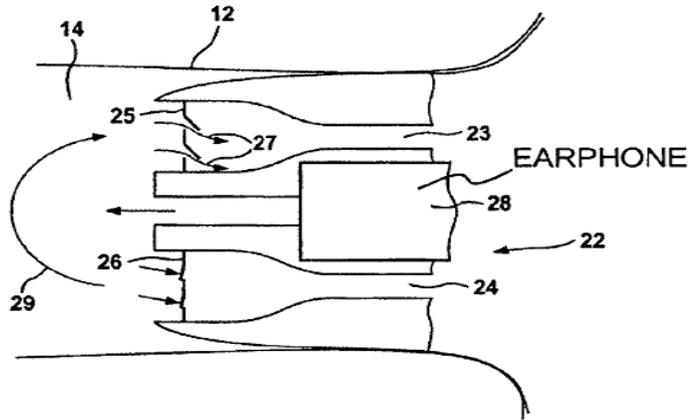
Delete: The existing text in the Definition statement section.

Insert: The following replacement text and two images.

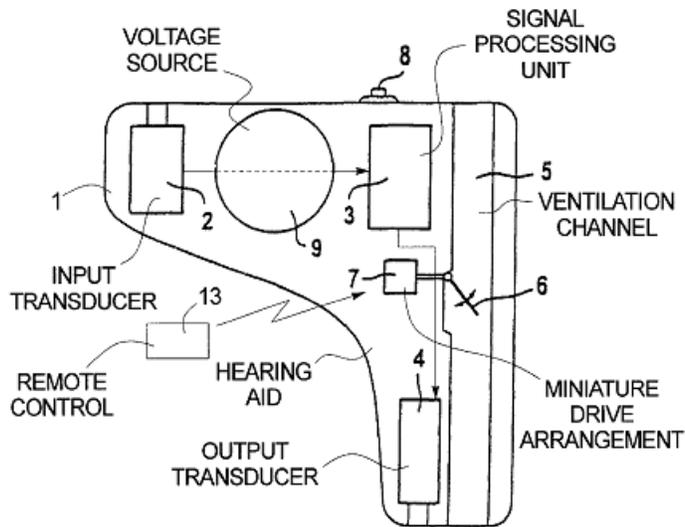
For example: Improved venting of the ear canal due to the opposite orientation of valves (25, 26), which enables circulation (29) of air in the ear canal.

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For example: hearing aid device with a ventilation channel (5), cross-section of which can be adapted (6, 7) to the respective acoustic situation (e.g. acoustic feedback) in a fast and simple manner.



Insert: The following **new** Informative references section.

Informative reference

Prevention of acoustic feedback in hearing aids mechanically	H04R25/456
--	----------------------------

Electronic compensation of the occlusion effect	H04R2460/05
---	-----------------------------

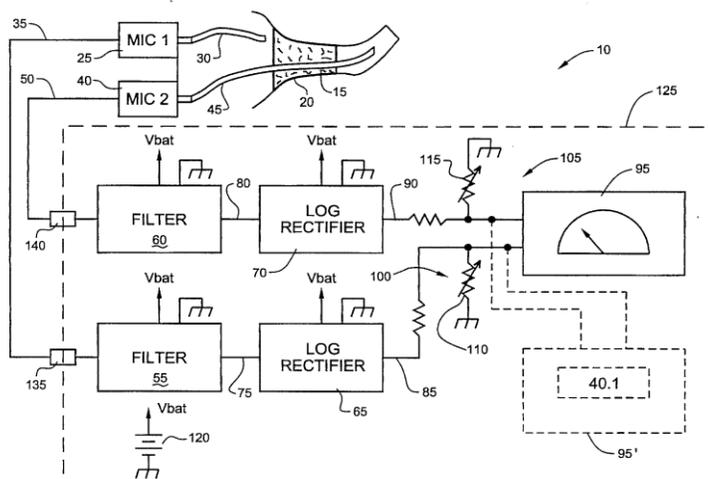
H04R2460/15

Definition statement

Delete: The existing text in the Definition statement section.

Insert: The following replacement text and image.

For example:



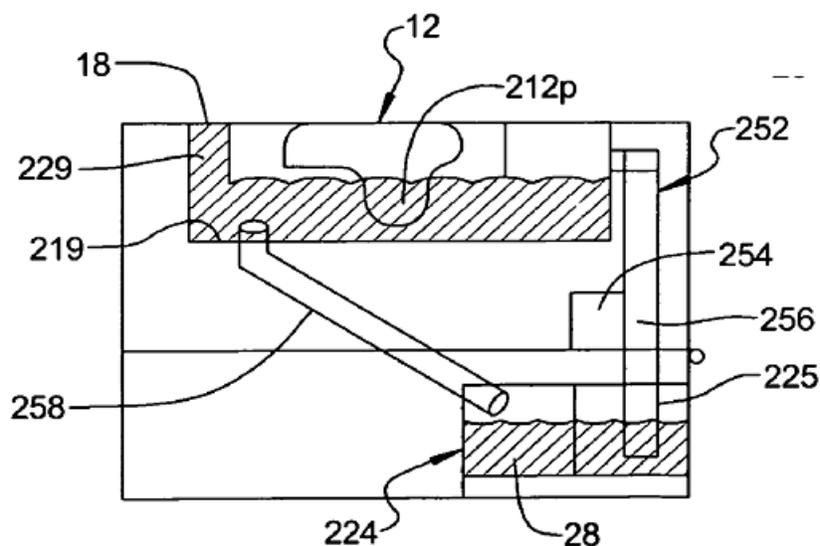
H04R2460/17

Definition statement

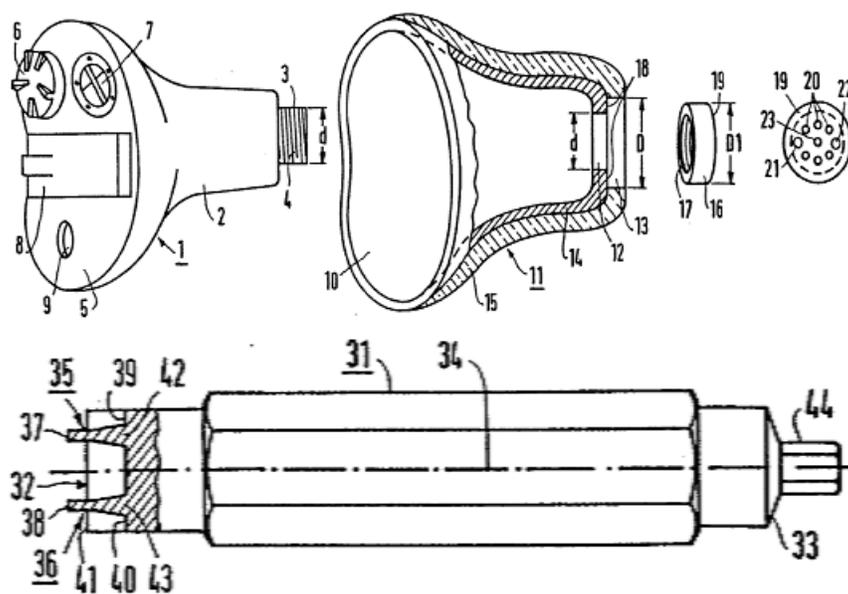
Delete: The existing text in the Definition statement section.

Insert: The following replacement text and four images.

For example: Hearing aid (12) cleaning: a cleaning liquid (28) is pump up (with a pump system (252)) from a cartridge (224) into a reservoir (229) (cf. figure)



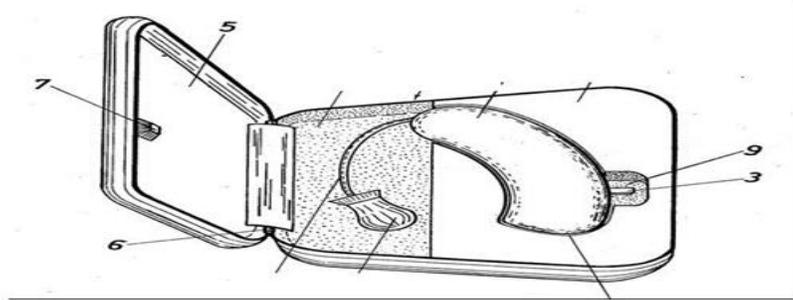
For example: Tool for replacement of cerumen barriers: a cerumen barrier (19) is provided with two holes (21, 22) (upper figure). The tool (lower figure) (31) is provided with two pins (35, 36) which fit in said holes (21, 22) of the cerumen barrier. Thus the barrier can be easily screwed onto the outside thread (4) of the neck (3) of the ITE hearing aid module (1).



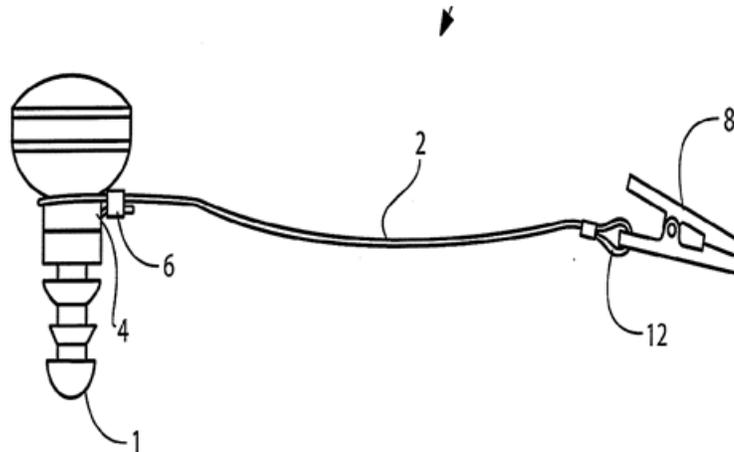
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For example: hearing aid storage box: When the lid (5) is closed the protrusion (7) pushes the on/off switch (3) in the off position.



For example: safety loop for securing an earbud to e.g. a shirt.



H04R2499/13

Definition statement

Delete: The existing text in the Definition statement section.

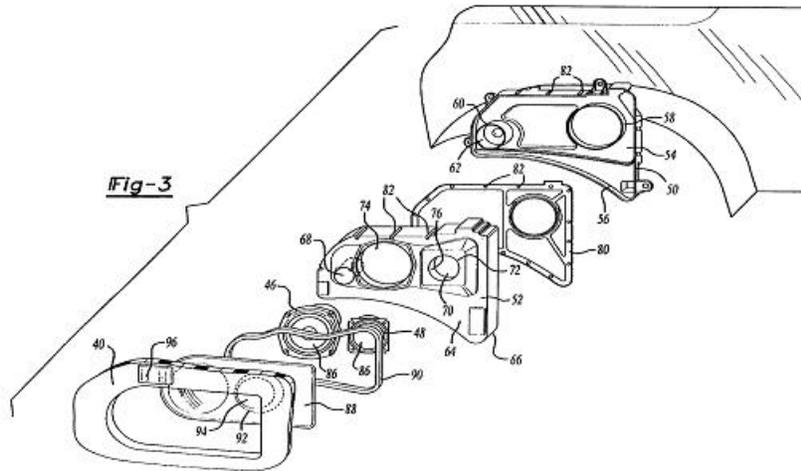
Insert: The following replacement text and two images.

DATE: AUGUST 1, 2016

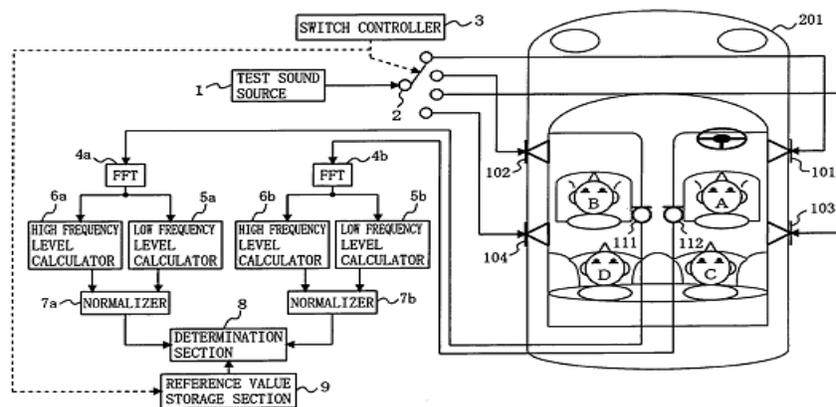
PROJECT DP0034

Subject matter relating to mounting of transducers on or within a vehicle, e.g. automobile, aircraft, motorcycle, and to electronic control of the sound field within a vehicle, e.g. automobile, aircraft, motorcycle.

For example: Mounting of transducers in vehicles



For example: Sound control in vehicles



DATE: AUGUST 1, 2016

PROJECT DP0034

Deleted Definitions

Delete: The following five definitions.

H04R2307/021

H04R2307/029

H04R2307/204

H04R2420/00

H04R2460/07