UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 10,455,066 B2
APPLICATION NO. : 15/563937
DATED : October 22, 2019
INVENTOR(S) : Seung Jin Kim

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Specification

Column 8, Line 27, "112" should read --112)--

Column 20, Line 44, "device" should read --device.--

Column 23, Line 57, "102" should read --102.--

Signed and Sealed this
Twenty-fifth Day of February, 2020

Andrei Iancu
Director of the United States Patent and Trademark Office

PTO/SB/44 (09-07)
Approved for use through 01/31/2020. OMB 0651-0033
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 10455066

APPLICATION NO.: 15563937

ISSUE DATE : October 22, 2019

INVENTOR(S) : Seung Jin Kim

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In column 8, line 27, "112" should read --112)--

In column 20, line 44, “device” should read --device.--

In column 23, line 57, “102" should read --102.--

MAILING ADDRESS OF SENDER (Please do not use Customer Number below):

Kasha Law LLC
14532 Dufief Mill Rd.
North Potomac, MD 20878

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	15563937
Filing Date:	02-Oct-2017
Title of Invention:	MOBILE SYSTEM WITH WIRELESS EARBUD
First Named Inventor/Applicant Name:	Seung Jin KIM
Filer:	John Kasha
Attorney Docket Number:	PNN0005-US

Filed as Small Entity

Filing Fees for U.S. National Stage under 35 USC 371

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
CERTIFICATE OF CORRECTION	2811	1	150	150

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**150**

Electronic Acknowledgement Receipt

EFS ID:	38449567
Application Number:	15563937
International Application Number:	
Confirmation Number:	3453
Title of Invention:	MOBILE SYSTEM WITH WIRELESS EARBUD
First Named Inventor/Applicant Name:	Seung Jin KIM
Customer Number:	67050
Filer:	John Kasha
Filer Authorized By:	
Attorney Docket Number:	PNN0005-US
Receipt Date:	30-JAN-2020
Filing Date:	02-OCT-2017
Time Stamp:	16:33:13
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$150
RAM confirmation Number	E20201TG33283625
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Certificate of Correction	PIN0005-US_cert_of_corr.pdf	221566 fcc0538e45535ad3a1d0c6a51109348ef9f58f02	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30353 4c5a3252def7d8d769e55a5078fdbfcb0d5addb8	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	251919		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/563,937	10/02/2017	Seung Jin KIM	PNN.005NP

CONFIRMATION NO. 3453

POWER OF ATTORNEY NOTICE

20995
KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

OC00000014266742

Date Mailed: 01/29/2020

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 01/17/2020.

- The Power of Attorney to you in this application has been revoked by the applicant. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/agizaw/

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/563,937	10/02/2017	Seung Jin KIM	PNN0005-US

CONFIRMATION NO. 3453

POA ACCEPTANCE LETTER

67050
KASHA LAW LLC
14532 Dufief Mill Road
North Potomac, MD 20878

OC000000114266771

Date Mailed: 01/29/2020

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 01/17/2020.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/agizaw/

PTO/AIA/81A (02-15)
Approved for use through 03/31/2021. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

PATENT - POWER OF ATTORNEY OR REVOCATION OF POWER OF ATTORNEY WITH A NEW POWER OF ATTORNEY AND CHANGE OF CORRESPONDENCE ADDRESS

Patent Number	10,455,066
Issue Date	October 22, 2019
First Named Inventor	Seung Jin Kim
Title	Mobile System with Wireless Earbud
Attorney Docket No.	PIN0005-US

I hereby revoke all previous powers of attorney given in the above-identified patent.

☐ A Power of Attorney is submitted herewith.

OR

☒ I hereby appoint Practitioner(s) associated with the Customer Number identified in the box at right as my/our attorney(s) or agent(s) with respect to the patent identified above, and to transact all business in the United States Patent and Trademark Office connected therewith: 67050

OR

☐ I hereby appoint Practitioner(s) named below as my/our attorney(s) or agent(s) with respect to the patent identified above, and to transact all business in the United States Patent and Trademark Office connected therewith:

Practitioner(s) Name	Registration Number

Please recognize or change the correspondence address for the above-identified patent to:

☒ The address associated with the above-identified Customer Number.

OR

☐ The address associated with the Customer Number identified in the box at right:

OR

☐ Firm or Individual Name					
Address					
City		State		Zip	
Country					
Telephone		Email			

I am the:

☐ Applicant.

OR

☒ Patent owner.

Statement under 37 CFR 3.73(c) (Form PTO/AIA/96) submitted herewith or filed on _____.

SIGNATURE of Applicant or Patent Owner

Signature	/Seung Kim/	Date	1/16/2020
Name	Seung Kim	Telephone	
Title and Company	CEO, Pinn, Inc.		

NOTE: Signatures of all the applicants or patent owners of the entire interest or their representative(s) are required. If more than one signature is required, submit multiple forms, check the box below, and identify the total number of forms submitted in the blank below.

☑ A total of 1 forms are submitted.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

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PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Pinn, Inc.

Application No./Patent No.: 10,455,066 Filed/Issue Date: October 22, 2019

Titled: Electronic Device with Wireless Earbud

Pinn, Inc., a Corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☑ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 045673, Frame 0586, or for which a copy thereof is attached.

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

   1. From: _____ To: _____

      The document was recorded in the United States Patent and Trademark Office at

      Reel _____, Frame _____, or for which a copy thereof is attached.

   2. From: _____ To: _____

      The document was recorded in the United States Patent and Trademark Office at

      Reel _____, Frame _____, or for which a copy thereof is attached.

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☐ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Signature	1/16/2020 Date
Seung Kim Printed or Typed Name	CEO Title or Registration Number

[Page 2 of 2]

Privacy Act Statement

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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	38323601
Application Number:	15563937
International Application Number:	
Confirmation Number:	3453
Title of Invention:	MOBILE SYSTEM WITH WIRELESS EARBUD
First Named Inventor/Applicant Name:	Seung Jin KIM
Customer Number:	20995
Filer:	John Kasha
Filer Authorized By:	
Attorney Docket Number:	PNN.005NP
Receipt Date:	17-JAN-2020
Filing Date:	02-OCT-2017
Time Stamp:	09:37:49
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	PIN0005-US_poa_aia81a.pdf	143689 d994a6130088b7501b60e64417e76af87af9e6a4	no	2

Warnings:

Information:					
2	Assignee showing of ownership per 37 CFR 3.73	PIN0005-US_stmt_373.pdf	105182 170e183abd9a138a23f4726dce27e78179c7eca0	no	3
Warnings:					
Information:					
		Total Files Size (in bytes):	248871		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/563,937	10/22/2019	10455066	PNN.005NP	3453

20995 7590 10/02/2019

KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Seung Jin KIM, Irvine, CA;
PINN, INC., Tustin, CA;

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15563937
Filing Date	2017-10-02
First Named Inventor	Seung Jin KIM
Art Unit	2654
Examiner Name	Ton, David L.
Attorney Docket Number	PNN.005NP

	2	20130094687	A1	2013-04-18	Weinstein et al.	
Change(s) applied to document. /T.W./ 9/19/2019	3	20130244633	A1	~~2012-03-18~~ 09/2013	Jacobs	
	4	20110244927	A1	~~2010-03-31~~ 10/2011	Kari	
	5	20160004277	A1	2016-01-07	Farjami	

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	203193717	CN	U	2013-09-11	CHEN, ZHIJUN; XIONG DAFANG		☒
	2	2005064813	WO	A1	2005-07-14	SEECODE CO LTD		☐
	3	203720788	CN	U	2013-12-11	SAMSUNG TIANJIN MOBILE DEVELOPMENT CENTER ET AL		☒
	4	103815628	CN	B	2014-01-24	1MORE ELECTRONIC TECHNOLOGY CO LTD		☒
	5	2489520	CN	Y	2001-05-25	HU QIONG		☒

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.T/

United States Patent and Trademark Office

Office of the Chief Financial Officer

Document Code:WFEE

User :C46167

Sale Accounting Date:09/04/2019

Sale Item Reference Number	Effective Date
15563937	09/03/2019

Document Number	Fee Code	Fee Code Description	Amount Paid	Payment Method
I201994852044351	2501	UTILITY APPL ISSUE FEE	$500.00	Salea

Document Description: Issue Fee Payment (PTO-85B)

Issue Fee Transmittal Form

Application Number	Filing Date	First Named Inventor	Atty. Docket No.	Confirmation No.
15563937	02-Oct-2017	Seung Jin KIM	PNN.005NP	3453

TITLE OF INVENTION :

MOBILE SYSTEM WITH WIRELESS EARBUD

Entity Status	Application Type	Art Unit	Class - Subclass	EXAMINER
Small	U.S. National Stage under 35 USC 371	2654	311000	DAVID TON

Issue Fee Due	Publication Due	Total Fee(s) Due	Date Due	Prev. Paid Fee
$500	$0	$500	29-Nov-2019	$500

1.Change of Correspondence Address and/or Indication Of Fee Address (37 CFR 1.33 & 1.363)

Current Correspondence Address:	Current Indicated Fee Address :
20995 KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE CA 92614 UNITED STATES 949-760-0404 efiling@knobbe.com	
☐ Change of correspondence address requested, system generated AIA/122-EFS form attached	☐ Fee Address indication requested, system generated SB/47-EFS form attached

2.Entity Status

Change in Entity Status

○ Applicant certifying micro entity status; system generated Micro Entity certification form attached. See 37 CFR 1.29.
Note: Absent a valid certification of micro entity status, issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment. If this box is checked, you will be prompted to choose a micro entity status on the gross income basis (37 CFR 1.29(a)) or the institution of higher education basis (37 CFR 1.29(d)), and make the applicable certification online.

◉ Applicant asserting small entity status. See 37 CFR 1.27.
Note: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

○ Applicant changing to regular undiscounted fee status.
Note: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

Document Description: Issue Fee Payment (PTO-85B)

3.The Following Fee(s) Are Submitted:

☐ Issue Fee	☒ I authorize USPTO to apply my previously paid issue fee to the current fees due
☐ Publication Fee	☒ The Director is hereby authorized to apply my previously paid issue fee to the current fee due and to charge deficient fees to Deposit Account Number 111410
☐ Advance Order - # of copies _____	☒ If **in addition to** the payment of the issue fee amount submitted with this form, there are any discrepancies in any amount(s) due, the Director is authorized to charge any deficiency, or credit any overpayment, to Deposit Account Number 111410 . The **issue fee must be submitted** with this form. **If payment of the issue fee does not accompany this form, checking this box and providing a deposit account number will NOT be effective to satisfy full payment of the fee(s) due.**

4.Firm and/or Attorney Names To Be Printed

NOTE: If no name is listed, no name will be printed
For printing on the patent front page, list to be displayed as entered

1. KNOBBE MARTENS OLSON & BEAR LLP
2.
3.

5.Assignee Name(s) and Residence Data To Be Printed

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

Name	City	State	Country	Category
PINN, INC.	Irvine	CALIFORNIA	united states	corporation

6.Signature

I certify, in accordance with 37 CFR 1.4(d)(4) that I am an attorney or agent registered to practice before the Patent and Trademark Office who has filed and has been granted power of attorney in this application. I also certify that this Fee(s) Transmittal form is being transmitted to the USPTO via EFS-WEB on the date indicated below.

Signature	/Mincheol Kim/	**Date**	09-03-2019
Name	Mincheol Kim	**Registration Number**	51306

Electronic Acknowledgement Receipt

EFS ID:	37051471
Application Number:	15563937
International Application Number:	
Confirmation Number:	3453
Title of Invention:	MOBILE SYSTEM WITH WIRELESS EARBUD
First Named Inventor/Applicant Name:	Seung Jin KIM
Customer Number:	20995
Filer:	Mincheol Kim/Evelyn Salcido
Filer Authorized By:	Mincheol Kim
Attorney Docket Number:	PNN.005NP
Receipt Date:	03-SEP-2019
Filing Date:	02-OCT-2017
Time Stamp:	18:14:01
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	Web85b.pdf	46258 06548381c7716884fc11921433933862cd3b33de	no	2

Warnings:

Information:	
Total Files Size (in bytes):	46258

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Document Description: Issue Fee Payment (PTO-85B)

OPAP SEP 03 2019 TRADEMARK OFFICE

Issue Fee Transmittal Form

Application Number	Filing Date	First Named Inventor	Atty. Docket No.	Confirmation No.
15563937	02-Oct-2017	Seung Jin KIM	PNN.005NP	3453

TITLE OF INVENTION :

MOBILE SYSTEM WITH WIRELESS EARBUD

Entity Status	Application Type	Art Unit	Class - Subclass	EXAMINER
Small	U.S. National Stage under 35 USC 371	2654	311000	DAVID TON

Issue Fee Due	Publication Due	Total Fee(s) Due	Date Due	Prev. Paid Fee
$500	$0	$500	29-Nov-2019	$500

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Current Correspondence Address:	Current Indicated Fee Address :
20995 KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE CA 92614 UNITED STATES 949-760-0404 ~~efiling@knobbe.com~~	
☐ Change of correspondence address requested, system generated AIA/122-EFS form attached	☐ Fee Address indication requested, system generated SB/47-EFS form attached

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◉ Applicant asserting small entity status. See 37 CFR 1.27.
Note: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

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Document Description: Issue Fee Payment (PTO-85B)

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☐ Publication Fee	☒ The Director is hereby authorized to apply my previously paid issue fee to the current fee due and to charge deficient fees to Deposit Account Number 111410
☐ Advance Order - # of copies _____	☒ If **in addition to** the payment of the issue fee amount submitted with this form, there are any discrepancies in any amount(s) due, the Director is authorized to charge any deficiency or credit any overpayment, to Deposit Account Number 111410. The **issue fee must be submitted** with this form. **If payment of the issue fee does not accompany this form, checking this box and providing a deposit account number will NOT be effective to satisfy full payment of the fee(s) due.**

4.Firm and/or Attorney Names To Be Printed

NOTE: If no name is listed, no name will be printed
For printing on the patent front page, list to be displayed as entered

1. KNOBBE MARTENS OLSON & BEAR LLP
2.
3.

5.Assignee Name(s) and Residence Data To Be Printed

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

Name	City	State	Country	Category
PINN, INC.	Irvine	CALIFORNIA	united states	corporation

6.Signature

I certify, in accordance with 37 CFR 1.4(d)(4) that I am an attorney or agent registered to practice before the Patent and Trademark Office who has filed and has been granted power of attorney in this application. I also certify that this Fee(s) Transmittal form is being transmitted to the USPTO via EFS-WEB on the date indicated below.

Signature	/Mincheol Kim/	**Date**	09-03-2019
Name	Mincheol Kim	**Registration Number**	51306

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

20995 7590 08/28/2019

KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER
TON, DAVID L

ART UNIT	PAPER NUMBER
2654	

DATE MAILED: 08/28/2019

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/563,937	10/02/2017	Seung Jin KIM	PNN.005NP	3453

TITLE OF INVENTION: MOBILE SYSTEM WITH WIRELESS EARBUD

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0.00	$500.00	$0	11/29/2019

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

20995 7590 08/28/2019

KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/563,937	10/02/2017	Seung Jin KIM	PNN.005NP	3453

TITLE OF INVENTION: MOBILE SYSTEM WITH WIRELESS EARBUD

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0.00	$500.00	$0	11/29/2019

EXAMINER	ART UNIT	CLASS-SUBCLASS
TON, DAVID L	2654	381-311000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. Fees submitted: ❑ Issue Fee ❑ Publication Fee (if required) ❑ Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/563,937	10/02/2017	Seung Jin KIM	PNN.005NP	3453

20995 7590 08/28/2019

KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER	
TON, DAVID L	

ART UNIT	PAPER NUMBER
2654	

DATE MAILED: 08/28/2019

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 15/563,937	Applicant(s) KIM, Seung Jin	
	Examiner DAVID L TON	Art Unit 2654	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to RCE filed on 07/23/2019.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 23-60 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/DAVID L TON/
Primary Examiner, Art Unit 2654

DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 07/23/2019 has been entered.

Information Disclosure Statement

3. The information disclosure statement (IDS) was submitted on 07/23/2019. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Reasons for Allowance

4. Claims 23-60 are allowed.

Reasons for allowance were provided in the previous Office Action mailed on 02/28/2019.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID L TON whose telephone number is (571)270-7839. The examiner can normally be reached on Monday - Friday 8:00 AM - 6:00 PM (EST).

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DAVID L TON/
Primary Examiner, Art Unit 2654
fi

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/563,937	KIM, Seung Jin
	Examiner	Art Unit
	DAVID L TON	2654

CPC - Searched*		
Symbol	Date	Examiner
H04M1/6066;H04M1/05;H04M1/7253	7/19/2018	DT
H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07; H04R2420/07	7/19/2018	DT

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
Assignee search	7/19/2018	DT
Inventor searches	7/19/2018	DT
H04M1/6066;H04M1/05;H04M1/7253 to date	7/19/2018	DT
H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07; H04R2420/07 to date	7/19/2018	DT
IP.com and google patent searches	7/19/2018	DT
updated searches	02/14/2019	DT
Updated searches	05/31/2019	DT
Updated searches	08/15/2019	DT

/DAVID TON/ Primary Examiner.Art Unit 2654	

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/563,937	KIM, Seung Jin
	Examiner	Art Unit
	DAVID L TON	2654

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
H04M	1/05;1/6066;7253	02/14/2019	DT
H04R	1/1016;2420/07	02/14/2019	DT

/DAVID TON/ Primary Examiner.Art Unit 2654	

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/563,937	KIM, Seung Jin
	Examiner	**Art Unit**
	DAVID L TON	2654

CPC						
Symbol					**Type**	**Version**
H04M	/	1	/	05	F	2013-01-01
H04M	/	1	/	6066	I	2013-01-01
H04R	/	1	/	1016	I	2013-01-01
H04M	/	1	/	7253	I	2013-01-01
H04R	/	2420	/	07	A	2013-01-01

CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
	/		/					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	38	
/DAVID L TON/ Primary Examiner, Art Unit 2654	15 August 2019	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	32	4A and 7

U.S. Patent and Trademark Office — Part of Paper No.: 20190815

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/563,937	KIM, Seung Jin
	Examiner	**Art Unit**
	DAVID L TON	2654

INTERNATIONAL CLASSIFICATION				
CLAIMED				
H04M	/	1	/	05
H04M	/	1	/	60
H04M	/	1	/	725
H04R	/	1	/	10

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	**SUBCLASS**

CROSS REFERENCES(S)						
CLASS	**SUBCLASS (ONE SUBCLASS PER BLOCK)**					

NONE (Assistant Examiner) (Date)	**Total Claims Allowed:** 38	
/DAVID L TON/ Primary Examiner, Art Unit 2654 (Primary Examiner) 15 August 2019 (Date)	O.G. Print Claim(s) 32	O.G. Print Figure 4A and 7

U.S. Patent and Trademark Office

Part of Paper No.: 20190815

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/563,937	KIM, Seung Jin
	Examiner	**Art Unit**
	DAVID L TON	2654

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
	1		10		19	6	28	15	37	24	46	33	55		
	2		11		20	7	29	16	38	25	47	34	56		
	3		12		21	8	30	17	39	26	48	35	57		
	4		13		22	9	31	18	40	27	49	36	58		
	5		14	1	23	10	32	19	41	28	50	37	59		
	6		15	2	24	11	33	20	42	29	51	38	60		
	7		16	3	25	12	34	21	43	30	52				
	8		17	4	26	13	35	22	44	31	53				
	9		18	5	27	14	36	23	45	32	54				

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	38	
/DAVID L TON/ Primary Examiner, Art Unit 2654	15 August 2019	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	32	4A and 7

U.S. Patent and Trademark Office

Part of Paper No.: 20190815

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S677	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:55
S678	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S679	61	S677 and S678	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S680	286	S677 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S681	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S682	607	S677 and S681	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S683	5	S682 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S684	64	S682 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S685	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:55
S686	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S687	61	S685 and S686	US-PGPUB; USPAT; USOCR;	OR	OFF	2019/08/15 15:55

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S688	286	S685 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S689	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S690	607	S685 and S689	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S691	5	S690 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S692	64	S690 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S693	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S694	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:55
S695	607	S693 and S694	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:55
S696	485	S695 and interface	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S697	435	S695 and interface and output	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S698	2	"20170094395"	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:55
S699	1	("20170094396").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:55
S700	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:55
S701	2755	381/74.ccls.	US-PGPUB; USPAT;	OR	OFF	2019/08/15 15:55

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S702	61	S700 and S701	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S703	286	S700 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S704	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S705	607	S700 and S704	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S706	5	S705 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
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S708	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:55
S709	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S710	61	S708 and S709	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S711	286	S708 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S712	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2019/08/15 15:55

			IBM_TDB			
S713	607	S708 and S712	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S714	5	S713 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S715	64	S713 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S716	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S717	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:55
S718	607	S716 and S717	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:55
S719	485	S718 and interface	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S720	435	S718 and interface and output	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S721	1	((("PINN") near3 ("INC"))).AS,AANM.	USPAT	OR	OFF	2019/08/15 15:55
S722	112	((("KIM") near3 ("Seung") near3 ("Jin"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:55
S723	3635	((earphone earbud earpiece) with (cas$3 housing box container dock$3 base)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:55
S724	5	S722 and S723	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:55
S725	3	((("STONE") near3 ("Jason") near3 ("Frederick"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:55
S726	2	S725 and S723	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:55
S727	2	((("PASCUAL") near3 ("Vincent") near3 ("Sarcia"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:55
S728	8	((("FISHER") near3 ("H") near3 ("Lawson"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:55
S729	2	S728 and S723	US-PGPUB; USPAT;	OR	ON	2019/08/15 15:55

			USOCR			
S730	34	((("MISHRA") near3 ("Devjeet"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:55
S731	2	S730 and S723	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:55
S732	37	("20050008147" | "20050107120" | "20050186905" | "20060166715" | "20070147629" | "20080108306" | "20090046869" | "20100245585" | "20100312944" | "20110141357" | "20130206612" | "20140116085" | "20140295758" | "20150078575" | "20150241922" | "20150245126" | "20150326990" | "20150373448" | "20160360350" | "20170013342" | "6765789" | "6768911" | "7643283" | "7738247" | "7869195" | "8121329" | "8213666" | "8238967" | "8384527" | "8582755" | "8867748" | "9002420" | "9319766" | "D586823" | "D600013" | "D667390" | "D728624").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:55
S733	13358	(H04M1/6066;H04M1/05;H04M1/7253).cpc.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:55
S734	289	S723 and S733	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:55
S735	16	(US-20170094396-$ or US-20160073189-$ or US-20150373448-$ or US-20150245126-$ or US-20150245125-$ or US-20170231345-$ or US-20110117840-$ or US-20100320961-$ or US-20180091884-$ or US-20180131793-$ or US-20050107120-$ or US-20140295758-$).did. or (US-8483755-$ or US-8238967-$ or US-9949015-$ or US-9807491-$).did.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:55
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S737	2	"20170094395"	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:55
S738	1	("20170094396").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:55
S739	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:55
S740	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S741	61	S739 and S740	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S742	286	S739 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S743	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S744	607	S739 and S743	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S745	5	S744 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55

S746	64	S744 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S747	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:55
S748	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S749	61	S747 and S748	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S750	286	S747 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S751	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S752	607	S747 and S751	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S753	5	S752 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S754	64	S752 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S755	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S756	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:55
S757	607	S755 and S756	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:55
S758	485	S757 and interface	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2019/08/15 15:55

			EPO; JPO; DERWENT; IBM_TDB			
S759	435	S757 and interface and output	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S760	2	"20170094395"	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:55
S761	1	("20170094396").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:55
S762	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:55
S763	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:55
S764	61	S762 and S763	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S765	286	S762 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S766	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S767	607	S762 and S766	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S768	5	S767 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S769	64	S767 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S770	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:56
S771	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2019/08/15 15:56

			IBM_TDB			
S772	61	S770 and S771	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S773	286	S770 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S774	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S775	607	S770 and S774	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S776	5	S775 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S777	64	S775 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S778	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S779	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:56
S780	607	S778 and S779	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:56
S781	485	S780 and interface	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S782	435	S780 and interface and output	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S783	1	((("PINN") near3 ("INC"))).AS,AANM.	USPAT	OR	OFF	2019/08/15 15:56
S784	112	((("KIM") near3 ("Seung") near3 ("Jin"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:56
S785	3635	((earphone earbud earpiece) with (cas$3 housing box container dock$3 base)) and	US-PGPUB;	OR	ON	2019/08/15

		wireless and (power same charg$3)	USPAT; USOCR			15:56
S786	5	S784 and S785	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:56
S787	3	((("STONE") near3 ("Jason") near3 ("Frederick"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:56
S788	2	S787 and S785	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:56
S789	2	((("PASCUAL") near3 ("Vincent") near3 ("Sarcia"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:56
S790	8	((("FISHER") near3 ("H") near3 ("Lawson"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:56
S791	2	S790 and S785	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:56
S792	34	((("MISHRA") near3 ("Devjeet"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:56
S793	2	S792 and S785	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:56
S794	37	("20050008147" | "20050107120" | "20050186905" | "20060166715" | "20070147629" | "20080108306" | "20090046869" | "20100245585" | "20100312944" | "20110141357" | "20130206612" | "20140116085" | "20140295758" | "20150078575" | "20150241922" | "20150245126" | "20150326990" | "20150373448" | "20160360350" | "20170013342" | "6765789" | "6768911" | "7643283" | "7738247" | "7869195" | "8121329" | "8213666" | "8238967" | "8384527" | "8582755" | "8867748" | "9002420" | "9319766" | "D586823" | "D600013" | "D667390" | "D728624").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:56
S795	13358	(H04M1/6066;H04M1/05;H04M1/7253).cpc.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:56
S796	289	S785 and S795	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:56
S797	16	(US-20170094396-$ or US-20160073189-$ or US-20150373448-$ or US-20150245126-$ or US-20150245125-$ or US-20170231345-$ or US-20110117840-$ or US-20100320961-$ or US-20180091884-$ or US-20180131793-$ or US-20050107120-$ or US-20140295758-$).did. or (US-8483755-$ or US-8238967-$ or US-9949015-$ or US-9807491-$).did.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:56
S798	5	S797 and clip	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:56
S799	29	("20030119565" | "20030224726" | "20050026560" | "20060046656" | "20060062400" | "20060111044" | "20060135218" | "20060262949" | "20070026908" | "20070254695" | "20080070516" | "20100320961" | "20110206217" | "20111048352" | "20120140963" | "20140273851" | "20150078557" | "20150245125" | "20160073189" | "5881149" | "6424820" | "6473630" | "7149552" | "7272421" | "7292880" | "7418277" | "7548040" | "7778601" | "7885645" | "8204435").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:56
S800	2	"20170094395"	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:56
S801	1	("20170094396").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:56
S802	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:56
S803	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S804	61	S802 and S803	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S805	286	S802 and 455/$.ccls.	US-PGPUB;	OR	OFF	2019/08/15

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			15:56
S806	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S807	607	S802 and S806	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S808	5	S807 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S809	64	S807 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S810	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:56
S811	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S812	61	S810 and S811	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S813	286	S810 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S814	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S815	607	S810 and S814	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S816	5	S815 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2019/08/15 15:56

			DERWENT; IBM_TDB			
S817	64	S815 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S818	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S819	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:56
S820	607	S818 and S819	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:56
S821	485	S820 and interface	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S822	435	S820 and interface and output	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S823	2	"20170094395"	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:56
S824	1	("20170094396").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:56
S825	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:56
S826	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S827	61	S825 and S826	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S828	286	S825 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S829	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S830	607	S825 and S829	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2019/08/15 15:56

			EPO; JPO; DERWENT; IBM_TDB			
S831	5	S830 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S832	64	S830 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S833	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:56
S834	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S835	61	S833 and S834	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S836	286	S833 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S837	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S838	607	S833 and S837	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S839	5	S838 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S840	64	S838 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S841	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56

S842	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:56
S843	607	S841 and S842	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:56
S844	485	S843 and interface	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S845	435	S843 and interface and output	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:56
S846	1	((("PINN") near3 ("INC"))).AS,AANM.	USPAT	OR	OFF	2019/08/15 15:56
S847	112	((("KIM") near3 ("Seung") near3 ("Jin"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:56
S848	3635	((earphone earbud earpiece) with (cas$3 housing box container dock$3 base)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:56
S849	5	S847 and S848	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:56
S850	3	((("STONE") near3 ("Jason") near3 ("Frederick"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:56
S851	2	S850 and S848	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:56
S852	2	((("PASCUAL") near3 ("Vincent") near3 ("Sarcia"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:57
S853	8	((("FISHER") near3 ("H") near3 ("Lawson"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:57
S854	2	S853 and S848	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:57
S855	34	((("MISHRA") near3 ("Devjeet"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:57
S856	2	S855 and S848	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:57
S857	37	("20050008147" | "20050107120" | "20050186905" | "20060166715" | "20070147629" | "20080108306" | "20090046869" | "20100245585" | "20100312944" | "20110141357" | "20130206612" | "20140116085" | "20140295758" | "20150078575" | "20150241922" | "20150245126" | "20150326990" | "20150373448" | "20160360350" | "20170013342" | "6765789" | "6768911" | "7643283" | "7738247" | "7869195" | "8121329" | "8213666" | "8238967" | "8384527" | "8582755" | "8867748" | "9002420" | "9319766" | "D586823" | "D600013" | "D667390" | "D728624").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:57
S858	13358	(H04M1/6066;H04M1/05;H04M1/7253).cpc.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:57
S859	289	S848 and S858	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:57
S860	16	(US-20170094396-$ or US-20160073189-$ or US-20150373448-$ or US-20150245126-$ or US-20150245125-$ or US-20170231345-$ or US-20110117840-$ or US-20100320961-$ or US-20180091884-$ or US-20180131793-$ or US-20050107120-$ or US-20140295758-$).did. or (US-8483755-$ or US-8238967-$ or US-9949015-$ or US-9807491-$).did.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:57
S861	5	S860 and clip	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:57
S862	2	"20170094395"	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:57

S863	1	("20170094396").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:57
S864	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:57
S865	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S866	61	S864 and S865	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S867	286	S864 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S868	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S869	607	S864 and S868	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S870	5	S869 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S871	64	S869 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S872	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:57
S873	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S874	61	S872 and S873	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S875	286	S872 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2019/08/15 15:57

			DERWENT; IBM_TDB			
S876	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S877	607	S872 and S876	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S878	5	S877 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S879	64	S877 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S880	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S881	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:57
S882	607	S880 and S881	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:57
S883	485	S882 and interface	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S884	435	S882 and interface and output	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S885	2	"20170094395"	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:57
S886	1	("20170094396").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:57
S887	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:57
S888	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S889	61	S887 and S888	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2019/08/15 15:57

			EPO; JPO; DERWENT; IBM_TDB			
S890	286	S887 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S891	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S892	607	S887 and S891	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S893	5	S892 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S894	64	S892 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S895	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:57
S896	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S897	61	S895 and S896	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S898	286	S895 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S899	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S900	607	S895 and S899	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57

S901	5	S900 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S902	64	S900 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S903	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S904	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:57
S905	607	S903 and S904	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:57
S906	485	S905 and interface	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S907	435	S905 and interface and output	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:57
S908	1	((("PINN") near3 ("INC"))).AS,AANM.	USPAT	OR	OFF	2019/08/15 15:57
S909	112	((("KIM") near3 ("Seung") near3 ("Jin"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:57
S910	3635	((earphone earbud earpiece) with (cas$3 housing box container dock$3 base)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:57
S911	5	S909 and S910	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:57
S912	3	((("STONE") near3 ("Jason") near3 ("Frederick"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:57
S913	2	S912 and S910	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:57
S914	2	((("PASCUAL") near3 ("Vincent") near3 ("Sarcia"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:57
S915	8	((("FISHER") near3 ("H") near3 ("Lawson"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:57
S916	2	S915 and S910	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:57
S917	34	((("MISHRA") near3 ("Devjeet"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:57
S918	2	S917 and S910	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:57
S919	37	("20050008147" | "20050107120" | "20050186905" | "20060166715" | "20070147629"	US-PGPUB;	OR	OFF	2019/08/15

		| "20080108306" | "20090046869" | "20100245585" | "20100312944" | "20110141357" | "20130206612" | "20140116085" | "20140295758" | "20150078575" | "20150241922" | "20150245126" | "20150326990" | "20150373448" | "20160360350" | "20170013342" | "6765789" | "6768911" | "7643283" | "7738247" | "7869195" | "8121329" | "8213666" | "8238967" | "8384527" | "8582755" | "8867748" | "9002420" | "9319766" | "D586823" | "D600013" | "D667390" | "D728624").PN.	USPAT			15:57
S920	13358	(H04M1/6066;H04M1/05;H04M1/7253).cpc.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:57
S921	289	S910 and S920	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:57
S922	16	(US-20170094396-$ or US-20160073189-$ or US-20150373448-$ or US-20150245126-$ or US-20150245125-$ or US-20170231345-$ or US-20110117840-$ or US-20100320961-$ or US-20180091884-$ or US-20180131793-$ or US-20050107120-$ or US-20140295758-$).did. or (US-8483755-$ or US-8238967-$ or US-9949015-$ or US-9807491-$).did.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:57
S923	5	S922 and clip	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:57
S924	0	(base station comprising a connection hole).clm. and (user input button).clm. and (wireless earbud lugging into the connection hole).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:57
S925	7	"20130065637"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/08/15 15:58
S926	2	"20170094395"	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:58
S927	1	("20170094396").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:58
S928	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:58
S929	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S930	61	S928 and S929	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S931	286	S928 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S932	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S933	607	S928 and S932	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S934	5	S933 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2019/08/15 15:58

			IBM_TDB			
S935	64	S933 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S936	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:58
S937	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S938	61	S936 and S937	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S939	286	S936 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S940	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S941	607	S936 and S940	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S942	5	S941 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S943	64	S941 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S944	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S945	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:58
S946	607	S944 and S945	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:58
S947	485	S946 and interface	US-PGPUB; USPAT; USOCR;	OR	OFF	2019/08/15 15:58

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S948	435	S946 and interface and output	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S949	2	"20170094395"	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:58
S950	1	("20170094396").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:58
S951	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:58
S952	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S953	61	S951 and S952	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S954	286	S951 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S955	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S956	607	S951 and S955	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S957	5	S956 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S958	64	S956 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S959	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:58
S960	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2019/08/15 15:58

			DERWENT; IBM_TDB			
S961	61	S959 and S960	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S962	286	S959 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S963	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S964	607	S959 and S963	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S965	5	S964 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S966	64	S964 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S967	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S968	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:58
S969	607	S967 and S968	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:58
S970	485	S969 and interface	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S971	435	S969 and interface and output	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:58
S972	1	((("PINN") near3 ("INC"))).AS,AANM.	USPAT	OR	OFF	2019/08/15 15:58
S973	112	((("KIM") near3 ("Seung") near3 ("Jin"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:58

S974	3635	((earphone earbud earpiece) with (cas$3 housing box container dock$3 base)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:58
S975	5	S973 and S974	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:58
S976	3	((("STONE") near3 ("Jason") near3 ("Frederick"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:58
S977	2	S976 and S974	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:58
S978	2	((("PASCUAL") near3 ("Vincent") near3 ("Sarcia"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:58
S979	8	((("FISHER") near3 ("H") near3 ("Lawson"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:58
S980	2	S979 and S974	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:58
S981	34	((("MISHRA") near3 ("Devjeet"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:58
S982	2	S981 and S974	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:58
S983	37	("20050008147" | "20050107120" | "20050186905" | "20060166715" | "20070147629" | "20080108306" | "20090046869" | "20100245585" | "20100312944" | "20110141357" | "20130206612" | "20140116085" | "20140295758" | "20150078575" | "20150241922" | "20150245126" | "20150326990" | "20150373448" | "20160360350" | "20170013342" | "6765789" | "6768911" | "7643283" | "7738247" | "7869195" | "8121329" | "8213666" | "8238967" | "8384527" | "8582755" | "8867748" | "9002420" | "9319766" | "D586823" | "D600013" | "D667390" | "D728624").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:59
S984	13358	(H04M1/6066;H04M1/05;H04M1/7253).cpc.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:59
S985	289	S974 and S984	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:59
S986	16	(US-20170094396-$ or US-20160073189-$ or US-20150373448-$ or US-20150245126-$ or US-20150245125-$ or US-20170231345-$ or US-20110117840-$ or US-20100320961-$ or US-20180091884-$ or US-20180131793-$ or US-20050107120-$ or US-20140295758-$).did. or (US-8483755-$ or US-8238967-$ or US-9949015-$ or US-9807491-$).did.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:59
S987	5	S986 and clip	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:59
S988	2	"20170094395"	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:59
S989	1	("20170094396").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:59
S990	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:59
S991	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S992	61	S990 and S991	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S993	286	S990 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59

S994	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S995	607	S990 and S994	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S996	5	S995 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S997	64	S995 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S998	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:59
S999	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1000	61	S998 and S999	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1001	286	S998 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1002	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1003	607	S998 and S1002	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1004	5	S1003 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1005	64	S1003 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2019/08/15 15:59

			EPO; JPO; DERWENT; IBM_TDB			
S1006	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1007	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:59
S1008	607	S1006 and S1007	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:59
S1009	485	S1008 and interface	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1010	435	S1008 and interface and output	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1011	2	"20170094395"	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:59
S1012	1	("20170094396").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:59
S1013	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:59
S1014	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1015	61	S1013 and S1014	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1016	286	S1013 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1017	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1018	607	S1013 and S1017	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1019	5	S1018 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR;	OR	OFF	2019/08/15 15:59

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S1020	64	S1018 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1021	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:59
S1022	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1023	61	S1021 and S1022	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1024	286	S1021 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1025	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1026	607	S1021 and S1025	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1027	5	S1026 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1028	64	S1026 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1029	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1030	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:59
S1031	607	S1029 and S1030	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:59

S1032	485	S1031 and interface	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1033	435	S1031 and interface and output	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1034	1	((("PINN") near3 ("INC"))).AS,AANM.	USPAT	OR	OFF	2019/08/15 15:59
S1035	112	((("KIM") near3 ("Seung") near3 ("Jin"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:59
S1036	3635	((earphone earbud earpiece) with (cas$3 housing box container dock$3 base)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:59
S1037	5	S1035 and S1036	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:59
S1038	3	((("STONE") near3 ("Jason") near3 ("Frederick"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:59
S1039	2	S1038 and S1036	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:59
S1040	2	((("PASCUAL") near3 ("Vincent") near3 ("Sarcia"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:59
S1041	8	((("FISHER") near3 ("H") near3 ("Lawson"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:59
S1042	2	S1041 and S1036	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:59
S1043	34	((("MISHRA") near3 ("Devjeet"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:59
S1044	2	S1043 and S1036	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:59
S1045	37	("20050008147" | "20050107120" | "20050186905" | "20060166715" | "20070147629" | "20080108306" | "20090046869" | "20100245585" | "20100312944" | "20110141357" | "20130206612" | "20140116085" | "20140295758" | "20150078575" | "20150241922" | "20150245126" | "20150326990" | "20150373448" | "20160360350" | "20170013342" | "6765789" | "6768911" | "7643283" | "7738247" | "7869195" | "8121329" | "8213666" | "8238967" | "8384527" | "8582755" | "8867748" | "9002420" | "9319766" | "D586823" | "D600013" | "D667390" | "D728624").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:59
S1046	13358	(H04M1/6066;H04M1/05;H04M1/7253).cpc.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:59
S1047	289	S1036 and S1046	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:59
S1048	16	(US-20170094396-$ or US-20160073189-$ or US-20150373448-$ or US-20150245126-$ or US-20150245125-$ or US-20170231345-$ or US-20110117840-$ or US-20100320961-$ or US-20180091884-$ or US-20180131793-$ or US-20050107120-$ or US-20140295758-$).did. or (US-8483755-$ or US-8238967-$ or US-9949015-$ or US-9807491-$).did.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:59
S1049	5	S1048 and clip	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:59
S1050	29	("20030119565" | "20030224726" | "20050026560" | "20060046656" | "20060062400" | "20060111044" | "20060135218" | "20060262949" | "20070026908" | "20070254695" | "20080070516" | "20100320961" | "20110206217" | "20111048352" | "20120140963" | "20140273851" | "20150078557" | "20150245125" | "20160073189" | "5881149" | "6424820" | "6473630" | "7149552" | "7272421" | "7292880" | "7418277" | "7548040" | "7778601" | "7885645" | "8204435").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:59
S1051	2	"20170094395"	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 15:59

S1052	1	("20170094396").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 15:59
S1053	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 15:59
S1054	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1055	61	S1053 and S1054	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1056	286	S1053 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1057	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1058	607	S1053 and S1057	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1059	5	S1058 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 15:59
S1060	64	S1058 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1061	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:00
S1062	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1063	61	S1061 and S1062	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1064	286	S1061 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2019/08/15 16:00

			DERWENT; IBM_TDB			
S1065	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1066	607	S1061 and S1065	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1067	5	S1066 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1068	64	S1066 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1069	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1070	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:00
S1071	607	S1069 and S1070	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:00
S1072	485	S1071 and interface	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1073	435	S1071 and interface and output	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1074	2	"20170094395"	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 16:00
S1075	1	("20170094396").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 16:00
S1076	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:00
S1077	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1078	61	S1076 and S1077	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2019/08/15 16:00

			EPO; JPO; DERWENT; IBM_TDB			
S1079	286	S1076 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1080	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1081	607	S1076 and S1080	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1082	5	S1081 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1083	64	S1081 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1084	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:00
S1085	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1086	61	S1084 and S1085	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1087	286	S1084 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1088	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1089	607	S1084 and S1088	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00

S1090	5	S1089 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1091	64	S1089 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1092	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1093	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:00
S1094	607	S1092 and S1093	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:00
S1095	485	S1094 and interface	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1096	435	S1094 and interface and output	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1097	1	((("PINN") near3 ("INC"))).AS,AANM.	USPAT	OR	OFF	2019/08/15 16:00
S1098	112	((("KIM") near3 ("Seung") near3 ("Jin"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 16:00
S1099	3635	((earphone earbud earpiece) with (cas$3 housing box container dock$3 base)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:00
S1100	5	S1098 and S1099	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:00
S1101	3	((("STONE") near3 ("Jason") near3 ("Frederick"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 16:00
S1102	2	S1101 and S1099	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:00
S1103	2	((("PASCUAL") near3 ("Vincent") near3 ("Sarcia"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 16:00
S1104	8	((("FISHER") near3 ("H") near3 ("Lawson"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 16:00
S1105	2	S1104 and S1099	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:00
S1106	34	((("MISHRA") near3 ("Devjeet"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 16:00
S1107	2	S1106 and S1099	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:00
S1108	37	("20050008147" | "20050107120" | "20050186905" | "20060166715" | "20070147629"	US-PGPUB;	OR	OFF	2019/08/15

		| "20080108306" | "20090046869" | "20100245585" | "20100312944" | "20110141357" | "20130206612" | "20140116085" | "20140295758" | "20150078575" | "20150241922" | "20150245126" | "20150326990" | "20150373448" | "20160360350" | "20170013342" | "6765789" | "6768911" | "7643283" | "7738247" | "7869195" | "8121329" | "8213666" | "8238967" | "8384527" | "8582755" | "8867748" | "9002420" | "9319766" | "D586823" | "D600013" | "D667390" | "D728624").PN.	USPAT			16:00
S1109	13358	(H04M1/6066;H04M1/05;H04M1/7253).cpc.	US-PGPUB; USPAT	OR	OFF	2019/08/15 16:00
S1110	289	S1099 and S1109	US-PGPUB; USPAT	OR	OFF	2019/08/15 16:00
S1111	16	(US-20170094396-$ or US-20160073189-$ or US-20150373448-$ or US-20150245126-$ or US-20150245125-$ or US-20170231345-$ or US-20110117840-$ or US-20100320961-$ or US-20180091884-$ or US-20180131793-$ or US-20050107120-$ or US-20140295758-$).did. or (US-8483755-$ or US-8238967-$ or US-9949015-$ or US-9807491-$).did.	US-PGPUB; USPAT	OR	OFF	2019/08/15 16:00
S1112	5	S1111 and clip	US-PGPUB; USPAT	OR	OFF	2019/08/15 16:00
S1113	2	"20170094395"	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 16:00
S1114	1	("20170094396").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 16:00
S1115	3164	(((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:00
S1116	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1117	61	S1115 and S1116	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1118	286	S1115 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1119	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1120	607	S1115 and S1119	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1121	5	S1120 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1122	64	S1120 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1123	3164	(((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and	US-PGPUB;	OR	ON	2019/08/15

		(power same charg$3)	USPAT; USOCR			16:00
S1124	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1125	61	S1123 and S1124	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1126	286	S1123 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1127	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1128	607	S1123 and S1127	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1129	5	S1128 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1130	64	S1128 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1131	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:00
S1132	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:01
S1133	607	S1131 and S1132	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:01
S1134	485	S1133 and interface	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:01
S1135	435	S1133 and interface and output	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2019/08/15 16:01

			DERWENT; IBM_TDB			
S1136	2	"20170094395"	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 16:01
S1137	1	("20170094396").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 16:01
S1138	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:01
S1139	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:01
S1140	61	S1138 and S1139	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:01
S1141	286	S1138 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:01
S1142	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:01
S1143	607	S1138 and S1142	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:01
S1144	5	S1143 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:01
S1145	64	S1143 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:01
S1146	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:01
S1147	2755	381/74.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:01
S1148	61	S1146 and S1147	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:01

S1149	286	S1146 and 455/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:01
S1150	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:01
S1151	607	S1146 and S1150	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:01
S1152	5	S1151 and (power near interface) and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:01
S1153	64	S1151 and (audio near interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:01
S1154	30853	(H04R1/1041;H04R1/1016;H04R1/1025;H04R1/1091;H04R2420/07;H04R2420/07).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:01
S1155	3164	((earphone earbud earpiece) with (cas$3 housing box container)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:01
S1156	607	S1154 and S1155	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:01
S1157	485	S1156 and interface	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:01
S1158	435	S1156 and interface and output	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/15 16:01
S1159	1	((("PINN") near3 ("INC"))).AS,AANM.	USPAT	OR	OFF	2019/08/15 16:01
S1160	112	((("KIM") near3 ("Seung") near3 ("Jin"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 16:01
S1161	3635	((earphone earbud earpiece) with (cas$3 housing box container dock$3 base)) and wireless and (power same charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:01
S1162	5	S1160 and S1161	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:01
S1163	3	((("STONE") near3 ("Jason") near3 ("Frederick"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 16:01

S1164	2	S1163 and S1161	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:01
S1165	2	((("PASCUAL") near3 ("Vincent") near3 ("Sarcia"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 16:01
S1166	8	((("FISHER") near3 ("H") near3 ("Lawson"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 16:01
S1167	2	S1166 and S1161	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:01
S1168	34	((("MISHRA") near3 ("Devjeet"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/08/15 16:01
S1169	2	S1168 and S1161	US-PGPUB; USPAT; USOCR	OR	ON	2019/08/15 16:01
S1170	37	("20050008147" | "20050107120" | "20050186905" | "20060166715" | "20070147629" | "20080108306" | "20090046869" | "20100245585" | "20100312944" | "20110141357" | "20130206612" | "20140116085" | "20140295758" | "20150078575" | "20150241922" | "20150245126" | "20150326990" | "20150373448" | "20160360350" | "20170013342" | "6765789" | "6768911" | "7643283" | "7738247" | "7869195" | "8121329" | "8213666" | "8238967" | "8384527" | "8582755" | "8867748" | "9002420" | "9319766" | "D586823" | "D600013" | "D667390" | "D728624").PN.	US-PGPUB; USPAT	OR	OFF	2019/08/15 16:01
S1171	13358	(H04M1/6066;H04M1/05;H04M1/7253).cpc.	US-PGPUB; USPAT	OR	OFF	2019/08/15 16:01
S1172	289	S1161 and S1171	US-PGPUB; USPAT	OR	OFF	2019/08/15 16:01
S1173	16	(US-20170094396-$ or US-20160073189-$ or US-20150373448-$ or US-20150245126-$ or US-20150245125-$ or US-20170231345-$ or US-20110117840-$ or US-20100320961-$ or US-20180091884-$ or US-20180131793-$ or US-20050107120-$ or US-20140295758-$).did. or (US-8483755-$ or US-8238967-$ or US-9949015-$ or US-9807491-$).did.	US-PGPUB; USPAT	OR	OFF	2019/08/15 16:01
S1174	5	S1173 and clip	US-PGPUB; USPAT	OR	OFF	2019/08/15 16:01
S1175	0	(base station comprising a connection hole).clm. and (user input button).clm. and (wireless earbud lugging into the connection hole).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:01
S1176	7	"20130065637"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/08/15 16:01

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1177	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:55
S1178	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:55
S1179	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:55
S1180	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:55
S1181	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:55
S1182	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:55
S1183	0	(case for earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:55

S1184	0	(case earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:55
S1185	0	(connector couple output device).clm. and (circuitry media data received by wireless radio transmit to output device).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:55
S1186	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:55
S1187	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:55
S1188	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:55
S1189	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:55
S1190	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:55
S1191	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:55
S1192	0	(case for earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:55
S1193	0	(case earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:55
S1194	0	(connector couple output device).clm. and (circuitry media data received by wireless radio transmit to output device).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:55
S1195	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:56
S1196	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:56
S1197	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:56
S1198	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:56
S1199	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:56
S1200	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:56
S1201	0	(case for earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:56
S1202	0	(case earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:56
S1203	0	(connector couple output device).clm. and (circuitry media data received by wireless radio transmit to output device).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:56
S1204	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:56
S1205	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:56
S1206	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device)	US-PGPUB;	SAME	ON	2019/08/15 15:56

		and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	USPAT			
S1207	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:56
S1208	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:56
S1209	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:56
S1210	0	(case for earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:56
S1211	0	(case earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:56
S1212	0	(connector couple output device).clm. and (circuitry media data received by wireless radio transmit to output device).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:56
S1213	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:57
S1214	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:57
S1215	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:57
S1216	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:57
S1217	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:57
S1218	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:57
S1219	0	(case for earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:57
S1220	0	(case earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:57
S1221	0	(connector couple output device).clm. and (circuitry media data received by wireless radio transmit to output device).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:57
S1222	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:57
S1223	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:57
S1224	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:57
S1225	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:57
S1226	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:57
S1227	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:57
S1228	0	(case for earbud having wireless radio).clm.	US-PGPUB;	SAME	ON	2019/08/15 15:57

			USPAT			
S1229	0	(case earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:57
S1230	0	(connector couple output device).clm. and (circuitry media data received by wireless radio transmit to output device).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:58
S1231	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:58
S1232	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:58
S1233	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:58
S1234	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:58
S1235	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:58
S1236	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:58
S1237	0	(case for earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:58
S1238	0	(case earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:58
S1239	0	(connector couple output device).clm. and (circuitry media data received by wireless radio transmit to output device).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:58
S1240	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:58
S1241	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:58
S1242	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:58
S1243	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:58
S1244	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:58
S1245	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:58
S1246	0	(case for earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:58
S1247	0	(case earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:58
S1248	0	(base station comprising a connection hole).clm. and (user input button).clm. and (wireless earbud lugging into the connection hole).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 15:58
S1249	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:01
S1250	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:01
S1251	0	((circuitry establish connection between first wireless radio and	US-	SAME	ON	2019/08/15

		second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	PGPUB; USPAT			16:01
S1252	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:01
S1253	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:01
S1254	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:01
S1255	0	(case for earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:01
S1256	0	(case earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:01
S1257	0	(connector couple output device).clm. and (circuitry media data received by wireless radio transmit to output device).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:01
S1258	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:01
S1259	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:01
S1260	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:01
S1261	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:01
S1262	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:01
S1263	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:01
S1264	0	(case for earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:01
S1265	0	(case earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1266	0	(connector couple output device).clm. and (circuitry media data received by wireless radio transmit to output device).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1267	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1268	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1269	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1270	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1271	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1272	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1273	0	(case for earbud having wireless radio).clm.	US-	SAME	ON	2019/08/15

			PGPUB; USPAT			16:02
S1274	0	(case earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1275	0	(connector couple output device).clm. and (circuitry media data received by wireless radio transmit to output device).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1276	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1277	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1278	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1279	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1280	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1281	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1282	0	(case for earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1283	0	(case earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1284	0	(connector couple output device).clm. and (circuitry media data received by wireless radio transmit to output device).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1285	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1286	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1287	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1288	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1289	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1290	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1291	0	(case for earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1292	0	(case earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1293	0	(connector couple output device).clm. and (circuitry media data received by wireless radio transmit to output device).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1294	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1295	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02

S1296	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1297	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1298	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1299	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1300	0	(case for earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1301	0	(case earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1302	0	(connector couple output device).clm. and (circuitry media data received by wireless radio transmit to output device).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1303	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1304	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1305	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1306	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1307	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1308	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1309	0	(case for earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1310	0	(case earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1311	0	(connector couple output device).clm. and (circuitry media data received by wireless radio transmit to output device).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1312	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:02
S1313	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:03
S1314	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:03
S1315	0	(case for earbud having a first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:03
S1316	0	(case second wireless radio to transmit audio data to first wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:03
S1317	0	((circuitry establish connection between first wireless radio and second wireless radio) and (receive audio signal from source device) and (convert audio signal into audio data to be transmitted by second wireless radio to first wireless radio)).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:03

S1318	0	(case for earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:03
S1319	0	(case earbud having wireless radio).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:03
S1320	0	(base station comprising a connection hole).clm. and (user input button).clm. and (wireless earbud lugging into the connection hole).clm.	US-PGPUB; USPAT	SAME	ON	2019/08/15 16:03

8/15/2019 10:47:39 PM
C:\Users\dton2\Documents\EAST\Workspaces\15563937 - Earbuds casing for charging and wired data transmitting.wsp

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15563937
Filing Date	2017-10-02
First Named Inventor	Seung Jin KIM
Art Unit	2654
Examiner Name	Ton, David L.
Attorney Docket Number	PNN.005NP

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	9344793	B2	2016-05-17	Selig et al.	
	2	9170612	B2	2015-10-27	Farjami	
	3	8116832	B2	2012-02-14	Wang et al.	
	4	9760115	B2	2017-09-12	Farjami	
	5	7590233	B2	2009-09-15	Chiloyan	

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Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20130297844	A1	2013-11-07	Rosenberg et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.T/

PINN-2007

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15563937
Filing Date	2017-10-02
First Named Inventor	Seung Jin KIM
Art Unit	2654
Examiner Name	Ton, David L.
Attorney Docket Number	PNN.005NP

	2	20130094687	A1	2013-04-18	Weinstein et al.		
	3	20130244633	A1	2012-03-16	Jacobs		
	4	20110244927	A1	2010-03-31	Kari		
	5	20160004277	A1	2016-01-07	Farjami		

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Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	203193717	CN	U	2013-09-11	CHEN, ZHIJUN; XIONG DAFANG		☒
	2	2005064813	WO	A1	2005-07-14	SEECODE CO LTD		☐
	3	203720788	CN	U	2013-12-11	SAMSUNG TIANJIN MOBILE DEVELOPMENT CENTER ET AL		☒
	4	103815628	CN	B	2014-01-24	1MORE ELECTRONIC TECHNOLOGY CO LTD		☒
	5	2489520	CN	Y	2001-05-25	HU QIONG		☒

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15563937
Filing Date	2017-10-02
First Named Inventor	Seung Jin KIM
Art Unit	2654
Examiner Name	Ton, David L.
Attorney Docket Number	PNN.005NP

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	Bragi (company), <https:/en.wikipedia.org/wiki/Bragi_(company), in 9 pages (accessed on March 9, 2019)	
	2	BRAGI, The Dash PRO Quick Start Guide - 15 pages (2015)	

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EXAMINER SIGNATURE

Examiner Signature	/DAVID L TON/	Date Considered	08/14/2019

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15563937
Filing Date	2017-10-02
First Named Inventor	Seung Jin KIM
Art Unit	2654
Examiner Name	Ton, David L.
Attorney Docket Number	PNN.005NP

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Mincheol Kim/	Date (YYYY-MM-DD)	2019-07-23
Name/Print	Mincheol Kim	Registration Number	51,306

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/30EFS (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	15563937	Filing Date	2017-10-02	Docket Number (if applicable)	PNN.005NP	Art Unit	2654
First Named Inventor	Seung Jin Kim			Examiner Name	David L. Ton		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☐ Amendment/Reply
- ☒ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____ (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

☒ **The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.**
The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 111410

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

Applicant Signature

PTO/SB/30EFS (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Signature of Registered U.S. Patent Practitioner			
Signature	/Mincheol Kim/	Date (YYYY-MM-DD)	2019-07-23
Name	Mincheol Kim	Registration Number	51306

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/08a (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15563937
Filing Date	2017-10-02
First Named Inventor	Seung Jin KIM
Art Unit	2654
Examiner Name	Ton, David L.
Attorney Docket Number	PNN.005NP

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	1	9344793	B2	2016-05-17	Selig et al.	
	2	9170612	B2	2015-10-27	Farjami	
	3	8116832	B2	2012-02-14	Wang et al.	
	4	9760115	B2	2017-09-12	Farjami	
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	Art Unit	2654
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	Attorney Docket Number	PNN.005NP

	2	20130094687	A1	2013-04-18	Weinstein et al.	
	3	20130244633	A1	2012-03-16	Jacobs	
	4	20110244927	A1	2010-03-31	Kari	
	5	20160004277	A1	2016-01-07	Farjami	

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	1	203193717	CN	U	2013-09-11	CHEN, ZHIJUN; XIONG DAFANG		☒
	2	2005064813	WO	A1	2005-07-14	SEECODE CO LTD		☐
	3	203720788	CN	U	2013-12-11	SAMSUNG TIANJIN MOBILE DEVELOPMENT CENTER ET AL		☒
	4	103815628	CN	B	2014-01-24	1MORE ELECTRONIC TECHNOLOGY CO LTD		☒
	5	2489520	CN	Y	2001-05-25	HU QIONG		☒

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	15563937
	Filing Date	2017-10-02
	First Named Inventor	Seung Jin KIM
	Art Unit	2654
	Examiner Name	Ton, David L.
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	1	Bragi (company), <https:/en.wikipedia.org/wiki/Bragi_(company), in 9 pages (accessed on March 9, 2019)	
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[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	15563937
	Filing Date	2017-10-02
	First Named Inventor	Seung Jin KIM
	Art Unit	2654
	Examiner Name	Ton, David L.
	Attorney Docket Number	PNN.005NP

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Mincheol Kim/	Date (YYYY-MM-DD)	2019-07-23
Name/Print	Mincheol Kim	Registration Number	51,306

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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The information provided by you in this form will be subject to the following routine uses:

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

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4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

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Espacenet

Bibliographic data: CN203193717 (U) — 2013-09-11

Vehicle bluetooth communication device

Inventor(s):	CHEN ZHIJUN; XIONG DAFANG ± (CHEN ZHIJUN, ; XIONG DAFANG)
Applicant(s):	CHEN ZHIJUN; XIONG DAFANG ± (CHEN ZHIJUN, ; XIONG DAFANG)
Classification:	**- international:** ***H04M1/60*** **- cooperative:**
Application number:	CN20132202398U 20130418
Priority number(s):	CN20132202398U 20130418

Abstract of CN203193717 (U)

The utility model provides a vehicle bluetooth communication device including a headset base, a bluetooth headset being capable of plugging to the headset base, and a connector, wherein a loudspeaking unit is arranged on the headset base, a microprocessor and a bluetooth headset cell are arranged in the bluetooth headset, and the connector electrically connects the headset base and the bluetooth headset. The device can be fixed on a sun shield in front upper part of a driver, when a communication is needed, the headset base transmits bluetooth signals received by the bluetooth headset to the loudspeaking unit via the connector, and a user can listen to the communication content played by the loudspeaking unit, when the user wants to have a conversation individually, the user can take down the bluetooth headset from the headset base and puts the bluetooth headset into ears to realize individual communication, and then the bluetooth headset is disconnected with the connector and the loudspeaking unit stops loudspeaking. Therefore, users can conveniently choose individual communication or hand-free communication on the premise of complying with relevant laws.

(19)中华人民共和国国家知识产权局

(12)实用新型专利

(10)授权公告号 CN 203193717 U
(45)授权公告日 2013.09.11

(21)申请号 201320202398.8

(22)申请日 2013.04.18

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专利权人 熊大方

(72)发明人 陈志军 熊大方

(51)Int.Cl.
H04M 1/60(2006.01)

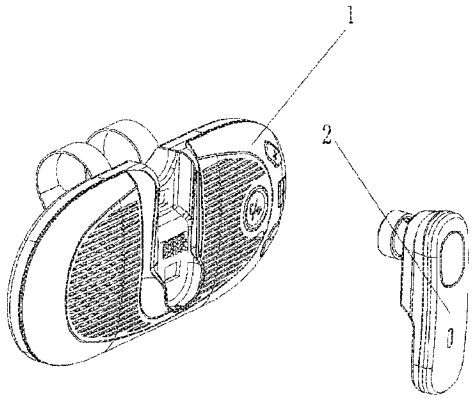
权利要求书1页 说明书3页 附图2页

(54)实用新型名称

一种车载蓝牙通话装置

(57)摘要

本实用新型提供了一种车载蓝牙通话装置，所述车载蓝牙通话装置包括：耳机机座，所述耳机机座上设有扩音单元；可与所述耳机机座插接的蓝牙耳机，所述蓝牙耳机内设有微处理器和蓝牙耳机电池以及通话麦克；可将所述耳机机座与所述蓝牙耳机电路连接的连接器，将所述装置固定在驾驶员前上方的遮阳板上，需通话时，所述耳机机座将所述蓝牙耳机接收到的蓝牙信号通过所述连接器传递给所述扩音单元，所述扩音单元将通话内容播放，使用者即可进行接听，需单独通话时，只需将所述蓝牙耳机从所述耳机机座上摘下戴入使用者耳中即可单独通话，蓝牙耳机与连接器断开，扩音单元停止了外播，使用者可以在遵守相关法律的前提下方便的选择单独通话或者免提通话。



CN 203193717 U

1. 一种车载蓝牙通话装置，其特征在于，所述车载蓝牙通话装置包括：

耳机机座，所述耳机机座上设有扩音单元；

可与所述耳机机座插接的蓝牙耳机，所述蓝牙耳机内设有微处理器和蓝牙耳机电池以及通话麦克；

可将所述耳机机座与所述蓝牙耳机电路连接的连接器。

2. 如权利要求 1 所述的车载蓝牙通话装置，其特征在于，所述耳机机座设有可与车载电源连接的充电接口。

3. 如权利要求 1 所述的车载蓝牙通话装置，其特征在于，所述耳机机座设有充电电池。

4. 如权利要求 1 所述的车载蓝牙通话装置，其特征在于，所述耳机机座设有可与车载电源连接的充电接口以及充电电池。

5. 如权利要求 4 所述的车载蓝牙通话装置，其特征在于，所述扩音单元包括功放和喇叭，所述充电电池与所述功放、喇叭依次电路连接，所述充电电池给所述功放、喇叭供电。

6. 如权利要求 5 所述的车载蓝牙通话装置，其特征在于，所述充电电池与所述充电接口之间设有第一充电管理单元，所述第一充电管理单元设有 LED 充电指示灯。

7. 如权利要求 6 所述的车载蓝牙通话装置，其特征在于，所述充电电池与升压组件、所述连接器、所述蓝牙耳机电池依次连接，所述连接器与所述蓝牙耳机电池之间设有第二充电管理单元。

8. 如权利要求 7 所述的车载蓝牙通话装置，其特征在于，所述微处理器包括可与通讯终端设备连接的蓝牙芯片，所述蓝牙芯片通过所述连接器与所述功放连接。

9. 如权利要求 8 所述的车载蓝牙通话装置，其特征在于，所述充电电池还连接有一可为所述充电电池提供低电量保护的电池检测单元。

10. 如权利要求 9 所述的车载蓝牙通话装置，其特征在于，所述耳机机座上还设有可调节喇叭音量的按键，所述蓝牙耳机上还设有可控制蓝牙耳机通话音量的按键，所述蓝牙耳机上还设有可进行充电、开机指示的 LED 显示灯。

一种车载蓝牙通话装置

技术领域

[0001] 本实用新型属于通讯设备领域，尤其涉及蓝牙通讯设备。

背景技术

[0002] 随着驾驶车辆的各项法规的完善，为了提高驾驶安全，国家出台新交规对于驾驶员驾驶过程中接打电话做了相应的禁制，而在实际驾驶过程中，遇到需要接听的紧急电话为此停车也会带来诸多不便，甚至会影响到其他车辆的通行，由此带来新的交通隐患，为了满足驾驶过程中接听电话的需求，现有技术通常采用佩戴有线或者无线蓝牙耳机来解决，不过问题是，有线耳机的电缆线会带来很多牵绊不便，而蓝牙耳机由于其需要电池供电，而待机时间有限，经常会出现使用时中途断电现象，为了解决上述问题，现有技术中还有一种采用蓝牙扩音器进行通话的，缺点是通话完全呈免提式的，在有他人同车时有诸多不便。

实用新型内容

[0003] 本实用新型的目的在于提供一种车载蓝牙通话装置，旨在解决现有技术中驾驶接打电话不便的问题。

[0004] 本实用新型是这样实现的，一种车载蓝牙通话装置，所述车载蓝牙通话装置包括：

[0005] 耳机机座，所述耳机机座上设有扩音单元；

[0006] 可与所述耳机机座插接的蓝牙耳机，所述蓝牙耳机内设有微处理器和蓝牙耳机电池以及通话麦克；

[0007] 可将所述耳机机座与所述蓝牙耳机电路连接的连接器。

[0008] 优选地，所述耳机机座设有可与车载电源连接的充电接口。

[0009] 优选地，所述耳机机座设有充电电池。

[0010] 优选地，所述耳机机座设有可与车载电源连接的充电接口以及充电电池。

[0011] 优选地，所述扩音单元包括功放和喇叭，所述充电电池与所述功放、喇叭依次电路连接，所述充电电池给所述功放、喇叭供电。

[0012] 优选地，所述充电电池与所述充电接口之间设有第一充电管理单元，所述第一充电管理单元设有 LED 充电指示灯。

[0013] 优选地，所述充电电池与升压组件、所述连接器、所述蓝牙耳机电池依次连接，所述连接器与所述蓝牙耳机电池之间设有第二充电管理单元。

[0014] 优选地，所述微处理器包括可与通讯终端设备连接的蓝牙芯片，所述蓝牙芯片通过所述连接器与所述功放连接。

[0015] 优选地，所述充电电池还连接有一可为所述充电电池提供低电量保护的电池检测单元。

[0016] 优选地，所述耳机机座上还设有可调节喇叭音量的按键，所述蓝牙耳机上还设有可控制蓝牙耳机通话音量的按键，所述蓝牙耳机上还设有可进行充电、开机指示的 LED 显

示灯。

[0017] 依借上述技术方案，将本实用新型所提供的车载蓝牙通话装置固定在驾驶员前上方的遮阳板上或者其他位置，将所述装置与使用者手机蓝牙联通，当需要通话时，如果不需要单独通话的时候，所述耳机机座将所述蓝牙耳机接收到的蓝牙信号通过所述连接器传递给所述扩音单元，所述扩音单元将通话内容播放出来，使用者即可进行接听，同时通过所述通话麦克进行通话，在需要单独进行通话时，只需要将所述蓝牙耳机从所述耳机机座上摘取下来戴入使用者耳中即可单独通话，而所述耳机机座在使用者摘下所述蓝牙耳机时，所述蓝牙耳机与所述连接器断开，蓝牙信号断开向所述扩音单元传送，所述扩音单元停止了免提外播，使用者可以在遵守相关法律的前提下方便的选择单独通话或者免 提通话。

附图说明

[0018] 图 1 是本实用新型提供的产品模块示意图；

[0019] 图 2 是本实用新型提供的产品立体示意图；

[0020] 图 3 是本实用新型提供的产品立体分离示意图。

具体实施方式

[0021] 为了使本实用新型的目的、技术方案及优点更加清楚明白，以下结合附图及实施例，对本实用新型进行进一步详细说明。应当理解，此处所描述的具体实施例仅仅用以解释本实用新型，并不用于限定本实用新型。

[0022] 参照图 1 图 2 和图 3 所示，本实用新型实施例提供一种车载蓝牙通话装置，所述车载蓝牙通话装置包括：耳机机座 1，所述耳机机座 1 上设有扩音单元；可与所述耳机机座 1 插接的蓝牙耳机 2，所述蓝牙耳机 2 内设有微处理器 23 和蓝牙耳机电池 21 以及通话麦克；可将所述耳机机座 1 与所述蓝牙耳机 2 电路连接的连接器 16，依借上述技术方案，将本实用新型所提供的车载蓝牙通话装置固定在驾驶员前上方的遮阳板上或者其他位置，将所述装置与使用者手机蓝牙联通，当需要通话时，如果不需要单独通话的时候，所述耳机机座 1 将所述蓝牙耳机 2 接收到的蓝牙信号通过所述连接器 16 传递给所述扩音单元，所述扩音单元将通话内容播放出来，使用者即可进行接听，同时通过所述通话麦克进行通话，在需要单独进行通话时，只需要将所述蓝牙耳机 2 从所述耳机机座 1 上摘取下来戴入使用者耳中即可单独通话，而所述耳机机座 1 在使用者摘下所述蓝牙耳机 2 时，所述蓝牙耳机 2 与所述连接器 16 断开，蓝牙信号断开向所述扩音单元传送，所述扩音单元停止了免提外播，使用者可以在遵守相关法律的前提下方便的选择单独通话或者免提通话。

[0023] 关于对所述耳机机座 1 供电，可以采用三种方案，第一种在所述耳机机座 1 上设有可与车载电源连接的充电接口 10，将车载电源连接后直接进行供电，第二种是在所述耳机机座 1 设充电电池 14，通过所述充电电池 14 给所述耳机机座 1 供电，本实施例优选方案是，在所述耳机机座 1 设有可与车载电源连接的充电接口 10 以及充电电池 14，可以用车载电源对所述充电电池 14 进行充电，所述充电电池 14 给所述耳机机座 1 进行供电。

[0024] 具体地，所述扩音单元包括功放 17 和喇叭 19，所述充电电池 14 与所述功放 17、喇叭 19 依次电路连接，所述充电电池 14 给所述功放 17、喇叭 19 供电，所述充电电池 14 与所述充电接口 10 之间设有第一充电管理单元 11，所述第一充电管理单元 11 设有 LED 充电指

示灯 12，所述第一充电管理单元 11 在所述充电电池 14 电量充满之后自动关闭，防止过充。

[0025] 所述充电电池 14 与升压组件 13、所述连接器 16、所述蓝牙耳机电池 21 依次连接，在待机情况下，所述充电电池 14 通过升压组件 13 向所述蓝牙耳机电池 21 进行充电，同时，在所述连接器 16 与所述蓝牙耳机电池 21 之间设有第二充电管理单元 22，当电量充满之后自动关闭，防止过充。

[0026] 所述微处理器 23 包括可与通讯终端设备连接的蓝牙芯片，所述蓝牙芯片通过所述连接器 16 与所述功放 17 连接，通过所述功放 17 将蓝牙信号放大后传送到所述喇叭 19 播出。

[0027] 为了防止所述耳机机座 1 长时间未充电而导致所述充电电池 14 低电量亏电，所述充电电池 14 还连接有一可为所述充电电池 14 提供低电量保护的电池检测单元 15，当发现所述充电电池 14 低于警戒电量时，自动关闭所述耳机机座 1 的所有用电器件。

[0028] 进一步为了完善所述装置的功能性，所述耳机机座 1 上还设有可调节喇叭 19 音量的按键 18，所述蓝牙耳机 2 上还设有可控制蓝牙耳机 2 通话音量的按键 20，所述蓝牙耳机 2 上还设有可进行充电、开机指示的 LED 显示灯 24。

[0029] 以上所述仅为本实用新型的较佳实施例而已，并不用以限制本实用新型，凡在本实用新型的精神和原则之内所作的任何修改、等同替换和改进等，均应包含在本实用新型的保护范围之内。

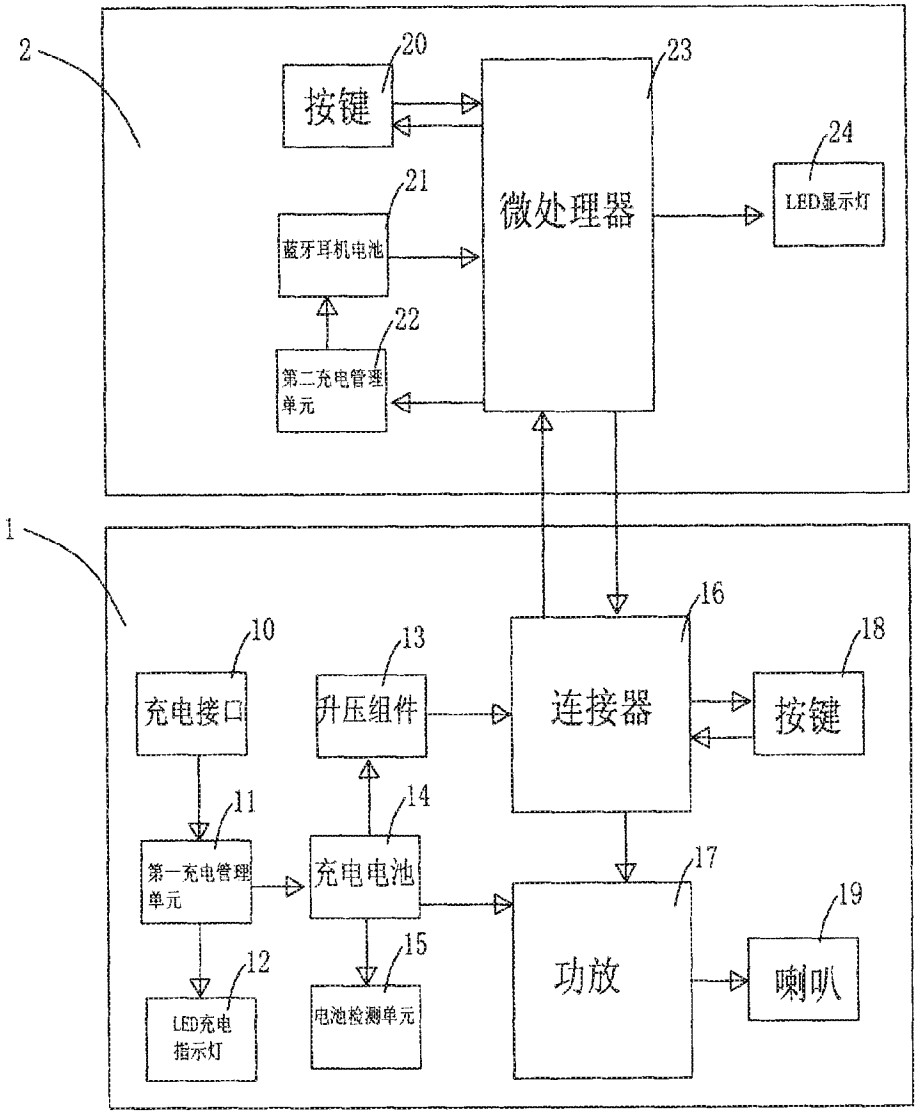

2
20
按键
23
微处理器
24
LED显示灯
21
蓝牙耳机电池
22
第二充电管理单元
1
10
充电接口
13
升压组件
16
连接器
18
按键
11
第一充电管理单元
14
充电电池
17
功放
19
喇叭
12
LED充电指示灯
15
电池检测单元

图 1

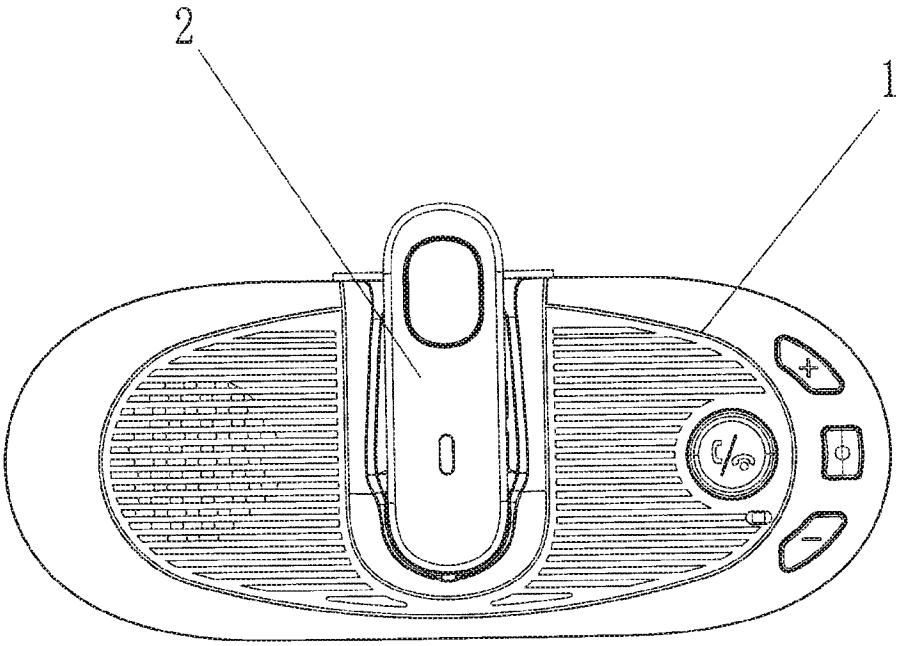


图 2

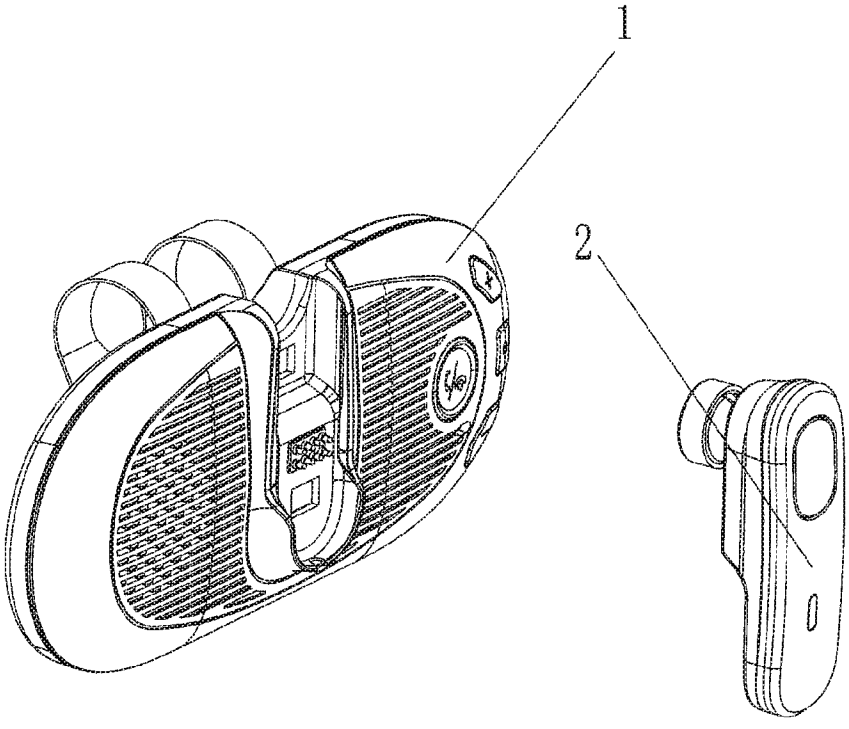


图 3

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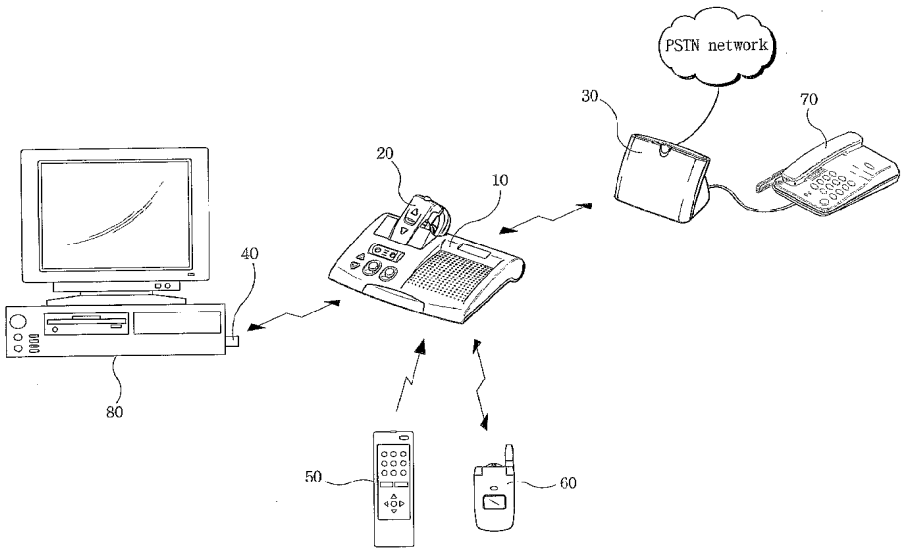
(54) **Title:** INTEGRATED COMMUNICATION APPARATUS USING BLUETOOTH



(57) **Abstract:** The present invention relates to an integrated communication apparatus using a bluetooth. There are provided a base station for performing a conference function, a vehicle hands-free function, an IP phone function, and a dialing function using an address book stored in a computer, a wireless headset separable from the base station, a remote controller for transferring a user's key operation signal to the base station using an infrared ray wireless communication, a PSTN adaptor directly connected with the PSTN wired/wireless phone or PSTN network and performing a bluetooth communication with the wireless headset, and a USB Dongle engaged in the computer for performing a bluetooth communication with the wireless headset or the PSTN adaptor.

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INTEGRATED COMMUNICATION APPARATUS USING BLUETOOTH

Technical Field

The present invention relates to an integrated communication apparatus using a bluetooth capable of achieving various functions such as a conference, a hands-free device for vehicle, an IP (Internet Protocol) phone, etc. using a bluetooth.

Background Art

A communication device such as a PSTN (Public Switched Telephone Network) wired/wireless phone and a portable phone (cellular, PCS, etc) becomes a necessary item in our life as an information communication is largely advanced. In addition, various communication instruments capable of providing expanded functions such as an inherent phone communication function as well as a data communication, a conference communication, etc, have been developed.

With a rapid development in a communication instrument, various communication equipments using a communication environment of a wired/wireless telephone and a cellular phone such as a device for performing a conference between users by connecting the interior of an office and a remote area, a wired/wireless hands-free device conveniently used for a cellular phone while a driver drives, and a device provided for an IP phone function capable of performing a voice chatting with an opponent when using a computer are concurrently provided.

However, the above described various communication devices are designed to perform only specific functions of a device for a simple conference, a wired/wireless hands-free device for a vehicle, and an IP phone function based on a computer. In addition, it is impossible to integrally perform various functions such as a conference, a hands-free function for vehicle, IP phone, etc.

using one communication device.

Disclosure of Invention

Accordingly, it is an object of the present invention to provide an integrated communication apparatus using a bluetooth that is capable of overcoming the problems encountered in the conventional art.

It is another object of the present invention to provide an integrated communication apparatus using a bluetooth that is capable of achieving various functions such as a conference, a hands-free device for vehicle, an IP phone, etc. using a bluetooth under a communication environment that uses a cellular phone and a wired/wireless telephone.

To achieve the above objects, there is provided an integrated communication apparatus using a bluetooth, comprising a base station in which an opponent's audio data received from a PSTN adaptor having a bluetooth function or a cellular phone having a bluetooth function through a bluetooth module installed in a wireless headset detachably engaged in a body so that a plurality of users have a conference or use a hands-free function is reproduced or outputted through a speaker, and a user's voice inputted through a microphone is converted into an audio data and is outputted to the wireless headset and is transferred to the PSTN adaptor or the cellular phone; a wireless headset that is separable from the base station and includes a module for a bluetooth communication with the PSTN adaptor or the cellular phone, wherein the opponent's audio data from the PSTN adaptor or the cellular phone is outputted to the base station and is reproduced through the speaker, and in the case that the same is separated from the base station, the opponent's audio data received from the PSTN adaptor or the cellular phone is reproduced through the speaker provided in itself, and the user's voice inputted through the base station or the microphone provided in itself is converted into an audio data and is transferred to the PSTN adaptor or the cellular phone; and a PSTN

adaptor that is directly connected with the PSTN wired/wireless telephone or PSTN network and includes a module for performing a bluetooth communication with the wireless headset detachably engaged in the base station, wherein when a plurality of users have a conference, the opponent's audio data inputted from the PSTN wired/wireless phone or PSTN network is transferred to the wireless headset detachably engaged to the base station, and the user's audio data received from the wireless headset is outputted to the PSTN wired/wireless phone or PSTN network.

There is further provided a USB Dongle that is engaged in a USB port provided in a computer and includes a module capable of performing a bluetooth communication with the wireless headset detachably engaged in the base station and the PSTN adaptor, wherein an opponent's audio data based on an IP phone including a voice chatting of an internet messenger inputted from the computer is transferred to the wireless headset detachably engaged in the base station, and when using a telephone calling function using an address book stored in the computer, a telephone number data of a dialing destination is transferred to the PSTN adaptor, and a user's audio data is received based on the user of the IP phone including a voice chatting of an internet messenger from the wireless headset detachably engaged to the base station and is outputted to the computer.

There is further provided a remote controller for transferring a key operation signal such as a telephone number dialing and a microphone gain adjusting of the base station to the base station through an infrared wireless communication, wherein the telephone number dialing is performed without using a cellular phone of a user whop uses a conference, a hands-free, an IP phone and a telephone calling function using an address book stored in the computer or a PSTN wired/wireless phone.

Brief Description of Drawings

The preferred embodiments of the present invention will be described with reference to the accompanying drawings.

Figure 1 is a view illustrating a schematic construction of an integrated communication apparatus using a bluetooth according to the present invention;

Figure 2 is a block diagram illustrating the construction of a base station of Figure 1 according to the present invention;

Figure 3 is a block diagram illustrating the construction of a wireless headset of Figure 1 according to the present invention;

Figure 4 is a block diagram illustrating the construction of a PSTN adaptor of Figure 1 according to the present invention;

Figure 5 is a block diagram illustrating the construction of a USB Dongle of Figure 1 according to the present invention;

Figure 6 is a block diagram illustrating the construction of a remote controller of Figure 1 according to the present invention; and

Figures 7 through 12 are views of the examples of an integrated communication apparatus using a bluetooth according to the present invention.

Best Mode for Carrying Out the Invention

The integrated communication apparatus using a bluetooth according to the present invention will be described with reference to the accompanying drawings.

Figure 1 is a schematic view of the whole construction of an integrated communication apparatus using a bluetooth according to the present invention.

As shown therein, a base station 10 is designed to operate in such a manner that opponent's audio data (voice of opponent) received through a PSTN adaptor 30 having a bluetooth function using a bluetooth module installed in a wireless headset 20 detachably engaged in a body or a cellular phone 60 having a bluetooth function therein are reproduced and outputted when a

plurality of users have a conference or a hands-free function is used. The user's voice inputted through a microphone is converted into an audio data and is outputted to the wireless headset 20 and is transmitted to the PSTN adaptor 30 or the cellular phone 60.

At this time, since the base station 10 is movable, the user can move the base station 10 to a conference room, the interior of a vehicle, home or a place with a computer based on the purpose of use.

The wireless headset 20 is separable from the base station 10. In addition, the wireless headset 20 is connected with a PSTN wired/wireless phone 70 or a PSTN network so that a plurality of users can perform a conference or can use a hands-free function. There is provided a module for performing a bluetooth communication with a PSTN adaptor 30 having a bluetooth function or a cellular phone 60 having a bluetooth function. The opponent's audio data received from the PSTN adaptor 30 or the cellular phone 60 are outputted to the base station 10 and are reproduced through a speaker. In the case that it is used by separating from the base station 10 based on a user's operation, the opponent's audio data received from the PSTN adaptor 30 or the cellular phone 60 are reproduced through the speakers provided therein. The user's voice inputted through the base station 109 or the microphone provided therein is converted into an audio data and is transmitted to the PSTN adaptor 30 or the cellular phone 60.

The PSTN adaptor 30 is directly connected with a PSTN wired/wireless phone 70 or a PSTN network and includes a wireless headset 20 detachably engaged to the base station 10, and a module capable of performing a bluetooth communication. When a plurality of users have a conference, the opponent's audio data inputted from the PSTN wired/wireless phone 70 or the PSTN network are transmitted to the wireless headset 20 detachably engaged to the base station 10. The user's audio data received from the wireless headset 20 are outputted to the PSTN wired/wireless phone 70 or the PSTN

network.

The USB Dongle 40 includes a wireless headset 20 detachably engaged to the base station 10 in a USB port provided in a computer 80, and a module capable of performing a bluetooth communication with the wireless headset 20 or the PSTN adaptor 30 detachably engaged to the base station 10. The opponent's audio data based on an IP phone use including a voice chatting of an internet messenger inputted from the computer 80 are transmitted to the wireless headset 20 detachably engaged to the base station 10. When using a telephone calling function using an address book stored in the computer 80, the telephone number data of a destination of dialing are transmitted to the PSTN adaptor 30. The user's audio data based on the use of an IP phone including a voice chatting of an internet messenger are received from the wireless headset 20 detachably engaged to the base station 10 and are outputted to the computer 80.

The remote controller 50 transmits a key operation signal corresponding to a telephone number dialing and a microphone gain adjusting operation of the base station 10 to the base station 10 through an infrared ray wireless communication wherein the telephone number dialing and the microphone gain adjusting operation of the base station 10 are performed without directly using the user's cellular phone 60 or the PSTN wired/wireless phone 70 that use the functions of a conference and hands-free, and a telephone calling function using the address books stored in the computer 80 and the IP phone based on the computer 80.

Figure 2 is a block diagram illustrating the construction of the base station 10 of Figure 1. The base station 10 includes a power unit 11 for supplying power to each element of the base station 10, a key input unit 12 for generating and outputting a key signal based on a user's operation such as an on/off operation, microphone gain adjustment, transmission, end, etc., a DSP codec unit 13 that removes an echo and noise from an opponent's audio data

from the cellular phone 60 or the PSTN adaptor 30 through a wireless headset 20 and a user's audio data inputted through the microphone and controls the concurrent bi-direction transmission functions of the wireless headset 20, the cellular phone 60 and the PSTN adaptor 30, an audio amplifier 14 for amplifying an output of an opponent's audio data from the cellular phone 60 or the PSTN adaptor 30 through the wireless headset 20 and outputting to the speaker 15, a microphone 16 for converting a voice of a user who have a conference or uses a hands-free function into an electrical audio data and outputting to the DSP codec unit 13, a remote controller receiver 17 for outputting a key operation signal such as a telephone number dialing, a microphone gain adjusting, etc. from the remote controller 50 to an interface unit 18, and an interface unit 18 in which an interface with respect to a battery charge of the wireless headset 20 engaged in the base station 10, an input of the key signal from the remote controller receiver 17, and a transmission of the setting value outputted to the DSP codec unit 13 is processed, and an opponent's audio data received from the wireless headset 20 through the PSTN adaptor 30 or the cellular phone 60 to the DSP codec unit 13, and the user's audio data inputted from the DSP codec unit 13 is outputted to the wireless headset 20.

At this time, the microphone 16 provided in the base station 10 may have a certain direction changed based on the position of a user.

The construction of the base station 10 is not described in the above description, but there is further provided a display unit for displaying the state of operation of the base station 10, and a wireless headset 20 is engaged on an upper side of the base station 10.

Figure 3 is a block diagram illustrating the construction of the wireless headset 20 of Figure 1. The wireless headset 20 includes a battery 20 that is charged by the power applied from the base station 10 in the case that it is mounted on the base station 10, and supplies the power used for each element of the wireless headset 20, a key input unit 22 for generating and outputting a

key signal based on a user's operation such as volume up/down, transmission, end, etc., a display unit 23 for displaying the current connection state with the base station 10 and the battery charged state, a bluetooth module 24 for performing a bluetooth communication of an audio data of a user who has a conference through the PSTN adaptor 30 or the cellular phone 60 or uses a hands-free function and an opponent's audio data, a PCM codec unit 25 for outputting a digital audio data from the bluetooth module 24 to the speaker 26, converting an audio data from the microphone 27 into a digital data and outputting to the bluetooth module 24, a microphone 27 for converting a voice of a user who has a conference or uses a hands-free function into an electrical audio data and outputting to the PCM codec unit 25, and an interface unit 28 in which performs an interface with respect to a key value receiving from the base station 10, a setting value transmission to the base station 10, an engaging and disengaging state of the base station 10 of the wireless headset 20, a driving detection of the base station 10, a battery charging through the power from the base station 10, and a download of a firm ware, and the opponent's audio data received from the PSTN adaptor 30 or the cellular phone 60 through the bluetooth 24 to the base station 10, and the user's audio data inputted through the microphone provided in the base station 10 or in itself is outputted to the bluetooth module 24.

Figure 4 is a block diagram illustrating the construction of the PSTN adaptor 30 of Figure 1. As shown therein, the PSTN adaptor 30 includes a power unit 31 for supplying power to each element of the PSTN adaptor 30, a connection unit 32 for being connected with the PSTN wired/wireless phone 70 or the PSTN network, a bluetooth module 33 for processing a bluetooth communication of an audio data of a user, who has a conference using the wireless headset 20 detachably engaged in the base station 10 or uses a hands-free function, and an opponent's audio data, a telephone set module 34 having a PSTN telephone function, an audio processor 35 for communicating a

voice with the telephone set module 34, a serial interface unit 36 for performing a dialing process of a corresponding number based on a telephone number dialing key signal from the wireless headset 20 detachably engaged in the base station 10 through the bluetooth module 33, and a DTMF tone generator 37 for generating a DTMF tone in accordance with a control of the telephone set module 34.

At this time, the power unit 31 uses a known battery or a power inputted through the DC input adaptor. In addition, even it is not shown in the drawing, there are further provided a display unit for displaying the operation state of the PSTN adaptor 30, and a key input unit for setting the operation of the PSTN adaptor 30.

Figure 5 is a block diagram illustrating the construction of the USB Dongle 40 of Figure 1. As shown therein, the USB Dongle 40 includes a power unit 41 for supplying a power to each element of the USB Dongle 40, a bluetooth module 42 in which an opponent's audio data based on the use of an IP phone including a voice chatting of an internet messenger inputted from the computer 80 is transferred to the wireless headset 20 detachably engaged to the base station, and a telephone number data of a dialing destination based on the selection of dialing function using the address book stored in the computer 80 is transferred to the PSTN adaptor 30, and the user's audio data based on the use of the IP phone including a voice chatting of an internet messenger from the wireless headset 20 detachably engaged to the base station 10 is received and outputted to the computer 80, and a USB interface unit 43 in which an audio data inputted from the computer 80 through the USB port of the computer 80 is outputted to the bluetooth module 42, and the audio data from the bluetooth module 42 is outputted to the computer 80.

At this time, the USB Dongle 40 further includes a display unit (not shown) for displaying the operation state of the USB Dongle 40.

Figure 6 is a block diagram illustrating the construction of the remote

controller 50 of Figure 1. As shown therein, the remote controller 50 includes a battery 51 for supplying power to each element of the remote controller 50, a key matrix unit 52 for generating a key signal based on a key input such as a telephone number dialing, a microphone gain adjustment, etc. of a user who has a conference and uses a hands-free function, an IP phone using a computer, and a dialing function using an address book stored in the computer 80, an infrared ray transmitter 53 for converting a key signal generated by the key matrix unit 52 into an infrared ray wireless signal, and an infrared ray transmission LED 54 for transmitting a user's operation based key signal converted into an infrared ray wireless signal by the infrared ray transmitter 53 to the base station 10.

Next, the operation of the integrated communication apparatus using a bluetooth according to the present invention will be described with reference to Figures 7 through 12.

Figures 7 through 12 are views for describing the examples of uses of the integrated communication apparatus using a bluetooth according to the present invention.

Figure 7 is a view illustrating an example of use for describing a conference function using the cellular phone 60 having a bluetooth function. As shown therein, the base station 10 is provided at the center of a table in a conference room. The cellular phone 60 having a bluetooth function is provided on the table. An opponent's audio data received in the cellular phone 60 having a bluetooth function is transferred to the wireless headset 20 detachably engaged to the base station 10 provided at the center of the table in a conference room, and an opponent's audio data received from the cellular phone 60 in the wireless headset 20 is outputted to the base station 10 through the speaker. In addition, when the voices of users attending in the conference are inputted through the microphone provided in the base station 10, the base station 10 outputs the user's audio data to the wireless headset 20 and

transfers from the wireless headset 20 to the cellular phone 60 through the bluetooth for thereby being transferred to the opponent. Therefore, the users in the conference room and the opponents can have a conference without using an expensive known equipment.

At this time, the microphone gain of the base station 10 may be controlled based on the size of the office, and the direction of the microphone provided in the base station 10 may be adjusted based on the positions of the users.

In the case that one user among multiple users attending in the conference separates the wireless headset 20 engaged in the base station and puts on the same, the audio data of the opponent received from the cellular phone 60 is outputted through the speaker provided in itself without outputting to the base station 10, and the user's audio data inputted through the microphone provided in itself is directly transferred to the cellular phone 60. Therefore, the user can have a secret communication with the opponent based on the bluetooth communication. In addition, the user attending in the conference can dial a desired opponent's telephone number using the remote controller 50 of the infrared ray communication in a state that the cellular phone 60 is not used and can adjust the microphone gain of the base station 10.

Figure 8 is a view of an example for describing the conference function using a PSTN wired/wireless phone 70 or a PSTN network. As shown therein, the base station 10 is provided at the center of the table in a conference room. The PSTN adaptor 30 performing a bluetooth communication with the wireless headset 20 detachably engaged to the base station 10 is directly connected with the PSTN wired/wireless phone 70 or the PSTN network installed in the conference room. An opponent's audio data inputted through the PSTN wired/wireless phone 70 or the PSTN network is transferred to the wireless headset 20 detachably installed in the base station 10 through the PSTN adaptor 30 based on a bluetooth communication. The opponent's audio data

received through the PSTN adaptor 30 in the wireless headset 20 is outputted to the base station 10 and is reproduced through the speaker. When the voice of the user attending in the conference is inputted through a microphone installed in the base station 10, the user's audio data is outputted to the wireless headset 20 in the base station 10, and the user's audio data is transferred to the PSTN adaptor 30 in the wireless headset 20 based on the bluetooth communication. The user's audio data is outputted to the wired PSTN wired/wireless phone 70 or the PSTN network in the PSTN adaptor 30 for thereby being transferred to the opponent.

As shown in Figure 7, the microphone gain of the base station 10 is adjusted based on the size of the office, and the direction of the microphone is adjusted based on the user's position. In the case that the user who attends in the conference separates the wireless headset 20 engaged in the base station 10 and puts on the same, the opponent's audio data received from the PSTN adaptor 20 is not outputted to the base station 10, but is outputted through the speaker provided in the wireless headset 20, and the user's audio data inputted through the microphone provided in itself is directly transferred to the cellular phone 60 for thereby achieving a secrete communication. The telephone number dialing or the microphone gain adjusting of the base station may be implemented using the remote controller 50.

Figure 9 is a view for describing a wired hands-free function for a vehicle using a known cellular phone that does not include a bluetooth function. The base station is provided near a driver's seat in a manner similar with the conventional wired hands-free for a vehicle. A common cellular phone is wire-connected with the base station 10 using a separately provided connector. The opponent's audio data received by the cellular phone is outputted to the base station 10 that is wire-connected and is reproduced through the speaker. When the user's voice is inputted through the microphone provided in the base station 10, the user's audio data is outputted to a wired cellular phone in the base

station 10 for thereby being transferred to the opponent.

In addition, in the same manner as the earlier embodiment, the microphone gain of the base station is adjusted, and the direction of the microphone is adjusted based on the user's position. The telephone number dialing or the microphone gain adjusting of the base station 10 is performed using the remote controller 50.

Figure 10 is a view for describing the function of the wireless hands-free for a vehicle using the cellular phone 60 having a bluetooth function. The base station 10 is provided near the driver's seat, and the cellular phone 60 having a bluetooth function is provided in the interior of the vehicle (near the driver's seat, in the user's pocket, or in the bag). The opponent's audio data received by the cellular phone 60 having a bluetooth function is transferred to the wireless headset 20 detachably engaged to the base station 10, and the opponent's audio data received by the cellular phone 60 in the wireless headset 20 is outputted to the base station 10 and is reproduced through the speaker. In addition, when the user's voice is inputted through the microphone provided in the base station 10, the user's audio data is outputted to the wireless headset 20 in the base station 10, and the user's audio data is transferred to the cellular phone 60 based on a bluetooth communication in the wireless headset 20 for thereby being transferred to the opponent.

In addition, in the same manner as the earlier description, the microphone gain of the base station 10 is adjusted, and the direction of the microphone is adjusted based on the position of the user. In the case that the user separates the wireless headset 20 engaged in the base station 10 and puts on the same, the opponent's audio data received from the cellular phone 60 is not outputted to the base station 10, but is outputted through the speaker provided in the wireless headset 20. The user's audio data inputted through the microphone provided in itself is directly transferred to the cellular phone 60 for thereby achieving a secrete communication. In addition, the telephone number

dialing or the microphone gain adjusting of the base station 10 is performed using the remote controller 50.

Figure 11 is a view for describing the IP phone function including a voice chatting function. The wireless headset 20 detachably engaged in the base station 10 and the USB Dongle 40 are connected with the USB port of the computer 80 in order to use the IP phone function including a voice chatting provided by the internet messenger. In the case that there is not the USB Dongle 40, it is wire-connected. The base station 10 is provided near the computer 80. In the case that the user who using the internet messenger provided by the internet website wants a voice chatting with a certain opponent or in the case that the IP phone is used, the opponent's audio data is transferred to the wireless headset 20 detachably engaged to the base station 10 through the USB Dongle 40 in the computer 80. The opponent's audio data received from the USB Dongle 40 in the wireless headset 20 is outputted to the base station 10 and is reproduced through the speaker. In addition, when the user's voice is inputted through the microphone provided in the base station 10, the user's audio data is transferred to the USB Dongle 40 in the base station 10 based on a bluetooth communication. The user's audio data is outputted to the computer 80 in the USB Dongle 40 for thereby being transferred to the opponent. It is possible to achieve a good service using the voice communication of the internet messenger and an excellent sound quality using the USB Dongle 40 having a bluetooth.

Figure 12 is a view for describing the phone calling function using an address book stored in the computer. The PSTN adaptor 30 connected with the PSTN wired/wireless phone 70 or the PSTN network and the USB Dongle 40 performing a bluetooth communication are connected with the USB port of the computer for using the telephone calling function using the address book. The base station 10 in which the wireless headset 20 is detachably engaged is provided near the PSTN adaptor 30. When the user selects an opponent

information for calling the opponent using the address book stored in the computer 80 based on a certain method such as a clicking method, etc., the information is transferred to the PSTN adaptor 30 through the USB Dongle 40 in the computer 80. The user who received the dialing data from the USB Dongle 40 calls an opponent using the PSTN wired/wireless phone 70 or the PSTN network based on the data for the telephone number dialing in the PSTN adaptor 30. In addition, when the call with the opponent through the PSTN wired/wireless phone 70 or the PSTN network is made, the opponent's audio data is transferred to the wireless headset 20 detachably engaged to the base station 10 through the PSTN adaptor 30. The opponent's audio data received from the PSTN adaptor 30 in the wireless headset 20 is outputted to the base station 10 for thereby being reproduced through the speaker. When the user's voice is inputted through the microphone provided in the base station 10, the user's audio data is outputted to the wireless headset 20 in the base station 10. The user's audio data is transferred to the PSTN adaptor 30 for a bluetooth communication in the wireless headset 20. The user's audio data is outputted to the wired PSTN wired/wireless phone 70 or the PSTN network in the PSTN adaptor 30 for thereby being transferred to the opponent.

Industrial Applicability

As described above, in the integrated communication apparatus using a bluetooth according to the present invention, the communication apparatus according to the present invention is capable integrally using various functions such as a conference, a hands-free device for a vehicle, an IP phone, a calling function using an address book stored in a computer. In the present invention, it is possible to overcome the problems encountered in the conventional art in which a conference apparatus, a wired/wireless hands-free device for a vehicle, and an apparatus used for using an IP phone function based on a computer are separately bought and installed.

In addition, the present invention may be used together with a cellular phone having a bluetooth. The PSTN network of the office or home may be directly used based on a wireless method by providing a PSTN adaptor having a bluetooth.

As the present invention may be embodied in several forms without departing from the spirit or essential characteristics thereof, it should also be understood that the above-described examples are not limited by any of the details of the foregoing description, unless otherwise specified, but rather should be construed broadly within its spirit and scope as defined in the appended claims, and therefore all changes and modifications that fall within the meets and bounds of the claims, or equivalences of such meets and bounds are therefore intended to be embraced by the appended claims.

Claims:

1. An integrated communication apparatus using a bluetooth, comprising:

a base station in which an opponent's audio data received from a PSTN (Public Switched Telephone Network) adaptor having a bluetooth function or a cellular phone having a bluetooth function through a bluetooth module installed in a wireless headset detachably engaged in a body so that a plurality of users have a conference or use a hands-free function is reproduced or outputted through a speaker, and a user's voice inputted through a microphone is converted into an audio data and is outputted to the wireless headset and is transferred to the PSTN adaptor or the cellular phone;

a wireless headset that is separable from the base station and includes a module for a bluetooth communication with the PSTN adaptor or the cellular phone, wherein the opponent's audio data from the PSTN adaptor or the cellular phone is outputted to the base station and is reproduced through the speaker, and in the case that the same is separated from the base station, the opponent's audio data received from the PSTN adaptor or the cellular phone is reproduced through the speaker provided in itself, and the user's voice inputted through the base station or the microphone provided in itself is converted into an audio data and is transferred to the PSTN adaptor or the cellular phone; and

a PSTN adaptor that is directly connected with the PSTN wired/wireless telephone or PSTN network and includes a module for performing a bluetooth communication with the wireless headset detachably engaged in the base station, wherein when a plurality of users have a conference, the opponent's audio data inputted from the PSTN wired/wireless phone or PSTN network is transferred to the wireless headset detachably engaged to the base station, and the user's audio data received from the wireless headset is outputted to the PSTN wired/wireless phone or PSTN network.

2. The apparatus of claim 1, further comprising a USB (Universal Serial Bus) Dongle that is engaged in a USB port provided in a computer and includes a module capable of performing a bluetooth communication with the wireless headset detachably engaged in the base station and the PSTN adaptor, wherein an opponent's audio data based on an IP phone including a voice chatting of an internet messenger inputted from the computer is transferred to the wireless headset detachably engaged in the base station, and when using a telephone calling function using an address book stored in the computer, a telephone number data of a dialing destination is transferred to the PSTN adaptor, and a user's audio data is received based on the user of the IP (Internet Protocol) phone including a voice chatting of an internet messenger from the wireless headset detachably engaged to the base station and is outputted to the computer.

3. The apparatus of either claim 1 or claim 2, further comprising a remote controller for transferring a key operation signal such as a telephone number dialing and a microphone gain adjusting of the base station to the base station through an infrared wireless communication, wherein said telephone number dialing is performed without using a cellular phone of a user whop uses a conference, a hands-free, an IP phone and a telephone calling function using an address book stored in the computer or a PSTN wired/wireless phone.

4. The apparatus of claim 1, wherein said base station includes:

a power unit for supplying a power to each element of the base station;

a key input unit for generating a key signal based on an user's operation such as an on/off, a microphone gain adjusting, a transmission and end and outputting the same;

a DSP codec unit that removes an echo and noise from an opponent's audio data received through the cellular phone or the PSTN adaptor through the

wireless headset and a user's audio data inputted through the microphone and controls a bi-direction concurrent transmission function of the wireless headset and the cellular phone and the PSTN adaptor;

an audio amplifier for amplifying an output of an opponent's audio data received from the cellular phone or the PSTN adaptor through the wireless headset and outputting the same through the speaker;

a microphone for converting a voice of a user who has a conference or uses a hands-free function into an electrical audio data and outputting to the DSP codec unit;

a remote controller receiver for outputting a key operation signal such as a telephone number dialing and a microphone gain adjusting from the remote controller to the interface unit; and

an interface unit that processes a battery charging of the wireless headset engaged in the base station, an input of the key signal received from the remote controller receiver, and a transmission of the setting value from the DSP codec unit, and an opponent's audio data from the PSTN adaptor or the cellular phone through the wireless headset is outputted to the DSP codec unit, and a user's audio data inputted from the DSP codec unit is outputted to the wireless headset.

5. The apparatus of claim 1, wherein said wireless headset includes:

a battery that is charged by a power from the base station when it is mounted on the base station and is adapted to supply a power to each element of the wireless headset;

a key input unit for generating and outputting a key signal based on a user's operation such as a volume up/down, transmission and end;

a display unit for displaying the current connection state with the base station and a charged battery state;

a bluetooth module for performing a bluetooth communication of an

audio data of a user who has a conference with the PSTN adaptor or the cellular phone or uses a hands-free function and an opponent's audio data;

a PCM codec unit for outputting a digital audio data from the bluetooth moduel to the speaker, converting an audio data from the microphone into a digital data and outputting to the bluetooth module;

a microphone for converting a voice of a user who has a conference or uses a hands-free function into an electrical audio data and outputting to the PCM codec unit; and

an interface unit for interfacing a key value receiving from the base station, a setting value transmission to the base station, an engaged or disengaged state of the base station of the wireless headset, a driving detection of the base station, a battery charging based on the power from the base station, and a download of a firmware, wherein an opponent's audio data received from the PSTN adaptor or the cellular phone through the bluetooth module is outputted to the base station, and a user's audio data inputted through the base station or a microphone installed in itself is outputted to the bluetooth module.

6. The apparatus of claim 1, wherein said PSTN adaptor includes:

a power unit for supplying a power to each element of the PSTN adaptor;

a connection unit connected with the PSTN wired/wireless phone or PSTN network;

a bluetooth module that processes an audio data of a user who has a conference with the wireless headset detachably engaged to the base station and uses a hands-free function, and an opponent's audio data;

a telephone module capable of achieving a PSTN phone function;

an audio processing unit for communicating voices with the telephone unit module;

a serial interface unit for processing a dialing operation of a

corresponding telephone number based on a telephone number dialing key signal from the wireless headset detachably engaged to the base station through the bluetooth module; and

a DTMF tone generation unit for generating a DTMF tone in accordance with a telephone unit module.

7. The apparatus of claim 2, wherein said USB Dongle includes:

a power unit for supplying a power to each element of the USB Dongle;

a bluetooth module in which an opponent's audio data based on an IP phone including a voice chatting of an internet messenger inputted from the computer is transferred to the wireless headset detachably engaged to the base station, and a telephone number data of a dialing destination based on the use of the telephone calling function using the address book stored in the computer is transferred to the PSTN adaptor, and a user's audio data based on the use of the IP phone including a voice chatting of an internet messenger is received from the wireless headset detachably engaged to the base station, and the received data is outputted to the computer; and

an USB interface unit for interfacing the operations that an audio data inputted from the computer through the USB port of the computer is outputted to the bluetooth module, and an audio data inputted from the bluetooth module is outputted to the computer.

8. The apparatus of claim 3, wherein said remote controller includes:

a battery for supplying a power to each element of the remote controller;

a key matrix unit for generating a key signal based on a key input such as a telephone dialing of a user who has a conference, a hands-free, an IP phone using a computer and a dialing function using an address book stored in the computer, and a microphone gain adjusting;

an infrared ray unit for converting a key signal generated by the key matrix unit into an infrared ray wireless signal; and

an infrared ray transmission LED for transferring a key signal based on a user's operation converted into the infrared wireless signal based on the infrared ray transmitter to the base station.

Fig. 1

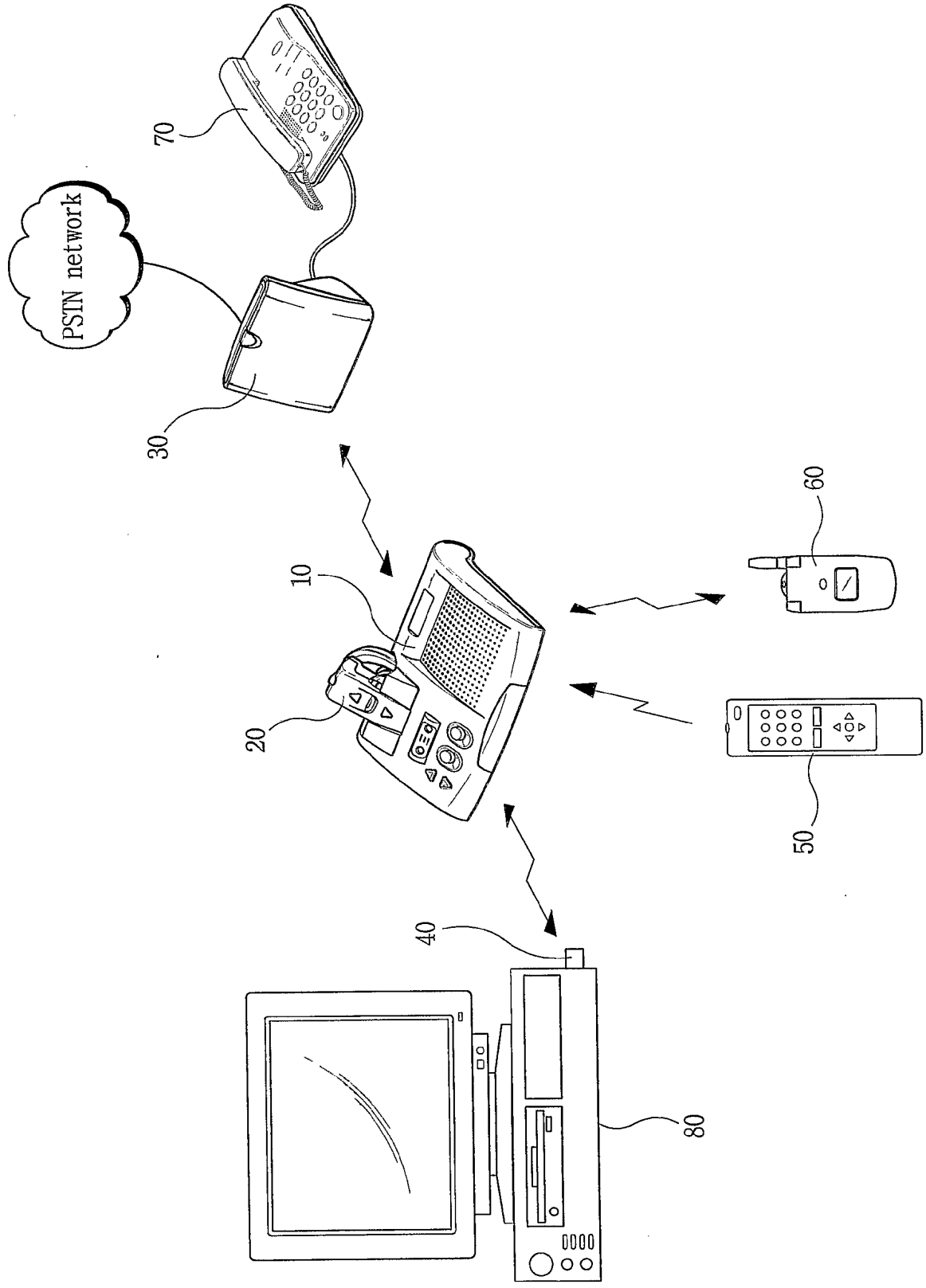


Fig. 2

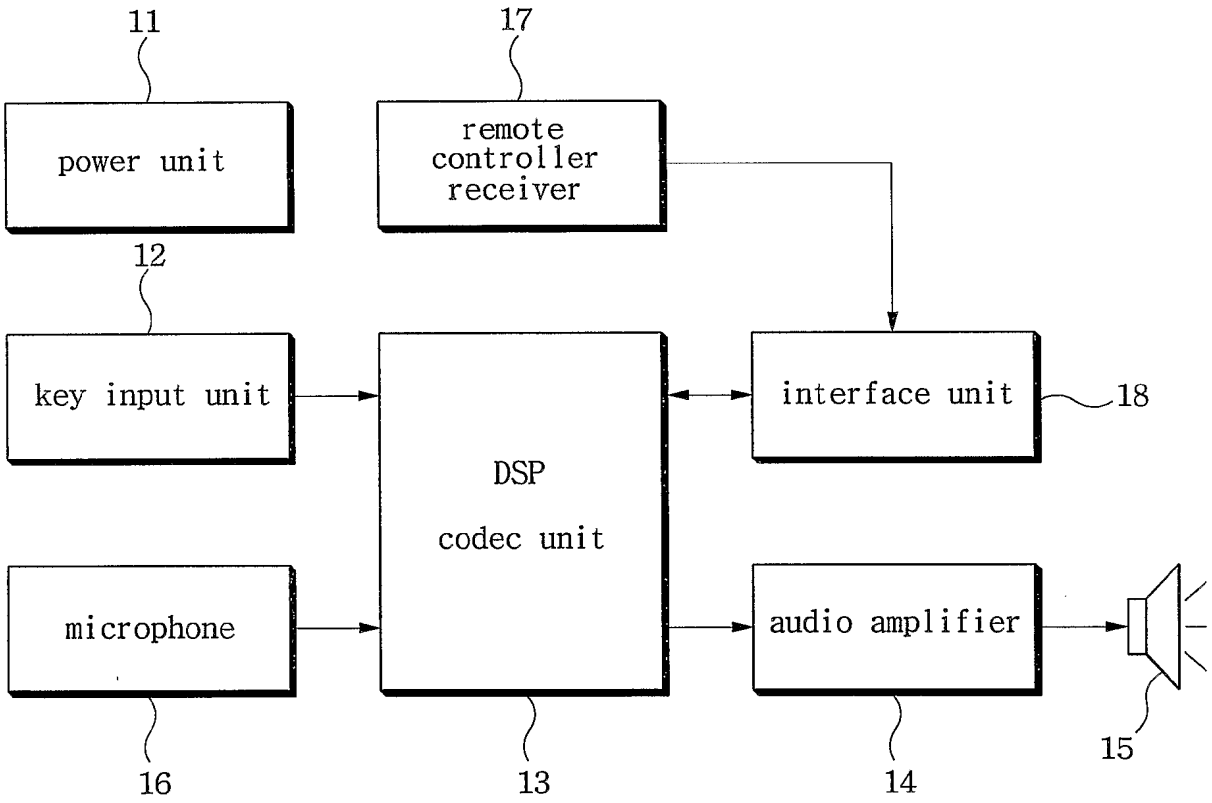

11
17
power unit
remote controller receiver
12
key input unit
DSP
codec unit
interface unit
18
microphone
audio amplifier
15
16
13
14

Fig. 3

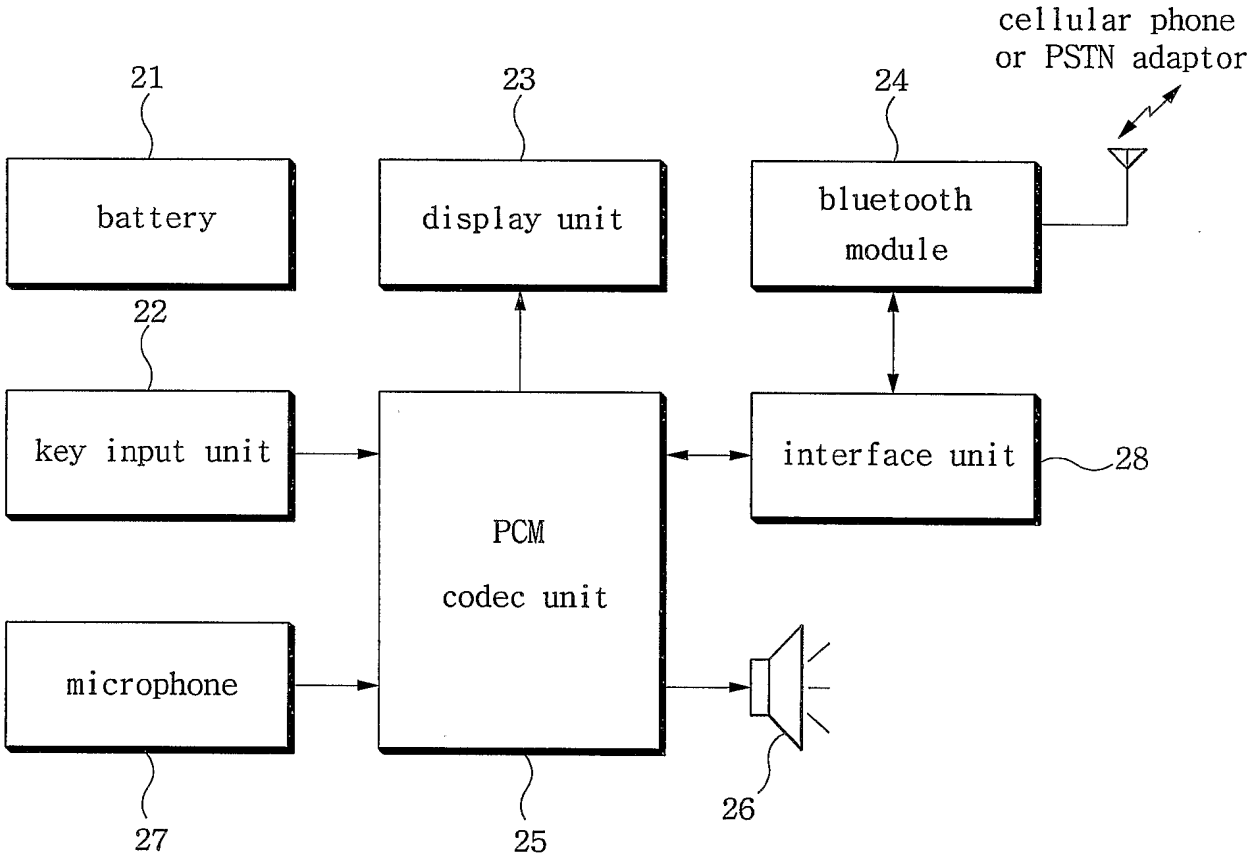

cellular phone
or PSTN adaptor
21
23
24
battery
display unit
bluetooth
module
22
key input unit
PCM
codec unit
interface unit
28
microphone
26
27
25

Fig. 4

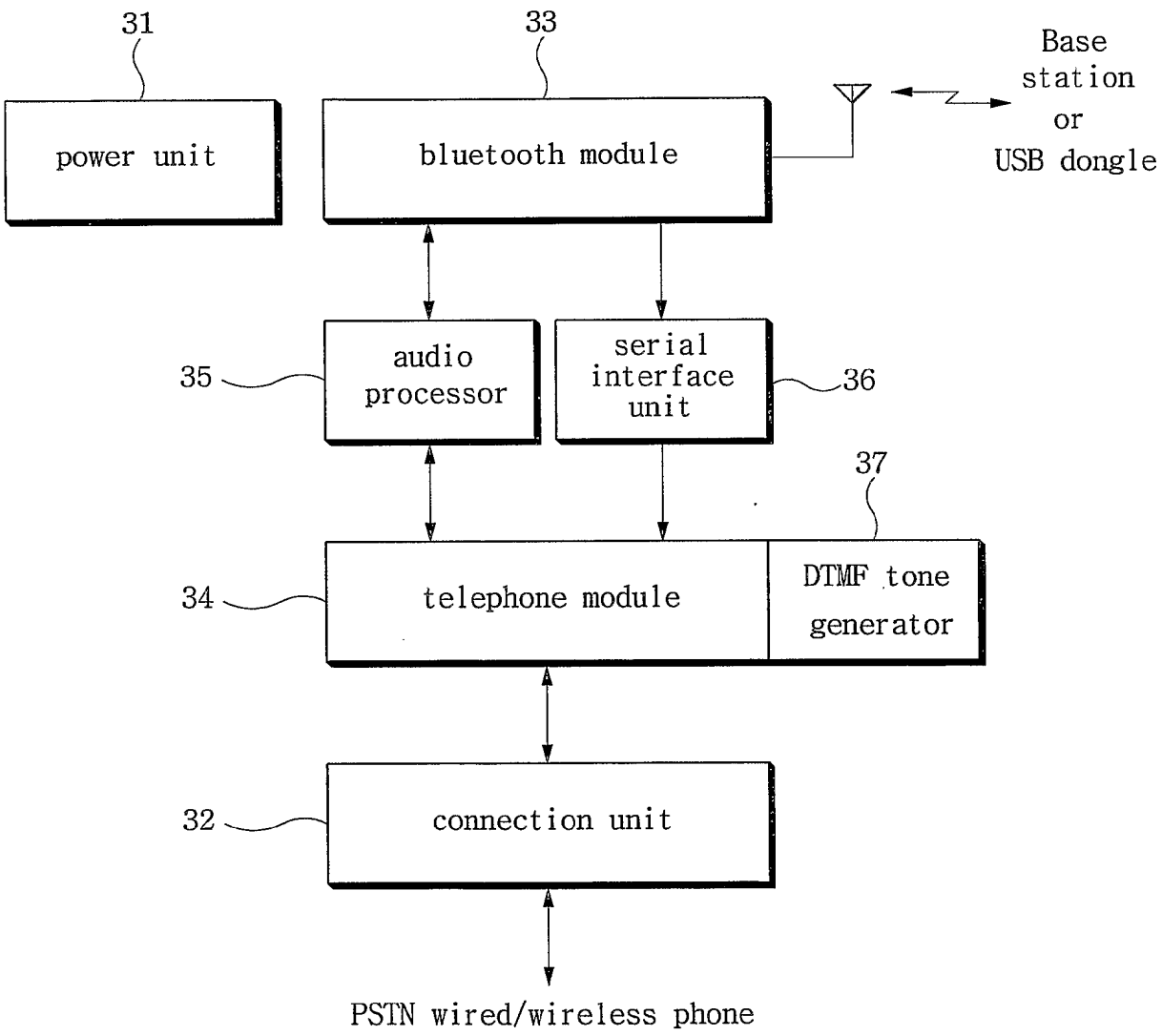

31
33
Base station or USB dongle
power unit
bluetooth module
audio processor
serial interface unit
35
36
37
34
telephone module
DTMF tone generator
32
connection unit
PSTN wired/wireless phone

Fig. 5

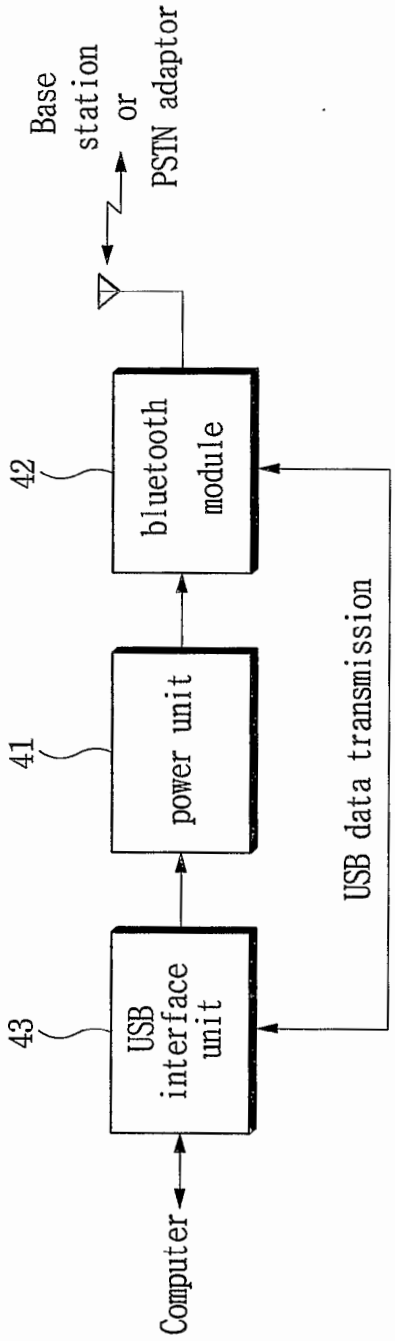

Base station or PSTN adaptor
42
bluetooth module
41
power unit
43
USB interface unit
Computer
USB data transmission

Fig. 6

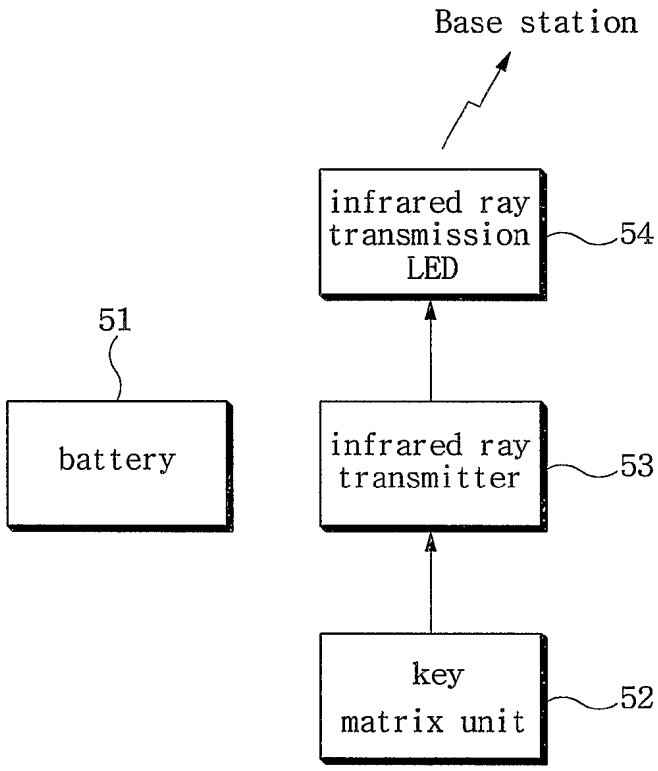

Base station
infrared ray transmission LED
54
51
battery
infrared ray transmitter
53
key matrix unit
52

Fig. 7

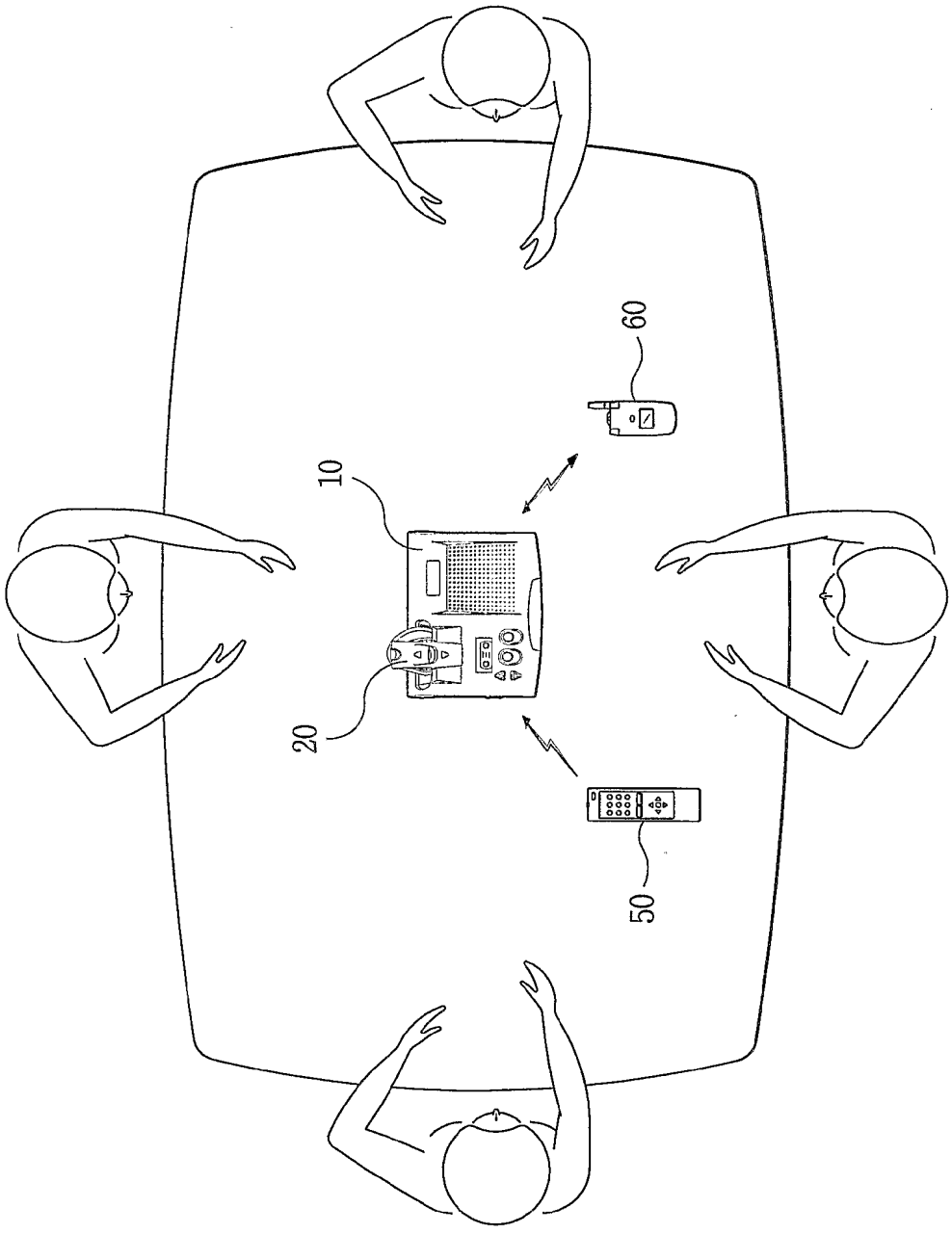


Fig. 8

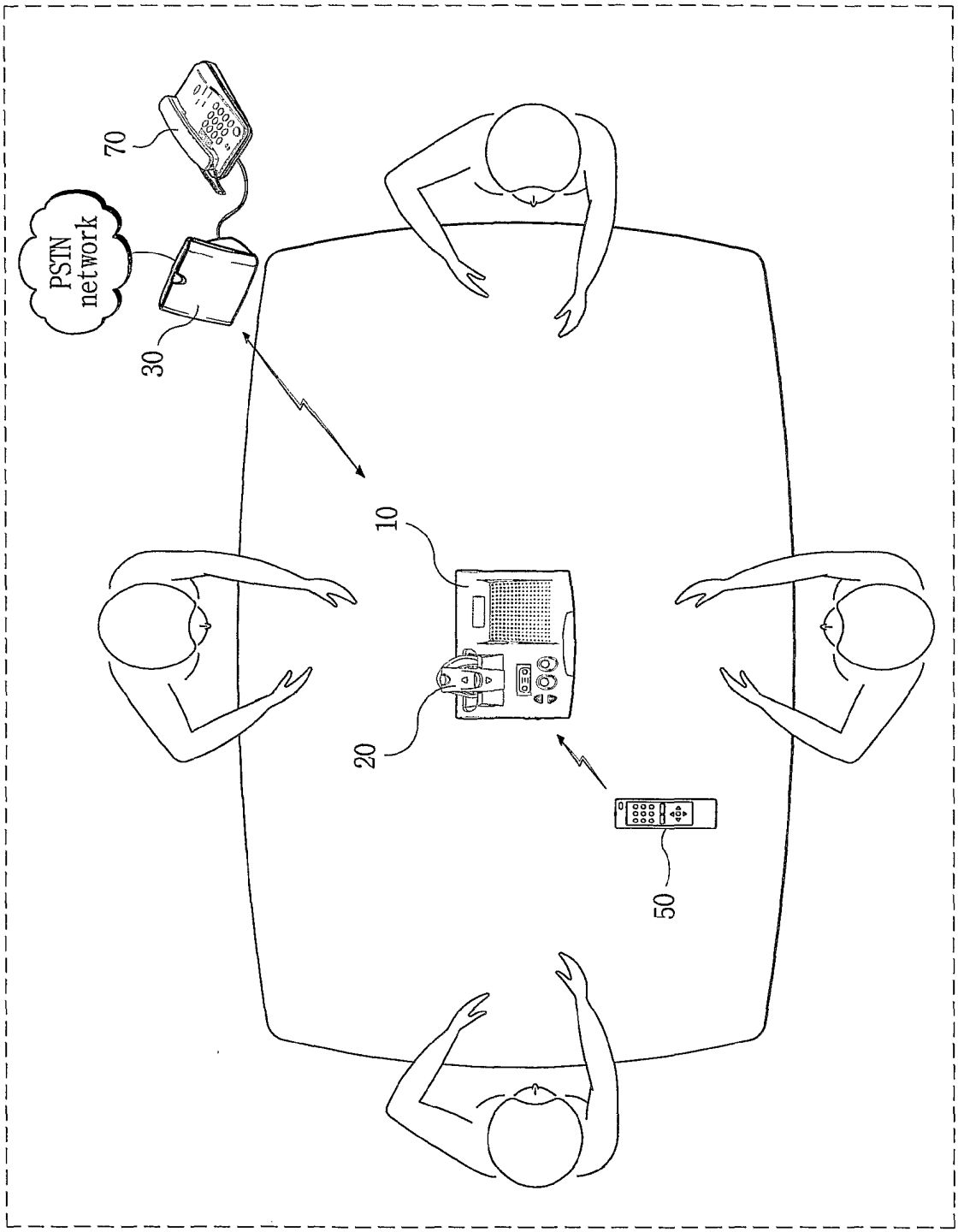


Fig. 9

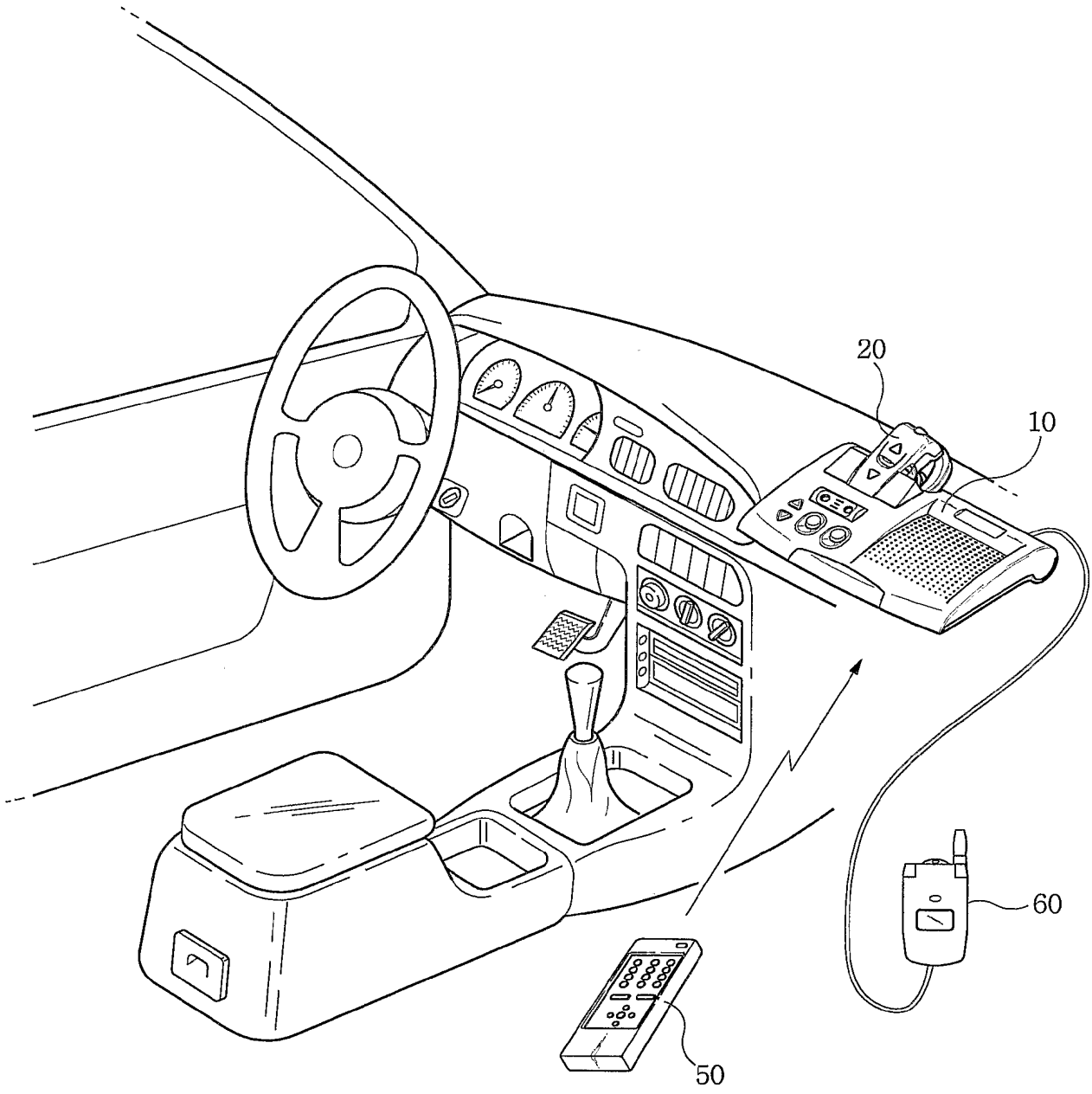


Fig. 10

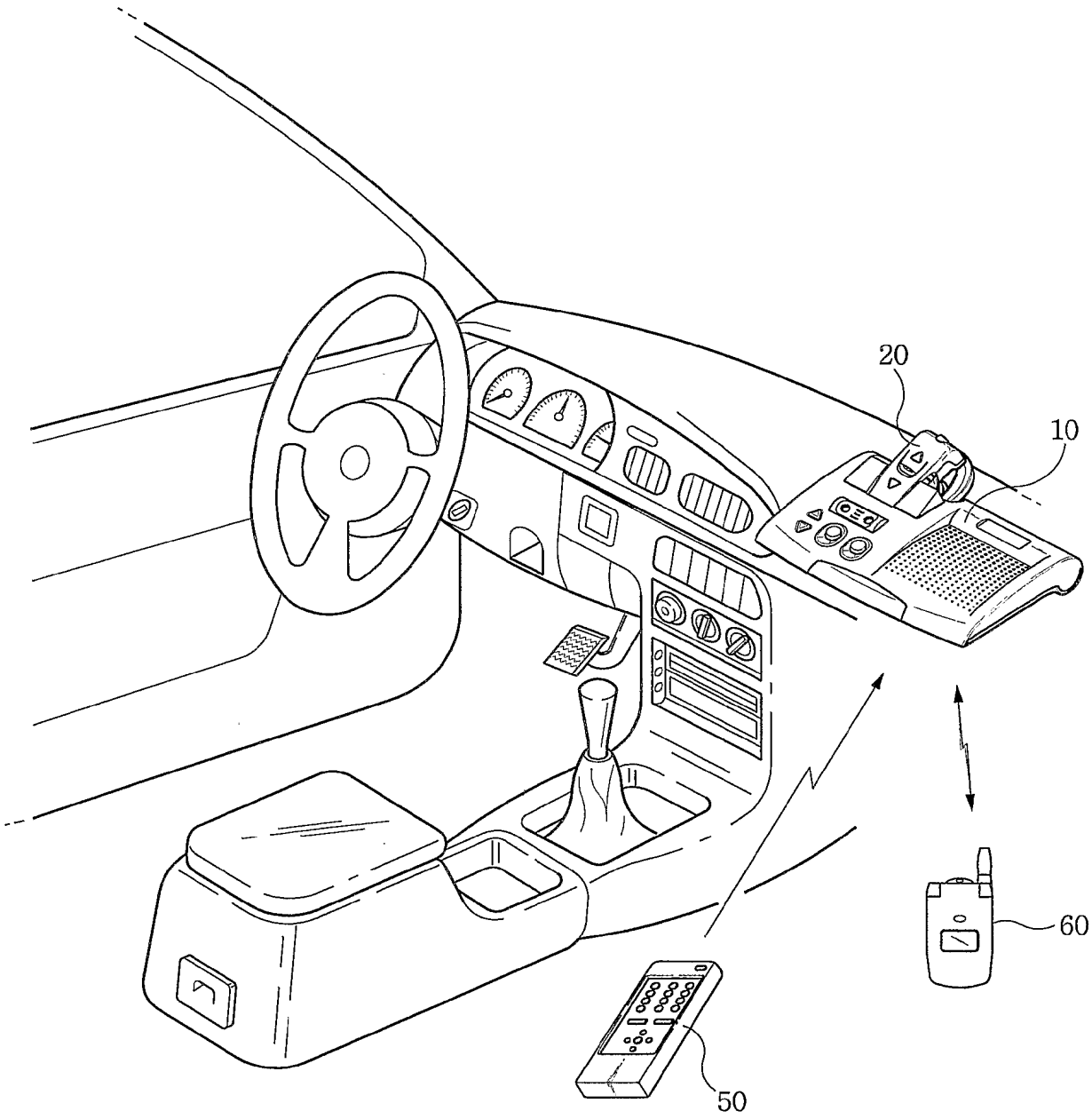


Fig. 11

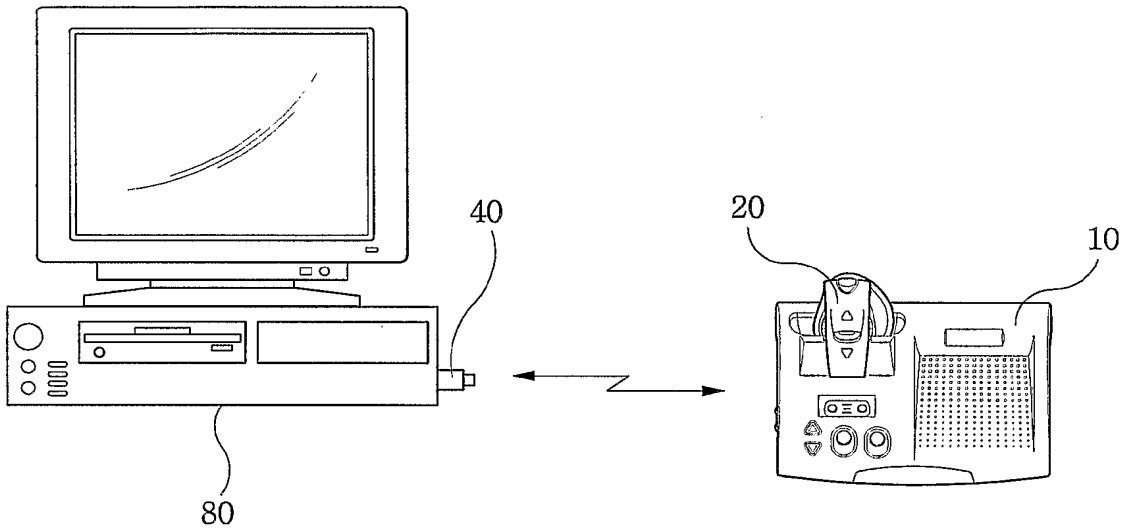
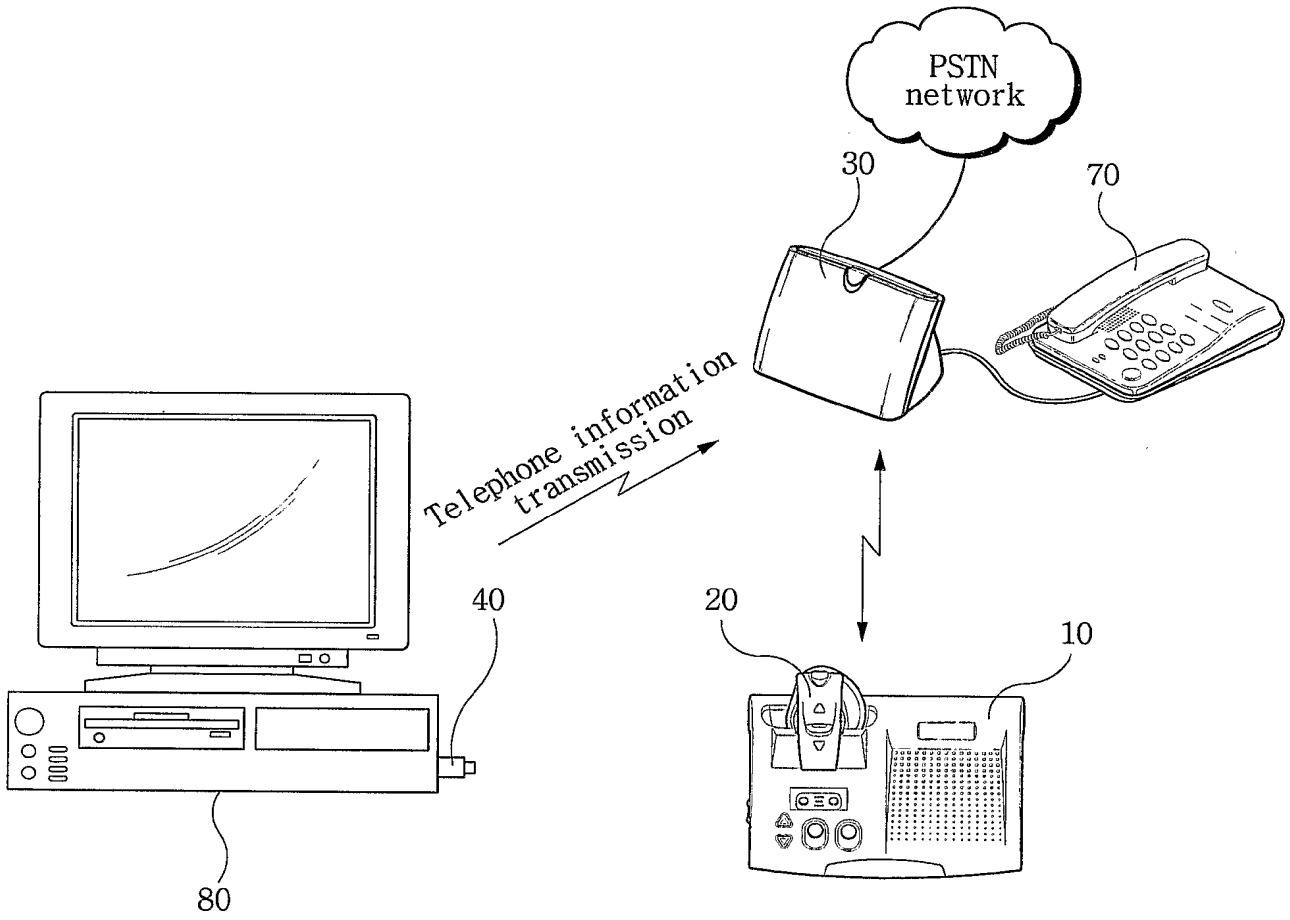


Fig. 12


PSTN
network
30
70
Telephone information
transmission
40
20
10
80

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2004/000903

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 H04B 7/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
H04B, H04L, H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
KR, JP : as above

Electronic data base consulted during the intertnational search (name of data base and, where practicable, search terms used)
KIPONET "bluetooth & pstn"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO02070796 A1 (NORWOOD SYSTEM) OCT 10, 2002, See abstract and drawings	1
A	US20020132582 A1 (MANELLI DENTION & SELTER PLLC) Sep. 19, 2002, See abstract and drawings	1
A	KR20020046722 A1 (KT) JUNE 21, 2002, See abstract and drawings	1

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents,such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
25 MAY 2004 (25.05.2004)	25 MAY 2004 (25.05.2004)

Name and mailing address of the ISA/KR
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Form PCT/ISA/210 (second sheet) (January 2004)

Espacenet

Bibliographic data: CN203720788 (U) — 2014-07-16

Stylus and portable terminal

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Applicant(s): SAMSUNG TIANJIN MOBILE DEV CT; SAMSUNG ELECTRONICS CO LTD ± (SAMSUNG TIANJIN MOBILE DEVELOPMENT CENTER, ; SAMSUNG ELECTRONICS CO., LTD)

Classification: **- international:** ***G06F3/0354; H04R1/10***
- cooperative:

Application number: CN20132813647U 20131211

Priority number(s): CN20132813647U 20131211

Abstract of CN203720788 (U)

The utility model relates to a stylus and a portable terminal. The stylus comprises a stylus body and a Bluetooth headset, wherein the stylus body and the Bluetooth headset are detachably connected; the Bluetooth headset comprises a headset body and an earphone, and the headset body and the earphone are movably connected. The terminal comprises a Bluetooth headset charging module, wherein when the stylus is plugged into the terminal, the Bluetooth headset charging module is electrically connected with the Bluetooth headset, detects the electric quantity status of the Bluetooth headset and judges whether to charge the Bluetooth headset or not according to detected electric quantity status. According to the stylus and the portable terminal, the Bluetooth headset is arranged on the stylus body, the Bluetooth headset and the stylus body are connected detachably, and the headset body of the Bluetooth headset and the earphone of the Bluetooth headset are connected movably, so that user use is facilitated, and the problems of easiness in loss, easiness in damage and inconvenience in carrying caused due to the fact that the current separately-configured Bluetooth headsets do not have fixed storage locations are solved; through arranging the Bluetooth headset charging module in the mobile terminal, the Bluetooth headset can be conveniently charged.

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(12)实用新型专利

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代理人 韩新城

(51)Int.Cl.
G06F 3/0354(2013.01)
H04R 1/10(2006.01)

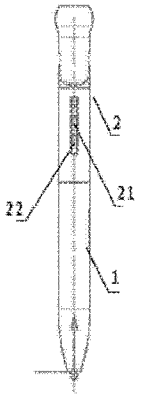
权利要求书1页 说明书4页 附图4页

(54)实用新型名称

一种手写笔以及便携式终端

(57)摘要

本实用新型涉及一种手写笔以及便携式终端，所述手写笔包括手写笔本体和蓝牙耳机，手写笔本体和蓝牙耳机为可拆卸连接；蓝牙耳机包括机身和听筒，机身和听筒为可活动连接。所述终端包括蓝牙耳机充电模块，当手写笔插入终端后，蓝牙耳机充电模块与蓝牙耳机电性连接、检测蓝牙耳机电量状态，根据检测的电量状态判断是否对蓝牙耳机充电。本实用新型通过在手写笔本体上设蓝牙耳机，使蓝牙耳机与手写笔本体可拆卸连接，蓝牙耳机机身和听筒为可活动连接，方便用户使用，解决了目前单独配置的蓝牙耳机无固定存放位置所引起的易丢失，易损坏，携带起来不方便的问题，通过在移动终端内设有蓝牙耳机充电模块，方便为蓝牙耳机进行充电。



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1. 一种手写笔，其特征在于，包括手写笔本体和蓝牙耳机，所述手写笔本体和蓝牙耳机为可拆卸连接；所述蓝牙耳机包括机身和听筒，所述机身和听筒为可活动连接。

2. 根据权利要求 1 所述手写笔，其特征在于，所述机身外部设有麦克风、音量调节键、开关键和充电接口；所述机身内部设有蓝牙芯片、DC-DC 模块、保护开关和蓝牙电池；所述充电接口与所述蓝牙电池电性连接。

3. 根据权利要求 2 所述手写笔，其特征在于，所述蓝牙芯片的电流输入端连接 DC-DC 模块的电流输出端，所述 DC-DC 模块的电流输入端连接保护开关，所述保护开关的另一端分别连接所述蓝牙电池和所述充电接口。

4. 根据权利要求 2 所述手写笔，其特征在于，所述蓝牙耳机内部设有检测电阻，用于检测所述蓝牙耳机是否与外部终端电性连接。

5. 根据权利要求 1 所述手写笔，其特征在于，所述蓝牙耳机与所述手写笔本体为螺纹连接或卡接。

6. 根据权利要求 1 所述手写笔，其特征在于，所述机身和听筒通过转轴活动连接。

7. 一种便携式终端，其特征在于，配备权利要求 2-6 任一项所述手写笔，所述终端包括蓝牙耳机充电模块，当所述手写笔插入所述终端后，所述蓝牙耳机充电模块通过所述充电接口与所述蓝牙耳机电性连接、并检测所述蓝牙耳机的电量状态，所述终端根据检测的电量状态判断是否对所述蓝牙耳机充电。

8. 根据权利要求 7 所述便携式终端，其特征在于，所述蓝牙耳机还包括电量反馈模块，与所述充电接口相连，用于将所述蓝牙电池的电量值转换为数字信号通过所述充电接口发送给所述蓝牙耳机充电模块。

9. 根据权利要求 7 所述便携式终端，其特征在于，所述蓝牙耳机还包括状态控制模块，与所述蓝牙芯片相连，用于向所述终端发送所述蓝牙耳机的当前工作状态信号，接收来自所述终端的打关或关闭所述蓝牙耳机的控制信号。

10. 根据权利要求 7 所述便携式终端，其特征在于，所述蓝牙耳机充电模块具体为由终端电池连接器、电容 C1、电容 C2、电容 C3、电阻 R1、电阻 R2、电阻 R3 组成的充电电路；所述电容 C2、电容 C3 一端接地，另一端相连接后与充电管脚 VBAT 端相接，并与所述终端电池连接器相连接；所述电阻 R1 的一端与所述终端电池连接器连接，另一端依次连接电容 C1 及电阻 R2、电阻 R3，所述电阻 R2 的另一端接地，所述电阻 R1 另一端接充电管脚 VBAT 端，所述电容 C1 另一端接地。

一种手写笔以及便携式终端

技术领域

[0001] 本实用新型属于移动通讯技术领域，具体涉及一种手写笔以及便携式终端。

背景技术

[0002] 随着蓝牙耳机的使用率越来越频繁，蓝牙耳机已成为手机用户不可缺少的一部分，手写笔也日渐成为智能手机的一大卖点。

[0003] 目前，蓝牙耳机作为手机的外围设备，使用时需要单独购买，且都是外置的。在购买手机时，无蓝牙耳机作为配套外围设备提供，消费者在有使用需要的情况下，必须单独购买；在不需要使用的情况下，蓝牙耳机无固定的存放位置，易丢失，易损坏，携带起来不方便。虽然目前也出现了配备蓝牙耳机的手写笔，但耳机与手写笔连接固定不可拆卸，且蓝牙耳机本身不便用户使用。

实用新型内容

[0004] 本实用新型的目的在于解决上述技术问题而提供一种手写笔及便携式终端。

[0005] 为实现上述目的，本实用新型采用以下技术方案：

[0006] 一种手写笔，包括手写笔本体和蓝牙耳机，所述手写笔本体和蓝牙耳机为可拆卸连接；所述蓝牙耳机包括机身和听筒，所述机身和听筒为可活动连接。

[0007] 所述机身外部设有麦克风、音量调节键、开关键和充电接口；所述机身内部设有蓝牙芯片、DC-DC 模块、保护开关和蓝牙电池；所述充电接口与所述蓝牙电池电性连接。

[0008] 所述蓝牙芯片的电流输入端连接 DC-DC 模块的电流输出端，所述 DC-DC 模块的电流输入端连接保护开关，所述保护开关的另一端分别连接所述蓝牙电池和所述充电接口。

[0009] 所述蓝牙耳机内部设有检测电阻，用于检测所述蓝牙耳机是否与外部终端电性连接。

[0010] 所述蓝牙耳机与所述手写笔本体为螺纹连接或卡接。

[0011] 所述机身和听筒通过转轴活动连接。

[0012] 本实用新型的目的还在于提供一种便携式终端，配备所述手写笔，所述终端包括蓝牙耳机充电模块，当所述手写笔插入所述终端后，所述蓝牙耳机充电模块通过所述充电接口与所述蓝牙耳机电性连接、并检测所述蓝牙耳机的电量状态，所述终端根据检测的电量状态判断是否对所述蓝牙耳机充电。

[0013] 所述蓝牙耳机还包括电量反馈模块，与所述充电接口相连，用于将所述蓝牙电池的电量值转换为数字信号通过所述充电接口发送给所述蓝牙耳机充电模块。

[0014] 所述蓝牙耳机还包括状态控制模块，与所述蓝牙芯片相连，用于向所述终端发送所述蓝牙耳机的当前工作状态信号，接收来自所述终端的打开或关闭所述蓝牙耳机的控制信号。

[0015] 所述蓝牙耳机充电模块具体为由终端电池连接器、电容 C1、电容 C2、电容 C3、电阻 R1、电阻 R2、电阻 R3 组成的充电电路；所述电容 C2、电容 C3 一端接地，另一端相连接后与充

电管脚VBAT端相接，并与所述终端电池连接器相连接；所述电阻R1的一端与所述终端电池连接器连接，另一端依次连接电容C1及电阻R2、电阻R3，所述电阻R2的另一端接地，所述电阻R1另一端接充电管脚VBAT端，所述电容C1另一端接地。

[0016] 本实用新型通过在手写笔本体上设蓝牙耳机，使蓝牙耳机与手写笔本体可拆卸连接，蓝牙耳机机身和听筒为可活动连接，方便用户使用，解决了目前单独配置的蓝牙耳机无固定存放位置所引起的易丢失，易损坏，携带起来不方便的问题，通过在移动终端内设有蓝牙耳机充电模块，方便为蓝牙耳机进行充电。

附图说明

[0017] 图1所示为本实用新型实施例提供的手写笔的主视结构示意图；

[0018] 图2所示为图1的右视图；

[0019] 图3所示为图1的后视图；

[0020] 图4所示为蓝牙耳机的听筒转向一侧后的示意图；

[0021] 图5所示为图4的左视图；

[0022] 图6所示为图4的右视图；

[0023] 图7所示为终端与蓝牙耳机的充电检测示意图；

[0024] 图8所为终端电池连接器的电路图；

[0025] 图9所为蓝牙耳机内部的充电电路。

具体实施方式

[0026] 下面，结合实例对本实用新型的实质性特点和优势作进一步的说明，但本实用新型并不局限于所列的实施例。

[0027] 请参阅图1-6，一种手写笔，设于终端中，包括有手写笔本体1，所述手写笔本体上设有蓝牙耳机2；所述蓝牙耳机与所述手写笔本体为可拆卸式连接；所述蓝牙耳机包括与所述手写笔连接的机身25和可塞入耳内的听筒26，所述机身和听筒为可活动连接。

[0028] 当用户只需要使用蓝牙耳机时，可以与手写笔分开单独使用，当不使用耳机时，可以与所述手写笔连接后置于所述终端内。

[0029] 所述可拆卸式连接可以是螺纹27连接，也可以是卡接或其它连接方式。

[0030] 由于所述听筒与所述机身活动连接，当蓝牙耳机单独使用时，可以将所述听筒折向一侧预设角度，这样可以方便使用听筒上的接收器进行接听电话，达到蓝牙耳机方便接听的作用。

[0031] 所述听筒与所述机身活动连接方式，可以采用转轴活动连接，也可以通过铰链来连接，或类似的连接方式。

[0032] 进一步的，所述听筒采用橡胶类材质制成，这样可以增加摩擦力，提升蓝牙耳机的固定效果。

[0033] 进一步的，所述机身外部设有麦克风23、音量调节键22、开关键21和充电接口24。所述听筒26上设有接收器28。所述开关键21可以采用物理按键开关，也可以采用其它形式的物理开关或触摸式。所述音量调节键22可以物理按键式的，也可以是其它形式的物理开关或触摸式。

[0034] 参见图 9 所示，所述机身内部设有蓝牙芯片、DC-DC 模块、保护开关和蓝牙电池；所述充电接口 24 与所述蓝牙电池电性连接。所述蓝牙芯片的电流输入端连接 DC-DC 模块的电流输出端，所述 DC-DC 模块的电流输入端连接保护开关，所述保护开关的另一端分别连接所述蓝牙电池和所述充电接口。

[0035] 进一步的，所述蓝牙电池内部设有检测电阻 R1，用于检测所述蓝牙耳机是否与外部终端电性连接。

[0036] 进一步的，所述机身与所述听筒均为筒状结构。采用这样的结构，可以使所述蓝牙耳机与所述手写笔连接后一体置于终端内，当手写笔单独作为手写工具使用时，不需要取下蓝牙耳机，方便使用者握持，另一方面，也利于在使用蓝牙耳机时，方便使用佩戴。

[0037] 本实用新型的目的还在于提供一种终端，该终端配备所述手写笔，所述终端包括蓝牙耳机充电模块，当所述手写笔插入所述终端后，所述蓝牙耳机充电模块通过所述充电接口 24 与所述蓝牙耳机电性连接、并检测所述蓝牙耳机的电量状态，所述终端根据检测的电量状态判断是否对所述蓝牙耳机充电。

[0038] 为了实现终端检测蓝牙耳机的电量状态，判断是否对蓝牙耳机充电，所述蓝牙耳机还包括电量反馈模块，与所述充电接口相连，用于将所述蓝牙电池的电量值转换为数字信号通过所述充电接口发送给所述蓝牙耳机充电模块。

[0039] 为了实现所述的终端对蓝牙耳机进行控制，所述蓝牙耳机还包括状态控制模块，与所述蓝牙芯片相连，用于向所述终端发送所述蓝牙耳机的当前工作状态信号，接收来自所述终端的打开或关闭所述蓝牙耳机的控制信号。当蓝牙耳机插入时，终端通过状态控制模块读取蓝牙耳机状态判断该蓝牙耳机功能是否打开，若蓝牙功能打开，终端通过状态控制模块发送关闭蓝牙功能信号，自动将蓝牙功能关闭，使蓝牙耳机进入待机模式，用以节约蓝牙耳机电能，保证充电效率。

[0040] 参见图 9 所示，所述状态控制模块可以是与蓝牙芯片连接的蓝牙状态检测端（BT_STATE），与蓝牙芯片电连接。当蓝牙耳机插入时，终端通过蓝牙状态检测端（BT_STATE）读取蓝牙耳机状态判断该蓝牙耳机功能是否打开，若蓝牙功能打开，终端通过蓝牙状态检测端（BT_STATE）发送关闭蓝牙功能信号，自动将蓝牙功能关闭，使蓝牙耳机进入待机模式，用以节约蓝牙耳机电能，保证充电效率。

[0041] 参见图 7-9 所示，所述蓝牙耳机充电模块具体为由终端电池连接器、电容 C1、电容 C2、电容 C3、电阻 R1、电阻 R2、电阻 R3 组成的充电电路；所述电容 C2、电容 C3 一端接地，另一端相连接后与充电管脚 VBAT 端相接，并与所述终端电池连接器相连接；所述电阻 R1 的一端与所述终端电池连接器连接，另一端依次连接电容 C1 及电阻 R2、电阻 R3，所述电阻 R2 的另一端接地，所述电阻 R1 另一端接充电管脚 VBAT 端，所述电容 C1 另一端接地。

[0042] 所述终端的蓝牙耳机充电模块具有检测端（IN_DET），与所述蓝牙耳机连接前为高电平，当蓝牙耳机与所述蓝牙耳机充电模块的前端触点连接后，由于终端内部电池端存在一电阻，将检测端 IN_DET 高电平拉低为低电平，并将该低电平信号输入终端处理器，当低电平信号输入后，终端检测到蓝牙耳机插入；此时蓝牙耳机的蓝牙芯片通过充电模数转换器（CHARGE_ADC）将目前电量值上报给终端的处理器，并通过终端的 UI 界面显示，若蓝牙耳机电量小于 20%，则终端处理器 CPU 输出充电使能信号（Charge enable）给电池，此时，蓝牙耳机充电模块开始工作，终端电池通过 DC-DC 模块、蓝牙耳机内充电 IC 开始为蓝牙耳机电

池充电，直至充电结束。充电过程中，为了避免充电时对蓝牙芯片损坏，通过设置保护开关对蓝牙芯片进行保护，使用蓝牙时，蓝牙电池通过 DC-DC 模块为蓝牙芯片供电，蓝牙芯片通过 RCV 端向听筒输出信号，控制听筒音量。

[0043] 当蓝牙耳机拔出时，检测端 IN_DET 由低电平变为高电平时，终端检测到此变化，认定蓝牙耳机拔出，终端将发送充电关闭信号（charge disable），终端停止为蓝牙耳机充电，并通过终端界面提示是否打开蓝牙功能，当需要打开蓝牙使用时，用户可通过终端或蓝牙开关将蓝牙打开。

[0044] 本实用新型通过在手写笔本体上设蓝牙耳机，使蓝牙耳机与手写笔本体可拆卸连接，蓝牙耳机机身和听筒为可活动连接，方便用户使用，解决了目前单独配置的蓝牙耳机无固定存放位置所引起的易丢失，易损坏，携带起来不方便的问题，通过在移动终端内设有蓝牙耳机充电模块，方便为蓝牙耳机进行充电。

[0045] 以上所述仅是本实用新型的优选实施方式，应当指出，对于本技术领域的普通技术人员来说，在不脱离本实用新型原理的前提下，还可以做出若干改进和润饰，这些改进和润饰也应视为本实用新型的保护范围。

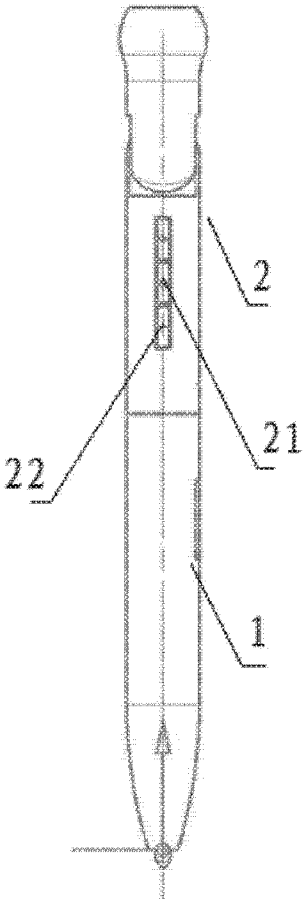


图 1

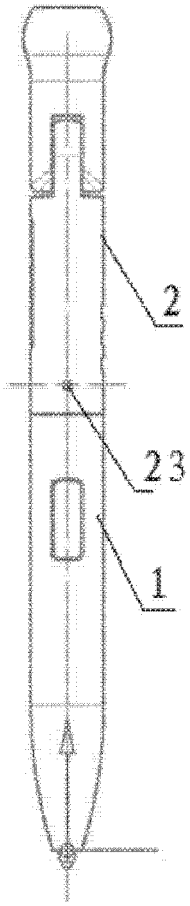
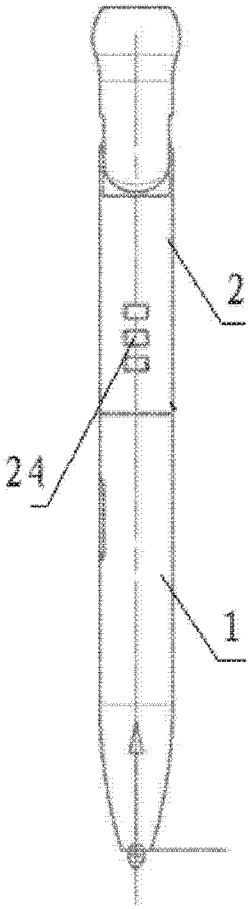


图 2



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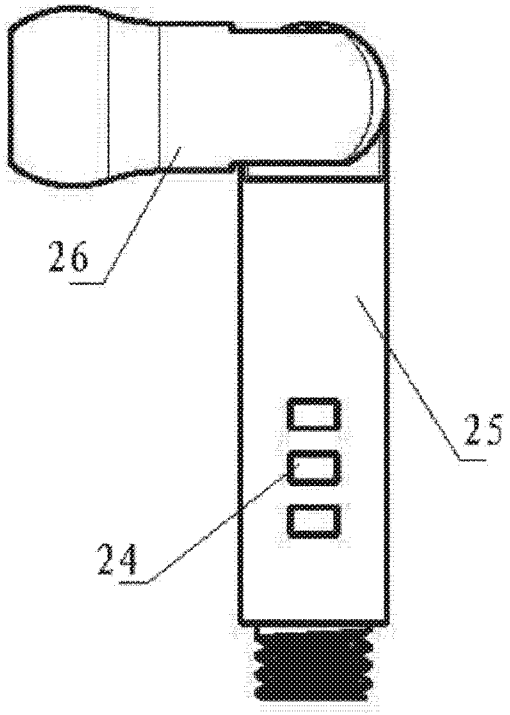

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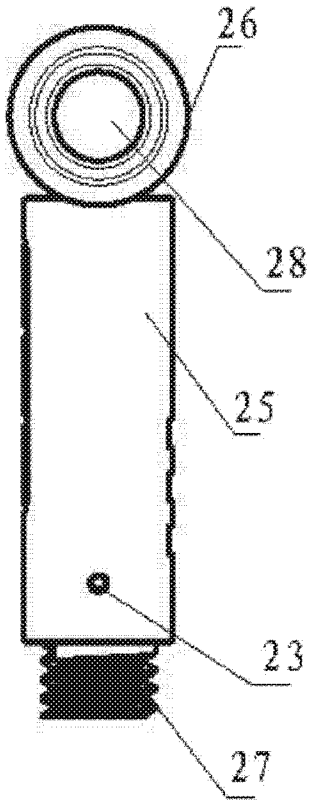

图 5

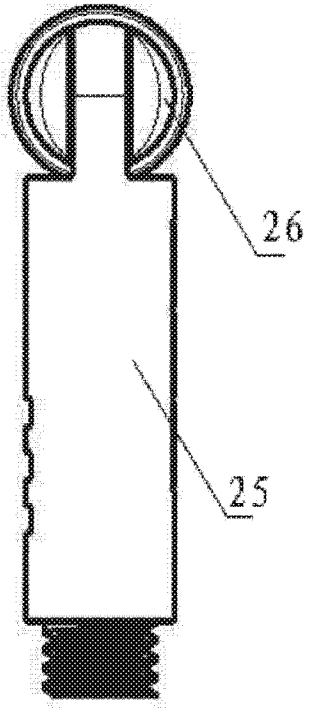
26
25

图 6

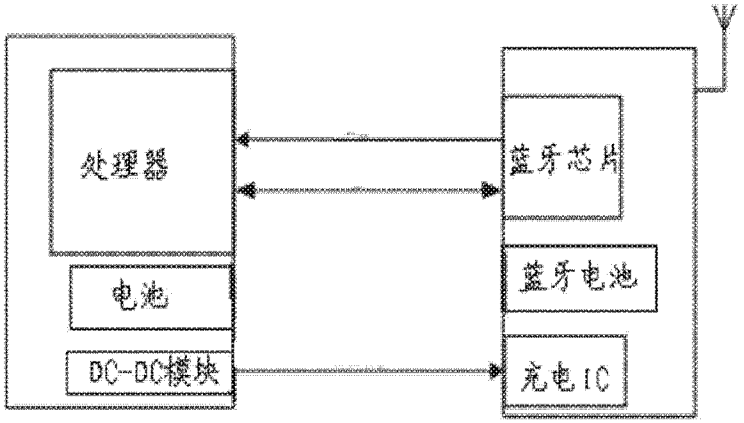
处理器
电池
DC-DC模块
蓝牙芯片
蓝牙电池
充电IC

图 7

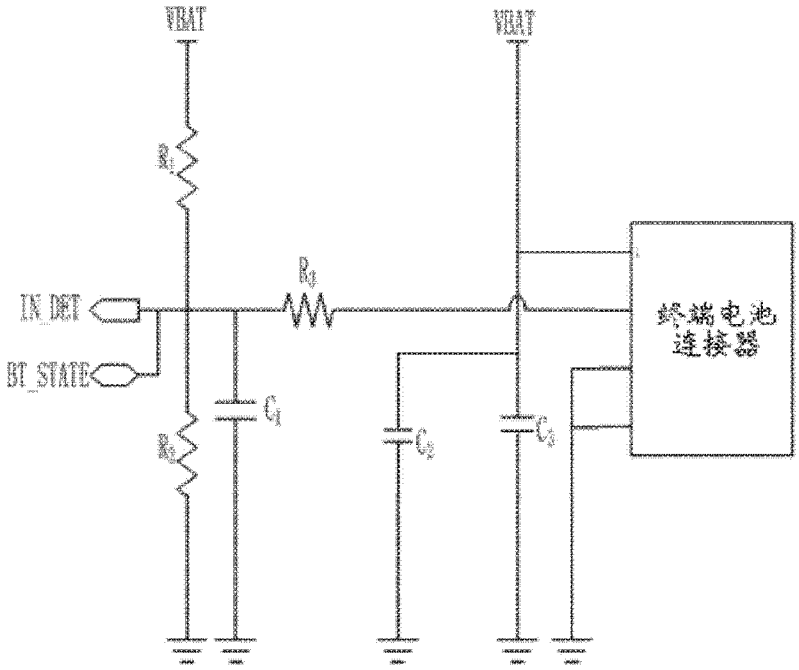
VBAT
VBAT
IN_DET
BT_STATE
终端电池
连接器

图 8

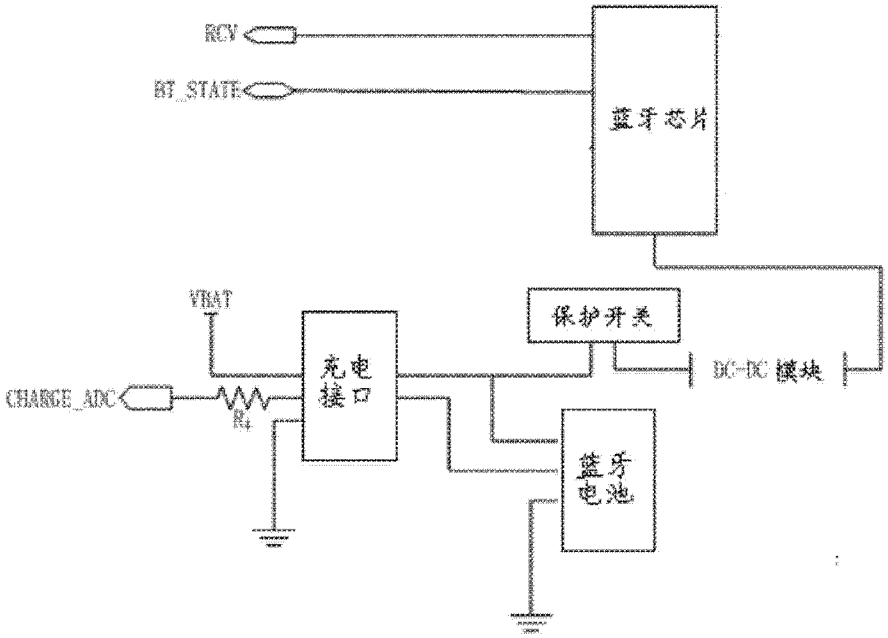

图 9

Espacenet

Bibliographic data: CN103815628 (B) — 2015-11-25

Bluetooth communication bracelet

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Applicant(s): 1MORE DESIGN ELECTRONIC TECHNOLOGY CO., LTD

Classification: **- international:** ***A44C5/00; H04B5/00; H04R1/10***
- cooperative:

Application number: CN20141036758 20140124 Global Dossier

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Abstract of CN103815628 (A)

A bluetooth communication bracelet comprises a main body and a bluetooth earphone, wherein the main body comprises a wearing body, a charging board, a USB (Universal Serial Bus) interface and an audio jack, and an accommodating groove, a positioning part and a charging electrode are arranged on the wearing body; the accommodating groove is formed in the outer periphery of the wearing body, the positioning part and the charging electrode are arranged on the side wall of the accommodating groove, and the charging board is arranged in the wearing body; the USB interface is electrically connected with the charging board, and the charging board is charged by the USB interface; the USB interface can be accommodated in the accommodating groove, the bluetooth earphone comprises a carrier, an earplug and a microphone, and a matching part and a contact electrode are arranged on the carrier; the matching part is matched with the positioning part so as to enable the bluetooth earphone to be in detachable connection with the wearing body; the contact electrode can be abutted with the charging electrode. The bluetooth communication bracelet is relatively convenient to carry, and the endurance capability is strong.

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(56)对比文件
CN 101083486 A,2007.12.05, 全文.
CN 102647645 A,2012.08.22, 全文.
CN 103429032 A,2013.12.04, 说明书[0038]-[0049]段,附图1-6.
CN 103441784 A,2013.12.11, 说明书[0031]-[0047]段,附图1-5.
CN 103445409 A,2013.12.18, 全文.
CN 200947172 Y,2007.09.12, 说明书第2页第6 21行,附图1 2.
CN 202750212 U,2013.02.20, 说明书[0028]-[0031]段,附图1-5.
CN 203828213 U,2014.09.17, 权利要求1-10.
DE 10035153 A1,2002.01.31, 全文.
US 2009273455 A1,2009.11.05, 全文.

审查员 何奕虹

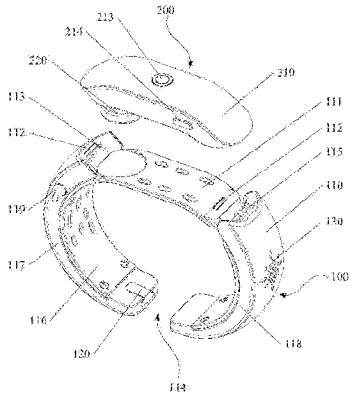
权利要求书2页 说明书5页 附图3页

(54)发明名称

蓝牙通讯手环

(57)摘要

一种蓝牙通讯手环,包括主体及蓝牙耳机,主体包括穿戴体、充电板、USB接口和音频插孔,穿戴体设有容置槽、定位部以及充电电极;容置槽位于穿戴体的外周缘,定位部以及充电电极设于容置槽的侧壁上,充电板设于穿戴体内;USB接口与充电板电连接并给充电板充电;蓝牙耳机可收容在容置槽内,蓝牙耳机包括承载体、耳塞及麦克风,承载体设有配合部和接触电极;配合部与定位部相配合,以使蓝牙耳机与穿戴体可拆卸连接;接触电极与充电电极可抵接。上述蓝牙通讯手环携带较为方便,并且续航能力较强。



CN 103815628 B

1. 一种蓝牙通讯手环，其特征在于，包括：

为手环形状的主体，所述主体包括：

为环形结构的穿戴体，所述穿戴体设有容置槽、定位部以及充电电极；所述容置槽位于所述穿戴体的外周缘，所述定位部以及所述充电电极设于所述容置槽的侧壁上；所述穿戴体包括金属环、第一壳体部及第二壳体部，所述第一壳体部及所述第二壳体部设于所述金属环的外周缘；所述第一壳体部及所述第二壳体部与所述金属环的中部共同形成所述容置槽；

设于所述穿戴体内的充电板，所述充电板与所述充电电极电连接；

设于所述穿戴体上的 USB 接口和音频插孔，所述 USB 接口与所述充电板电连接并给所述充电板充电；

可收容在所述容置槽内的蓝牙耳机，所述蓝牙耳机包括承载体，所述承载体上设有配合部和接触电极；所述配合部设于所述承载体的端面，并且所述配合部与所述定位部相配合，以使所述蓝牙耳机与所述穿戴体可拆卸连接；所述接触电极设于所述承载体的端面，与所述音频插孔电连接并且与所述充电电极可抵接，用于给所述蓝牙耳机充电并且在所述蓝牙耳机与所述音频插孔之间传送音频信号；

设于所述承载体与所述容置槽的底壁相抵接的侧面上的耳塞；

所述承载体上还设置有麦克风。

2. 如权利要求 1 所述的蓝牙通讯手环，其特征在于，所述耳塞可收缩于所述承载体内，并且，当所述蓝牙耳机与所述主体分离时，所述蓝牙耳机的耳塞可自动伸展，凸出所述承载体外。

3. 如权利要求 1 或 2 所述的蓝牙通讯手环，其特征在于，所述承载体上还设有接听按钮和电源按钮，所述接听按钮用于控制所述蓝牙耳机的接听，所述电源按钮用于控制所述蓝牙耳机的电源。

4. 如权利要求 3 所述的蓝牙通讯手环，其特征在于，所述定位部及所述配合部的其中一个为第一磁体，另一个为与所述第一磁铁相吸引的第二磁体或铁制件。

5. 如权利要求 1 所述的蓝牙通讯手环，其特征在于，所述穿戴体内还设有音乐播放器，所述音乐播放器分别与所述充电板和所述音频插孔电连接。

6. 如权利要求 3 所述的蓝牙通讯手环，其特征在于，所述穿戴体上还设有人体参数测量器和指示器，所述人体参数测量器测量人体参数，所述指示器用于根据所述人体参数的分析结果提醒用户。

7. 如权利要求 2 所述的蓝牙通讯手环，其特征在于，所述承载体与所述容置槽的底壁相抵接的侧面的一端设有容置孔以及位于所述容置孔内的弹性件，所述耳塞可收容于所述容置孔内，并且在所述弹性件的弹力作用下自动弹出所述容置孔外。

8. 如权利要求 1 所述的蓝牙通讯手环，其特征在于，所述穿戴体的周缘上设有一缺口，所述容置槽与所述缺口相较于所述穿戴体的环心对称设置，通过挤压所述穿戴体变形而改变所述缺口的尺寸，从而调节所述穿戴体的大小。

9. 如权利要求 8 所述的蓝牙通讯手环，其特征在于，所述第一壳体部及所述第二壳体部分别靠近所述缺口的两侧设置；所述充电板设于所述第一壳体内。

10. 如权利要求 9 所述的蓝牙通讯手环，其特征在于，所述金属环至少由两部分通过枢

轴连接而成。

蓝牙通讯手环

【技术领域】

[0001] 本发明涉及一种蓝牙电子装置，特别是涉及一种具有蓝牙耳机的蓝牙通讯手环。

【背景技术】

[0002] 随着科学技术的快速发展及人们对生活的需求，耳机已得到了广泛的应用，如电话通信、传输音乐等。特别是无线蓝牙耳机的出现，解决了耳机线对人们的牵绊。

[0003] 蓝牙是一种支持设备短距离通信(一般是10m之内)的无线电技术。能在包括移动电话、PDA、无线耳机、笔记本电脑、相关外设等众多设备之间进行无线信息交换。

[0004] 蓝牙耳机是将蓝牙技术应用在免持耳机上，让使用者可以免除恼人电线的牵绊，自在地以各种方式轻松通话。自从蓝牙耳机问世以来，一直是行动商务族提升效率的好工具。

[0005] 然而，首先，传统的蓝牙耳机是一个独立体，其大多与电子设备如手机等分离，携带极不方便，若不使用，则无法进行适当的放置。其次，传统的蓝牙耳机的供电电池的电量受到蓝牙耳机的体积限制，并且难以及时充电，导致传统的蓝牙耳机的续航能力较差。

【发明内容】

[0006] 鉴于上述状况，有必要提供一种携带方便、并且续航能力较强的蓝牙通讯手环。

[0007] 一种蓝牙通讯手环，包括：

[0008] 为手环形状的主体，所述主体包括：

[0009] 为环形结构的穿戴体，所述穿戴体设有容置槽、定位部以及充电电极；所述容置槽位于所述穿戴体的外周缘，所述定位部以及所述充电电极设于所述容置槽的侧壁上；

[0010] 设于所述穿戴体内的充电板，所述充电板与所述充电电极电连接；

[0011] 设于所述穿戴体上的USB接口和音频插孔，所述USB接口与所述充电板电连接并给所述充电板充电；

[0012] 可收容在所述容置槽内的蓝牙耳机，所述蓝牙耳机包括：

[0013] 承载体，所述承载体上设有配合部和接触电极；所述配合部设于所述承载体的端面，并且所述配合部与所述定位部相配合，以使所述蓝牙耳机与所述穿戴体可拆卸连接；所述接触电极设于所述承载体的端面，与所述音频插孔电连接并且与所述充电电极可抵接，用于给所述蓝牙耳机充电并且在所述蓝牙耳机与所述音频插孔之间传送音频信号；

[0014] 设于所述承载体与所述容置槽的底壁相抵接的侧面上的耳塞；

[0015] 所述承载体上还设置有麦克风。

[0016] 相较于传统的蓝牙通讯手环，上述蓝牙通讯手环至少具有以下优点：

[0017] (1)上述蓝牙通讯手环的蓝牙耳机在不使用的时候，可将蓝牙耳机收容在主体的穿戴体的容置槽内，蓝牙耳机的耳塞收容在蓝牙耳机的承载体内，主体的穿戴体可以戴在人体的手腕等部位，并且通过蓝牙耳机的配合部与穿戴体的定位部相配合，从而将蓝牙耳机可拆卸地固定在穿戴体的容置槽内，以便于携带；当需要采用蓝牙耳机接听时，只需将蓝

牙耳机从主体的穿戴体的容置槽内取出接听即可；因此，上述蓝牙通讯手环携带方便，接听较为方便。

[0018] （2）上述蓝牙通讯手环的蓝牙耳机在不使用的时候，可将蓝牙耳机收容在主体的穿戴体的容置槽内，主体的穿戴体设有给蓝牙耳机充电的充电板，充电板通过主体的穿戴体的充电电极以及蓝牙耳机的接触电极与蓝牙耳机电导通，从而可随时随地对蓝牙耳机进行充电。因此，上述蓝牙通讯手环的蓝牙耳机续航能力较强。

[0019] （3）上述蓝牙通讯手环的穿戴体上的 USB 接口可与外部电源电连接，进而可对所述充电板进行充电。

[0020] （4）上述蓝牙通讯手环的穿戴体上的音频插孔可插入外部耳机，以接听蓝牙耳机或音乐播放器输出的音频信号。

[0021] 在其中一个实施例中，所述耳塞可收缩于所述承载体内，并且，当所述蓝牙耳机与所述主体分离时，所述蓝牙耳机的耳塞可自动伸展，凸出所述承载体外。

[0022] 在其中一个实施例中，所述承载体上还设有接听按钮和电源按钮，所述接听按钮用于控制所述蓝牙耳机的接听，所述电源按钮用于控制所述蓝牙耳机的电源。

[0023] 在其中一个实施例中，所述定位部及所述配合部的其中一个为第一磁体，另一个为与所述第一磁铁相吸引的第二磁体或铁制件。

[0024] 在其中一个实施例中，所述穿戴体内还设有音乐播放器，所述音乐播放器分别与所述充电板和所述音频插孔电连接。

[0025] 在其中一个实施例中，所述穿戴体内还设有人体参数测量器和指示器，所述人体参数测量器测量人体参数，所述指示器用于根据所述人体参数的分析结果提醒用户。

[0026] 在其中一个实施例中，所述承载体与所述容置槽的底壁相抵接的侧面的一端设有容置孔以及位于所述容置孔内的弹性件，所述耳塞可收容于所述容置孔内，并且在所述弹性件的弹力作用下自动弹出所述容置孔外。

[0027] 在其中一个实施例中，所述穿戴体的周缘上设有一缺口，所述容置槽与所述缺口相较于所述穿戴体的环心对称设置，通过挤压所述穿戴体变形而改变所述缺口的尺寸，从而调节所述穿戴体的大小。

[0028] 在其中一个实施例中，所述穿戴体包括金属环、第一壳体部及第二壳体部，所述第一壳体部及所述第二壳体部设于所述金属环的外周缘，并且分别靠近所述缺口的两侧设置；所述第一壳体部及所述第二壳体部与所述金属环的中部共同形成所述容置槽；所述充电板设于所述第一壳体内。

[0029] 在其中一个实施例中，所述金属环至少由两部分通过枢轴连接而成。

【附图说明】

[0030] 图 1 为本发明的实施方式一的蓝牙通讯手环的结构示意图一；

[0031] 图 2 为图 1 所示的蓝牙通讯手环的另一视角的结构示意图二；

[0032] 图 3 为本发明实施方式一的蓝牙通讯手环的使用结构示意图。

【具体实施方式】

[0033] 为了便于理解本发明，下面将参照相关附图对本发明进行更全面的描述。附图中

给出了本发明的较佳的实施例。但是，本发明可以以许多不同的形式来实现，并不限于本文所描述的实施例。相反地，提供这些实施例的目的是使对本发明的公开内容的理解更加透彻全面。

[0034] 需要说明的是，当元件被称为“固定于”另一个元件，它可以直接在另一个元件上或者也可以存在居中的元件。当一个元件被认为是“连接”另一个元件，它可以是直接连接到另一个元件或者可能同时存在居中元件。相反，当元件被称作“直接在”另一元件“上”时，不存在中间元件。本文所使用的术语“垂直的”、“水平的”、“左”、“右”以及类似的表述只是为了说明的目的。

[0035] 除非另有定义，本文所使用的所有的技术和科学术语与属于本发明的技术领域的技术人员通常理解的含义相同。本文中在本发明的说明书中所使用的术语只是为了描述具体的实施例的目的，不是旨在于限制本发明。本文所使用的术语“及/或”包括一个或多个相关的所列项目的任意的和所有的组合。

[0036] 请参阅图 1 及图 2，本发明的实施方式一的蓝牙通讯手环，包括主体 100 以及与主体 100 可拆卸连接的蓝牙耳机 200。

[0037] 主体 100 为手环形状，主体 100 包括穿戴体 110 以及充电板(图未示)。穿戴体 110 为环形结构，穿戴体 110 设有容置槽 111、定位部 112 以及充电电极 113。容置槽 111 位于穿戴体 110 的外周缘，定位部 112 以及充电电极 113 设于容置槽 111 的侧壁上。

[0038] 充电板设于穿戴体 110 内，并且与充电电极 113 电连接。

[0039] 穿戴体 110 上设有 USB 接口 120 和音频插孔 119，所述 USB 接口与所述充电板电连接并给所述充电板充电。进一步地，在所述 USB 接口 120 及音频插孔 119 外部均设有保护套，所述保护套一端与所述穿戴体 110 固定连接，另一端与所述穿戴体 110 可拆连接，使用 USB 接口 120 和所述音频插孔 119 时，打开所述保护套另一端，不使用时，将所述保护套另一端收于所述穿戴体 110 上。

[0040] 蓝牙耳机 200 可收容在容置槽 111 内，如图 2 所示，蓝牙耳机 200 包括承载体 210、耳塞 220 以及麦克风(图未示)。

[0041] 所述承载体 210 设有配合部 211 和接触电极 212。所述配合部 211 设于承载体 210 的端面，并且配合部 211 与定位部 112 相配合，以使蓝牙耳机 200 与穿戴体 110 可拆卸连接。接触电极 212 设于承载体 210 的端面，与所述音频插孔电连接并且与充电电极 113 可抵接，用于给蓝牙耳机 200 充电，并且在所述蓝牙耳机与所述音频插孔之间传送音频信号。

[0042] 所述耳塞 220 设于所述承载体 110 与所述容置槽 111 的底壁相抵接的侧面上的一端。

[0043] 所述麦克风设于所述承载体 110 上，具体地设于所述承载体 110 与所述容置槽 111 的底壁相抵接的侧面上的另一端。

[0044] 蓝牙耳机 200 从容置槽 111 取出后，自动接听来电；蓝牙耳机 200 放回容置槽 111 时自动挂断通话，并开始充电。

[0045] 耳塞 220 设于承载体 210 与容置槽 111 的底壁相抵接的侧面上，耳塞 220 可收缩于承载体 210 内，并且，当蓝牙耳机 200 与主体 100 分离时，蓝牙耳机 200 的耳塞 220 可自动伸展，从而凸出承载体 210 外。

[0046] 优选地，为了增强携带的方便性，穿戴体 110 的周缘上设有一缺口 114，容置槽 111

与缺口 114 相较于穿戴体 110 的环心对称设置，通过挤压穿戴体 110 变形而改变缺口 114 的尺寸，从而调节穿戴体 110 的大小。

[0047] 具体在图示的实施例中，穿戴体 110 包括金属环 116、第一壳体部 117 及第二壳体部 118，第一壳体部 117 及第二壳体部 118 设于金属环 116 的外周缘，并且分别靠近穿戴体 110 的缺口 114 的两侧设置。第一壳体部 117 及第二壳体部 118 与金属环 116 的中部共同形成容置槽 111。

[0048] 充电板设于穿戴体 110 内，并且与充电电极 113 电连接。具体在图示的实施例中，充电板设于穿戴体 110 的第一壳体部 117 内。

[0049] 所述 USB 接口 120 设于所述穿戴体 110 的第一壳体部 117 靠近所述缺口 114 的端部。

[0050] 进一步地，主体 100 还包括喇叭 130，所述喇叭 130 设于穿戴体 110 的外周缘。具体在图示的实施例中，喇叭 130 设于穿戴体 110 的第二壳体部 118 上，蓝牙耳机 200 置于所述容置槽 111 时，所述喇叭 130 通过连接电极 115 与所述蓝牙耳机 200 电连接，所述蓝牙耳机 200 从所述容置槽 111 中取出后，所述喇叭 130 断电。

[0051] 进一步地，所述穿戴体 110 内还设有音乐播放器（图未示），所述音乐播放器分别与所述充电板和所述音频插孔电连接。

[0052] 进一步地，所述穿戴体 110 上还设有人体参数测量器和指示器，所述人体参数测量器测量人体参数，所述指示器用于根据所述人体参数的分析结果提醒用户。

[0053] 优选的，所述人体参数测量器为设于所述穿戴体 110 上的反射型传感器，所述反射型传感器包括绿光 LED，所述绿光 LED 发出的绿光向手指等部位照射，通过照射的反射光检测人体脉搏；所述人体参数测量器也可以为设于所述穿戴体 110 上的传感触点，通过所述传感触点与手腕接触，以检测人体脉搏。

[0054] 所述指示器为设于所述蓝牙耳机 200 的承载体 210 上的 LED 灯，所述人体参数测量器检测到的脉搏经分析后，所述 LED 灯根据分析结果闪烁不同的颜色或不同的频次，以指示用户的情绪状况，进而提醒用户调节情绪；所述指示器为设于所述蓝牙耳机 200 的承载体 210 上的振动器，所述振动器根据分析结果振动，以此提醒用户调节情绪。

[0055] 承载体 210 还设有接听按钮 213 以及电源按钮 214。所述接听按钮 213 用于控制蓝牙耳机 200 的接听，所述 LED 灯与所述接听按钮 213 设为一体，优选的，所述接听按钮 213 设于蓝牙耳机 200 的承载体 210 与耳塞 220 相对的侧面上；电源按钮 214 用于控制蓝牙耳机 200 的电源。

[0056] 具体在图示的实施例中，定位部 112 及配合部 211 的其中一个为第一磁体，另一个为与第一磁铁相吸引的第二磁体或铁制件。通过定位部 112 与配合部 211 之间的磁性吸引，将蓝牙耳机 200 定位在主体 100 的穿戴体 110 的容置槽 111 内。

[0057] 进一步地，定位部 112 为两个，分别设于穿戴体 110 的容置槽 111 的两个相对侧壁上，配合部 211 对应设置为两个，分别设于承载体 210 的两端的端面上；两个定位部 112 分别与两个配合部 211 对应配合，从而定位蓝牙耳机 200 的承载体 210 的两端，使得蓝牙耳机 200 更加稳定地收容在穿戴体 110 的容置槽 111 内。

[0058] 进一步地，穿戴体 110 的容置槽 111 的两个相对侧壁均设有弧形凹槽，蓝牙耳机 200 的承载体 210 的两端均为弧形，并且分别与穿戴体 110 的容置槽 111 的两个相对侧壁上

的弧形凹槽相配合，从而进一步定位蓝牙耳机 200，避免蓝牙耳机 200 在穿戴体 110 的容置槽 111 的左右晃动。

[0059] 进一步地，承载体 210 的相对两侧面均设有用于增大表面摩擦力的握持部，以更方便地取出蓝牙耳机 200。例如，握持部为设于承载体 210 的相对两侧面的凸筋，或者，握持部为设于承载体 210 的相对两侧面的橡胶层。

[0060] 具体在图示的实施例中，承载体 210 与容置槽 111 的底壁相抵接的侧面的一端设有容置孔(图未示)以及位于容置孔内的弹性件(图未示)，耳塞 220 可收容于容置孔内，并且在弹性件的弹力作用下自动弹出容置孔外。

[0061] 进一步地，所述金属环至少由两部分通过枢轴连接而成，优选的，如图 3 所示，所述金属环 116 与所述第一壳体 117 对应的段和所述金属环 116 与与所述容置槽 111 对应的段枢轴连接，和 / 或所述金属环 116 与所述第二壳体 118 对应的段和所述金属环 116 与与所述容置槽 111 对应的段枢轴连接。

[0062] 相较于传统的蓝牙通讯手环，上述蓝牙通讯手环至少具有以下优点 ：

[0063] (1) 上述蓝牙通讯手环的蓝牙耳机在不使用的时候，可将蓝牙耳机收容在主体的穿戴体的容置槽内，蓝牙耳机的耳塞收容在蓝牙耳机的承载体内，主体的穿戴体可以戴在人体的手腕等部位，并且通过蓝牙耳机的配合部与穿戴体的定位部相配合，从而将蓝牙耳机可拆卸地固定在穿戴体的容置槽内，以便于携带 ；当需要采用蓝牙耳机接听时，只需将蓝牙耳机从主体的穿戴体的容置槽内取出，蓝牙耳机的耳塞从蓝牙耳机的承载体内自动弹出，以便于接听 ；因此，上述蓝牙通讯手环携带方便，接听较为方便。

[0064] (2) 上述蓝牙通讯手环的蓝牙耳机在不使用的时候，可将蓝牙耳机收容在主体的穿戴体的容置槽内，主体的穿戴体设有给蓝牙耳机充电的充电板，充电板通过主体的穿戴体的充电电极以及蓝牙耳机的接触电极与蓝牙耳机电导通，从而可随时随地对蓝牙耳机进行充电。因此，上述蓝牙通讯手环的蓝牙耳机续航能力较强。

[0065] (3) 上述蓝牙通讯手环的穿戴体上的 USB 接口可与外部电源电连接，进而可对所述充电板进行充电。

[0066] (4) 上述蓝牙通讯手环的穿戴体上的音频插孔可插入外部耳机，以接听蓝牙耳机或音乐播放器输出的音频信号。

[0067] (5) 上述蓝牙通讯手环的穿戴体上的金属环至少由两部分通过枢轴连接而成，更方便用户使用。

[0068] 以上所述实施例仅表达了本发明的几种实施方式，其描述较为具体和详细，但并不能因此而理解为对本发明专利范围的限制。应当指出的是，对于本领域的普通技术人员来说，在不脱离本发明构思的前提下，还可以做出若干变形和改进，这些都属于本发明的保护范围。因此，本发明专利的保护范围应以所附权利要求为准。

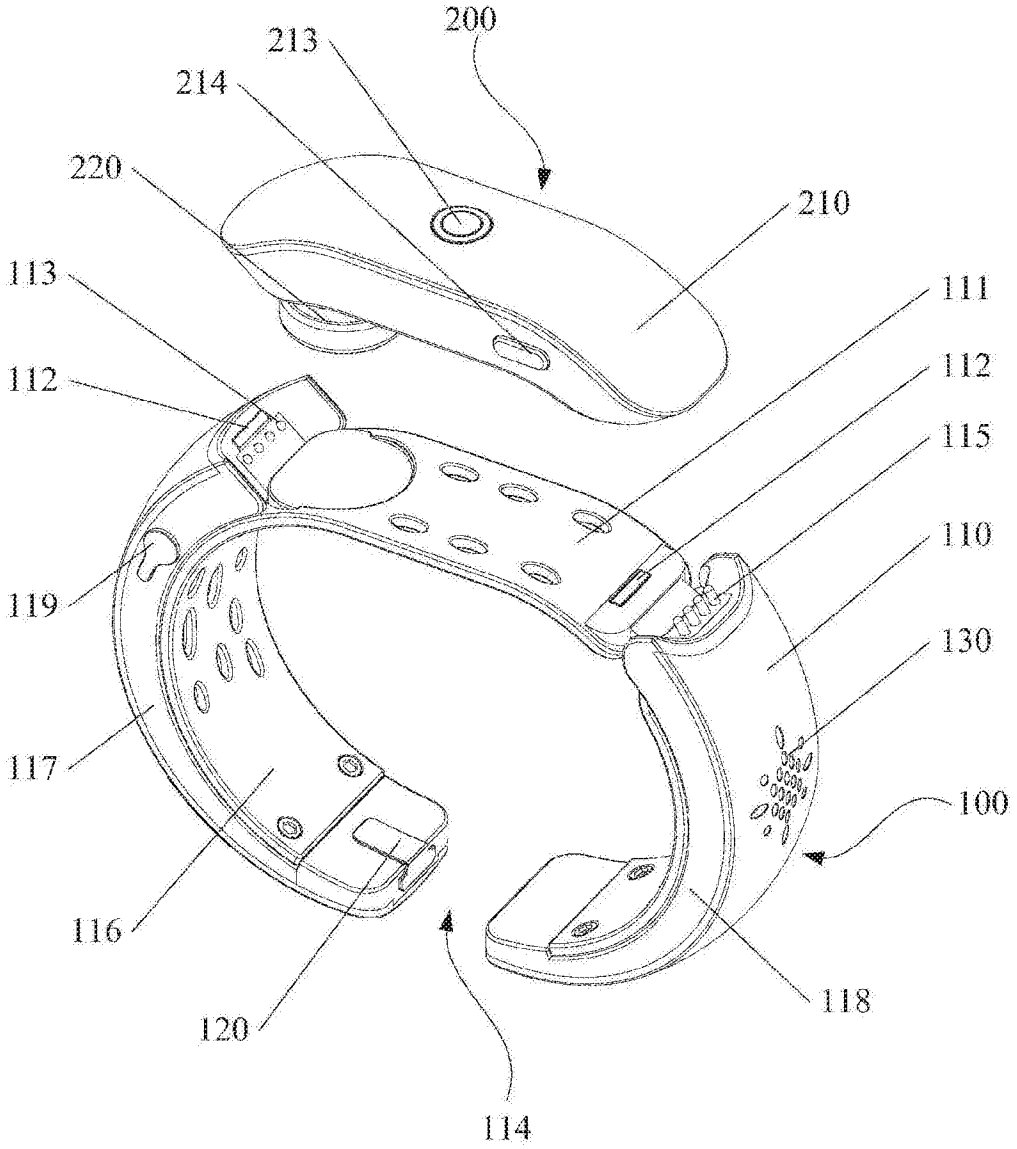

200
213
214
220
210
113
111
112
112
115
110
119
130
117
100
116
120
118
114

图 1

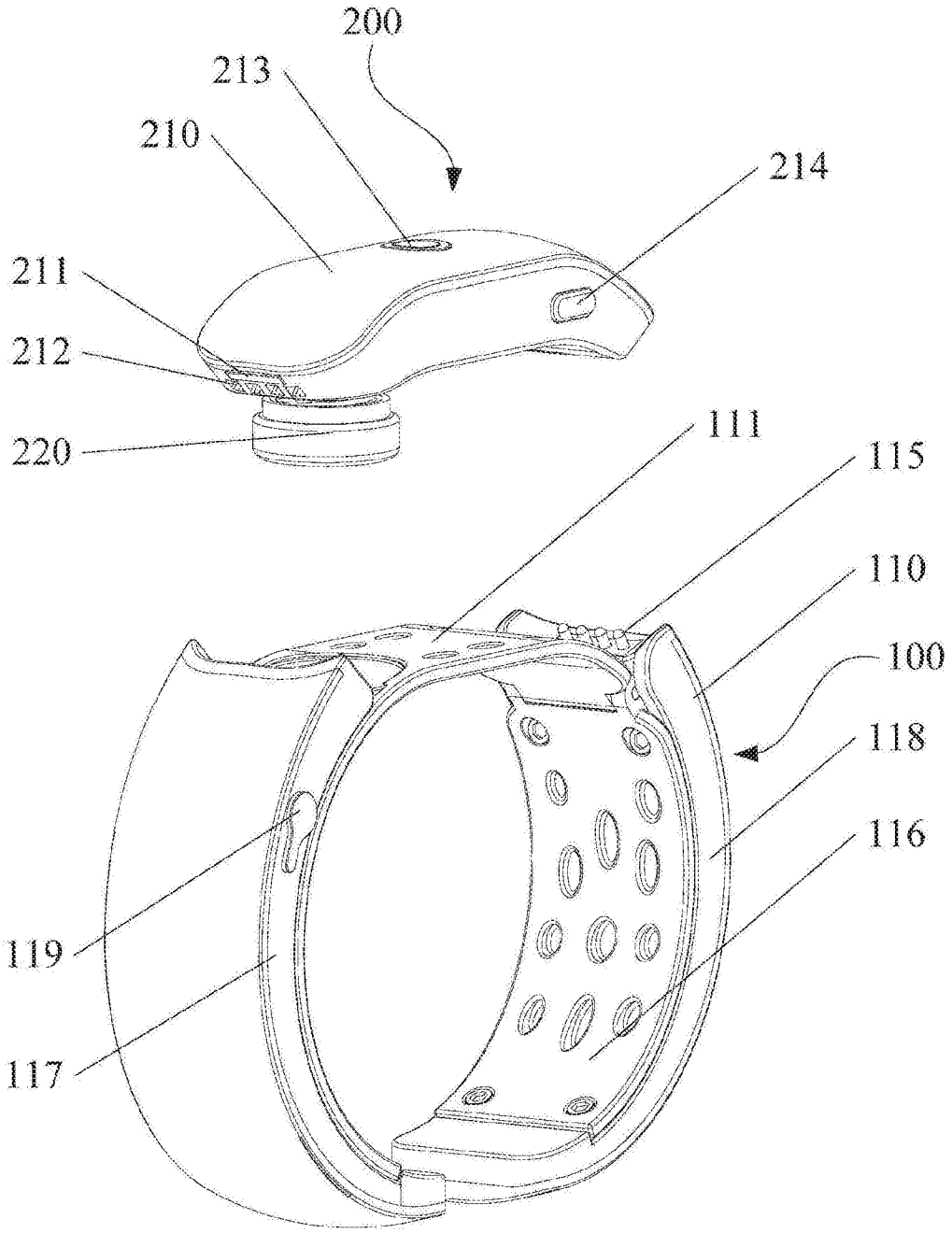


图 2

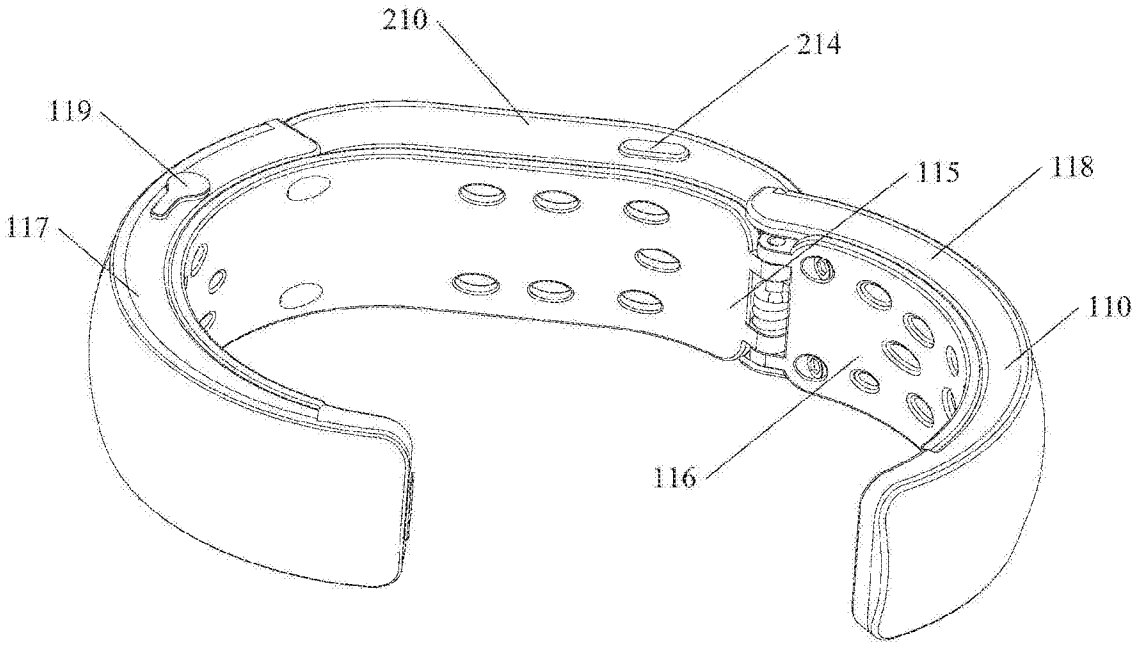


图 3

Espacenet

Bibliographic data: CN2489520 (Y) — 2002-05-01

Handsfree fast inlaying device for mobile telephone

Inventor(s): HU QIONG [CN] ± (QIONG HU)

Applicant(s): HU QIANG [CN] ± (HU QIANG)

Classification: **- international:** ***H04M1/02;*** (IPC1-7): H04M1/02
- cooperative:

Application number: CN2001239543U 20010525

Priority number(s): CN2001239543U 20010525

Abstract of CN2489520 (Y)

The utility model provides a handsfree fast inlaying device for mobile telephone, comprising an emitter for wireless earphone and a wireless earphone. The emitter for wireless earphone is inserted on the inserting groove of mobile phone and provided with a protrusion locking block. The protrusion locking block can be combined with the locking sheet in the wireless earphone and be used for locking of the wireless earphone; and a touch controlling switch is arranged inside the emitter for wireless earphone. The touch controlling switch arranged inside the emitter for wireless earphone is pushed and pressed by the protrusion locking block of the wireless earphone to stop signal sending to recharge the battery of the wireless earphone when the wireless earphone is engaged with the emitter for wireless earphone; while the touch controlling switch presents a connecting status so that the electric wave signal can be sent to the wireless earphone for using when the wireless earphone is cut off with the emitter for wireless earphone.

[19]中华人民共和国国家知识产权局

[51]Int. Cl[7]
H04M 1/02

[12]实用新型专利说明书

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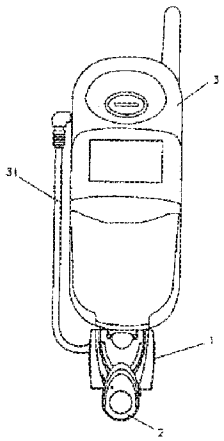
权利要求书 1 页 说明书 3 页 附图页数 5 页

[54]实用新型名称 用于移动电话的免持快嵌装置

[57]摘要

本实用新型提供一种用于移动电话的免持快嵌装置，由一无线耳机发射器和 无线耳机组成；无线耳机发射器是插在移动电话的插槽上，并设置一可与无线耳 机内卡嵌片结合并用来夹嵌无线耳机的卡嵌凸块，内部设置一触控开关，无线耳 机与无线耳机发射器卡嵌结合时，无线耳机发射器内设置的触控开关受无线耳机 卡嵌凸块的推压，停止发送信号，对无线耳机的电池充电；无线耳机与无线耳机 发射器脱离时，触控开关呈接通状态，将电波信号发射到无线耳机接收使用。



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权　利　要　求　书

1、一种用于移动电话的免持快嵌装置，包括：

无线耳机发射器，主要由一上盖、一下盖、一触控开关、外表面适当位置设置一弧形发射天线，以及一电路板组成；

无线耳机，内设有一无线接收器及喇叭，前端设有卡嵌片、弹片、一电源开关、并在外表面设置 LED 发光二极管等组成；

通过上述无线耳机发射器内设置的一可供无线耳机内进行卡嵌的卡嵌座相配合设置的卡嵌片，由此夹嵌无线耳机，从而进行充电，且无法脱落，形成一快速卡嵌结合且使用灵活的装置。

2、根据权利要求 1 所述的用于移动电话的免持快嵌装置，其特征在于，所述无线耳机发射器内部设置一触控开关，当卡嵌结合时就停止发送信息，以节省电能的损耗，来电时让无线耳机脱离无线耳机发射器，并使无线耳机发射器内的触控开关自动触发电源，供无线耳机发射器发射电波。

3、根据权利要求 1 所述的用于移动电话的免持快嵌装置，其特征在于，所述无线耳机发射器通过一插座与移动电话的插槽相连接。

4、根据权利要求 1 所述的用于移动电话的免持快嵌装置，其特征在于，所述无线耳机发射器的上盖内设置数块加强片，用来加强无线耳机发射器的整体结构。

5、根据权利要求 1 所述的用于移动电话的免持快嵌装置，其特征在于，所述无线耳机发射器上设置的弧形发射天线可以将电波信号发送到无线耳机。

6、根据权利要求 1 所述的用于移动电话的免持快嵌装置，其特征在于，所述无线耳机直接可以在无线发射器上充电，省去用另一充电器充电。

说　　明　　书

用于移动电话的免持快嵌装置

本实用新型涉及一种免持系统快嵌装置，尤其涉及，一种用于移动电话免持听筒的无线耳机组。

现有技术中人们所知道的免持接听装置，如公告第 421384 号，请参见图 1 所示，主要是由发射器 100、耳机 200 和控制器 300 组成，其中发射器 100 在一侧边设有可与移动电话 400 卡嵌结合的插座，在发射器侧面适当位置设置一电线插座 1001，耳机 200 为一线控耳机，在电线 2001 上设有一控制器 300，用于控制耳机 200 的电源开关，在电线 2001 的另一端设有一插头 2002。

根据上述描述可以构成一免持接听装置，但这种结构在使用时仍然不免有下列缺陷：（1）该免持系统由一线控耳机实现免持接听，但由于线控耳机的设置，使整个结构不但复杂、组装烦琐而且体积大，占用空间，还提高了制作成本。（2）由于传统的免持接听装置中耳机 200 与发射器 100 之间必须通过一电线 2001 实现接听，常常会因为使用不慎造成电线 2001 的拉扯而使通话中断，严重者更导致机组的损坏。

鉴于传统免持接听装置的上述不足之处，本实用新型的目的是：提供一种免持系统快嵌装置，主要由一无线耳机发射器与一无线耳机等组成；其中无线耳机发射器内设有一可与无线耳机内的卡嵌片卡嵌结合的卡嵌座，用来夹持无线耳机，从而有利于充电，而无法脱落，并在内部设置一触控开关，当与卡嵌结合时，停止发送信息，当无线耳机发射器与无线耳机脱离时，就可通过无线耳机上方弧形发射天线将无线电波信号传送给无线耳机接收，这样无线耳机发射器配合无线耳机使用，形成可以快速嵌卡的结构，且使用灵活。

本实用新型是这样实现的：一种用于移动电话的免持快嵌装置，包括：无线耳机发射器，主要由一上盖、一下盖、一触控开关、外表面适当位置设置一弧形发射天线，以及一电路板组成；无线耳机，内设有一无线接收器及喇叭，前端设

有卡嵌片、弹片、一电源开关、并在外表面设置 LED 发光二极管等组成；通过上述无线耳机发射器内设置的一可供无线耳机内进行卡嵌的卡嵌座相配合设置的卡嵌片，由此夹嵌无线耳机，从而进行充电，且无法脱落，形成一快速卡嵌结合且使用灵活的装置。

下面，参照附图，对于熟悉本技术领域的人员而言，从对本实用新型的详细描述中，本实用新型的上述和其他目的、特征和优点将显而易见。

图 1 是传统免持接听装置的结构示意图；

图 2 是本实用新型一较佳实施例的结构示意图；

图 3 是本实用新型一较佳实施例的无线耳机发射器的构成示意图；

图 4 是本实用新型一较佳实施例的使用过程示意图；

图 5A、5B 是本实用新型一较佳实施例各卡嵌结合的示意图。

请参照图 2 或 3 中的本实用新型较佳实施例的结构示意图。从图中可以看出，移动电话免持系统快嵌装置包括：无线耳机发射器 1、无线耳机 2 等组成；其中无线耳机发射器 1 主要由一上盖 11、一下盖 12、一触控开关 13 和一电路板 14 构成，其中上盖 11 内侧前端设有卡嵌槽 111，在槽内左右两侧各延伸设有一卡嵌凸块 112，在卡嵌槽 111 上设有数个透孔 113，内部设有数个固定柱 110，在外表面适当位置设置一圆弧曲线的发射天线 117（参见图 4），在上盖 11 内侧后端设有一可与连接器 114 卡嵌定位的连接座 115，该连接器 114 连接在移动电话 3 的插座上，通过上盖 11 后端所连接的压制片 116，从而控制无线耳机发射器 1 与移动电话 3 的连接与分离，并在上盖 11 内侧适当位置处设置数个加强片 118，下盖 12 的外型轮廓与上盖 11 相同，在下盖 12 设有数个螺孔 121 与上盖 11 的螺孔 119 相对应，触控开关 13 是由固定孔 132 与上盖 11 的固定柱 110 热熔结合并设置在上盖 11 内部适当位置处，在一侧设置一压杆 131，电路板 14 连接两根凸钩 141；无线耳机 2 内设有无线接收器，而喇叭 21 前端对应于无线耳机发射器 1 的卡嵌槽 111 设有卡嵌片 22，并在附近适当位置设置对应于上盖 11 透孔 113 的弹片 23，在无线耳机 2 的侧面设置一电源开关 24，外表面的适当位置设有一 LED 发光二极管 25，在无线耳机 2 内设有一充电电池。

组合时，将连接器 114 放入上盖 11 的连接座 115 中，并将触控开关 13 固定在上盖 11 内侧的卡嵌槽 111 槽口附近（请另见图 5A 所示），然后又将上述连接有凸钩 141 的电路板 14 固定在上盖 11 内，并让凸钩 141 穿过卡嵌槽 111 上的透孔 113，并将触控开关 13、连接器 114 和电路板 14 连接成电回路，并将螺丝穿过下盖 12 的螺孔 121，固定在上盖 11 的螺孔 119 上，就完成了装置构成（如图 4 所示）。

使用时，参照图 3 所示，将无线耳机发射器 1 的连接器 114 放入移动电话 3 的插座上，并让无线耳机发射器 1 的信号线 31 插入移动电话 3 的耳机孔内。来电时，取下无线耳机 2 并戴在耳朵上，此时无线耳机发射器 1 上的发射天线 117 就发出电波信号，以使无线耳机 2 接收，无线耳机 2 接收到信号时，其外表面的 LED 发光二极管 25 同时闪光提醒来电信息，并通过无线耳机发射器 1 内的电路板 14 发送无线电波到无线耳机 2 上，当通话结束后，将无线耳机 2 插入无线耳机发射器 1 上，无线耳机 2 的卡嵌片 22 刚好可以插入无线耳机发射器 1 的卡嵌槽 111 中，卡嵌槽 111 内的卡嵌凸块 112 夹嵌无线耳机 1（如图 5B 所示），从而有利于弹片 23 与凸钩 141 相接触，与此同时对无线耳机充电，并使卡嵌片 22 顶住触控开关 13 的压杆 131，这样无线耳机发射器 1 切断传送信号，避免未通话时的电源消耗。采用上述结构具有快速嵌卡结合、且灵活使用的特点。

以上诸实施例仅供说明本实用新型之用，而非对本实用新型的限制，有关技术领域的技术人员，在不脱离本实用新型的精神和范围的情况下，还可以作出各种变换或变化，因此所有等同的技术方案也应该属于本实用新型的范畴应由各权利要求限定。

说 明 书 附 图

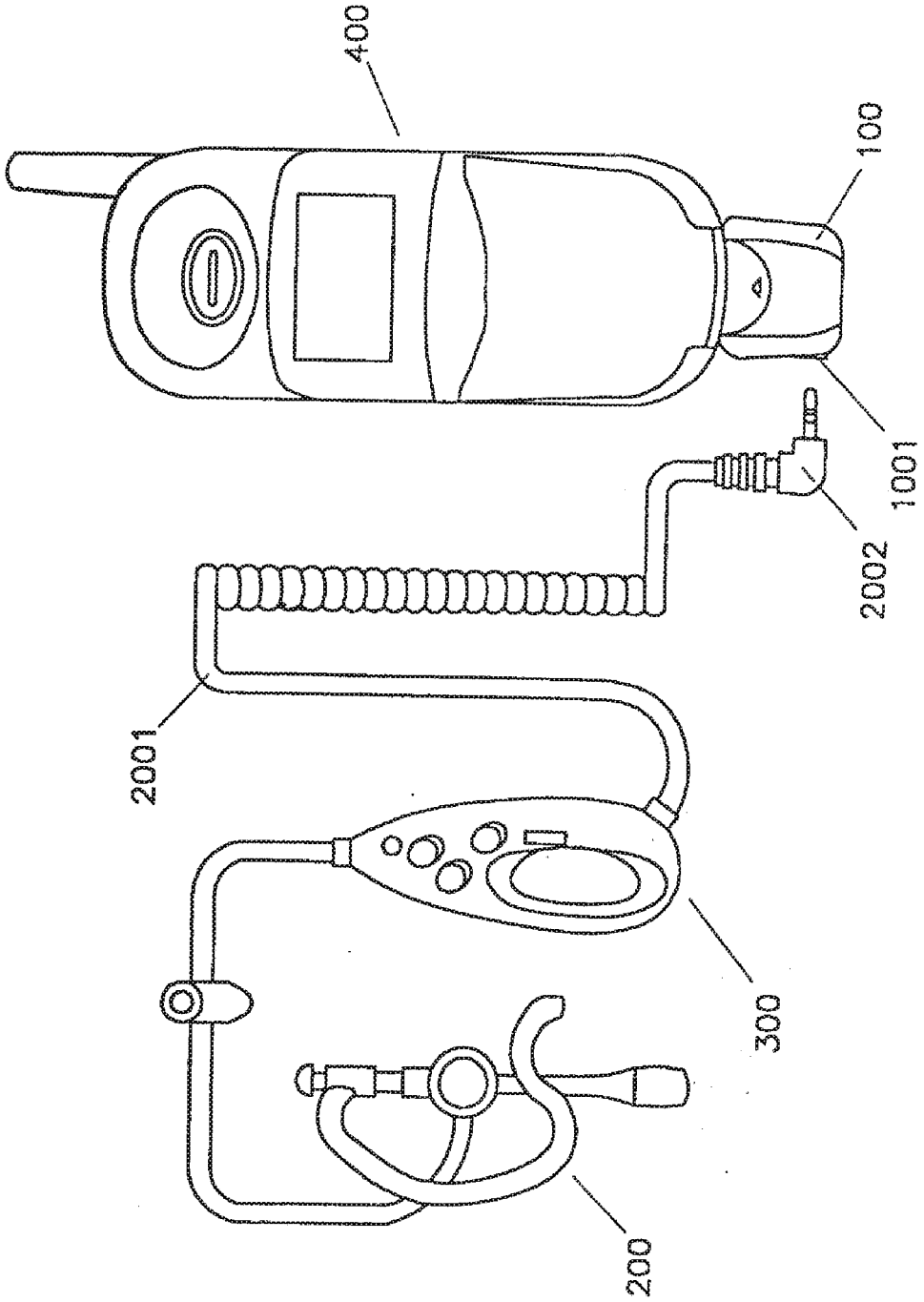

图 1

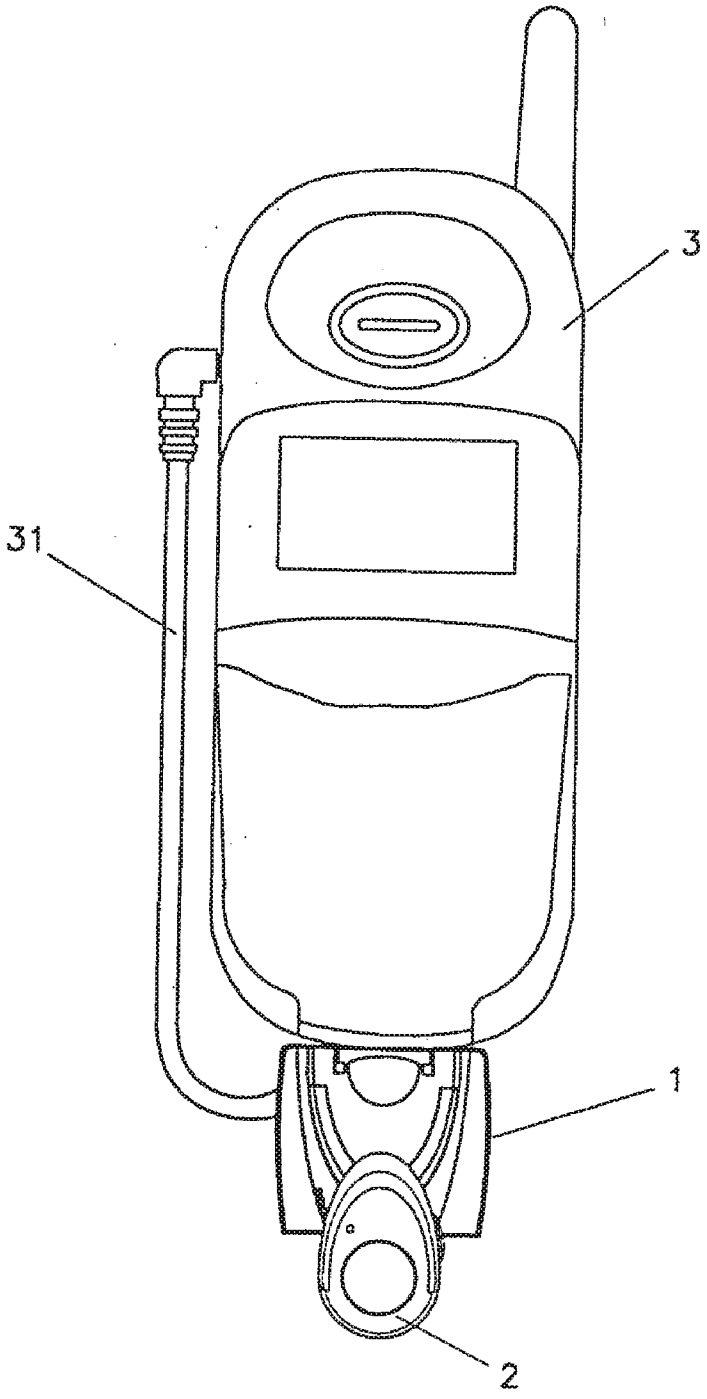

図　2

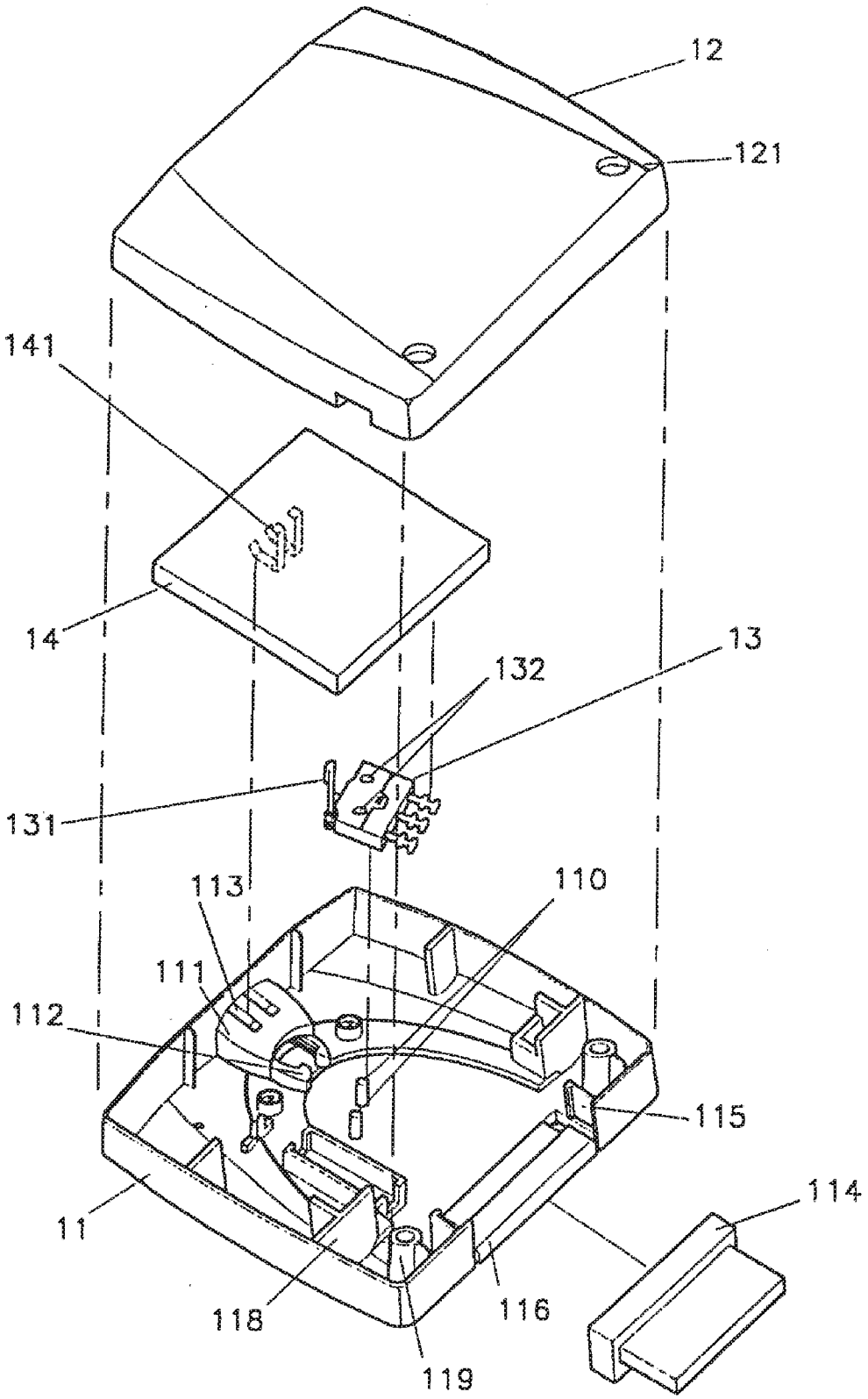

图 3

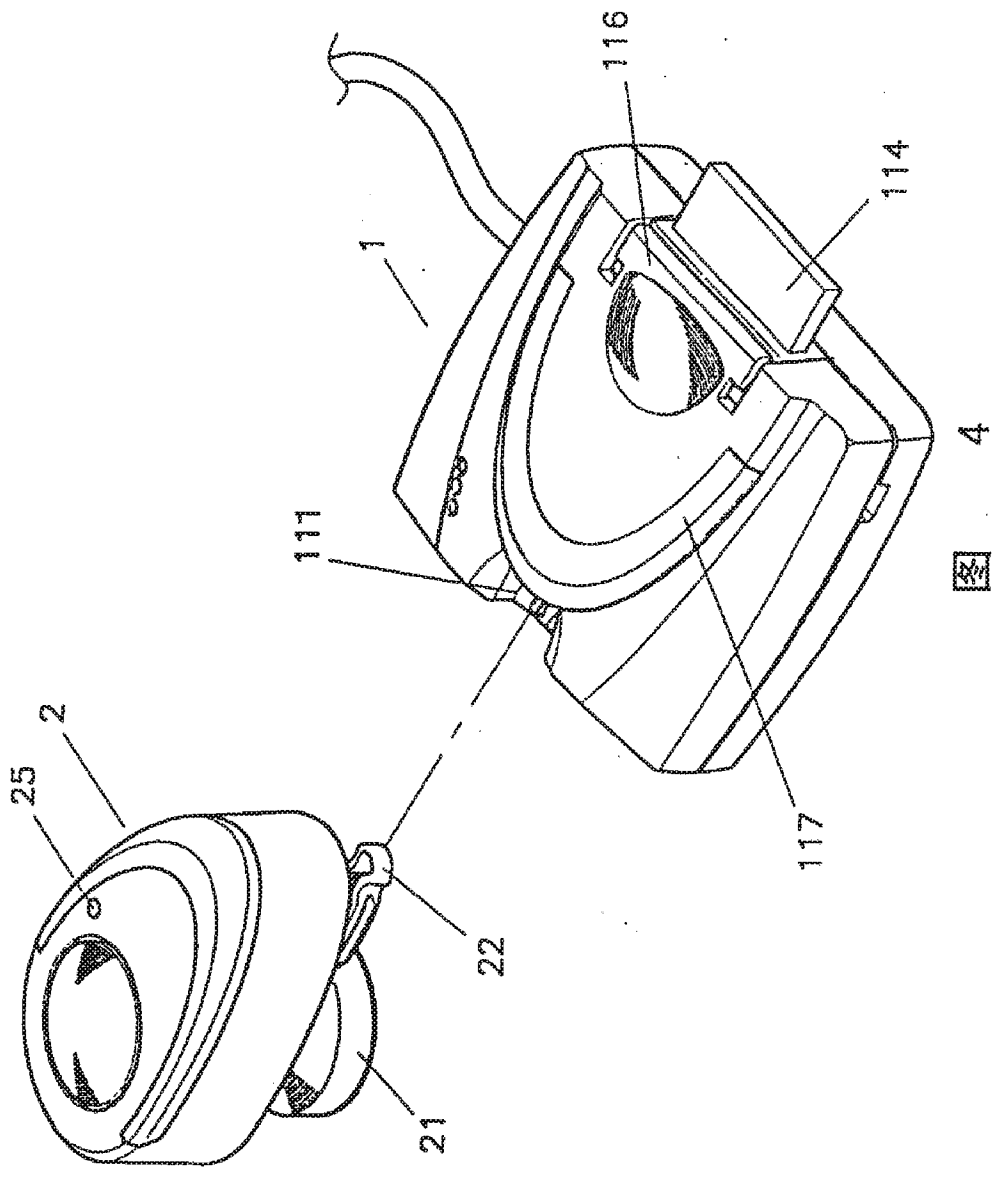

图 5A

图 5B

Doc Code: PET.AUTO Document Description: Petition automatically granted by EFS-Web	PTO/SB/140 U.S. Patent and Trademark Office Department of Commerce

Electronic Petition Request	**PETITION TO WITHDRAW AN APPLICATION FROM ISSUE AFTER PAYMENT OF THE ISSUE FEE UNDER 37 CFR 1.313(c)**
Application Number	15563937
Filing Date	02-Oct-2017
First Named Inventor	Seung Jin KIM
Art Unit	2654
Examiner Name	DAVID TON
Attorney Docket Number	PNN.005NP
Title	MOBILE SYSTEM WITH WIRELESS EARBUD

An application may be withdrawn from issue for further action upon petition by the applicant. To request that the Office withdraw an application from issue, applicant must file a petition under this section including the fee set forth in § 1.17(h) and a showing of good and sufficient reasons why withdrawal of the application from issue is necessary.

APPLICANT HEREBY PETITIONS TO WITHDRAW THIS APPLICATION FROM ISSUE UNDER 37 CFR 1.313(c).

A grantable petition requires the following items:
(1) Petition fee; and
(2) One of the following reasons:
(a) Unpatentability of one or more claims, which must be accompanied by an unequivocal statement that one or more claims are unpatentable, an amendment to such claim or claims, and an explanation as to how the amendment causes such claim or claims to be patentable;
(b) Consideration of a request for continued examination in compliance with § 1.114 (for a utility or plant application only); or
(c) Express abandonment of the application. Such express abandonment may be in favor of a continuing application, but not a CPA under 37 CFR 1.53(d).

Petition Fee

◉	Small Entity
○	Micro Entity
○	Regular Undiscounted

Reason for withdrawal from issue

◯ One or more claims are unpatentable ◉ Consideration of a request for continued examination (RCE) (List of Required Documents and Fees) ◯ Applicant hereby expressly abandons the instant application (any attorney/agent signing for this reason must have power of attorney pursuant to 37 CFR 1.32(b)).
RCE request,submission, and fee. ☐ I certify, in accordance with 37 CFR 1.4(d)(4) that : The RCE request ,submission, and fee have already been filed in the above-identified application on ☒ Are attached.
THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES I certify, in accordance with 37 CFR 1.4(d)(4) that I am: ◉ An attorney or agent registered to practice before the Patent and Trademark Office who has been given power of attorney in this application. ◯ An attorney or agent registered to practice before the Patent and Trademark Office, acting in a representative capacity. ◯ A sole inventor ◯ A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application ◯ A joint inventor; all of whom are signing this e-petition

Signature	/MINCHEOL KIM/
Name	MINCHEOL KIM
Registration Number	51306

Electronic Patent Application Fee Transmittal

Application Number:	15563937
Filing Date:	02-Oct-2017
Title of Invention:	MOBILE SYSTEM WITH WIRELESS EARBUD
First Named Inventor/Applicant Name:	Seung Jin KIM
Filer:	Mincheol Kim/Chelsea Burdeno
Attorney Docket Number:	PNN.005NP

Filed as Small Entity

Filing Fees for U.S. National Stage under 35 USC 371

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
PETITION FEE-37CFR 1.17(H) (GROUP II)	2464	1	70	70
RCE- 2ND AND SUBSEQUENT REQUEST	2820	1	950	950
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**1020**

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Decision Date : July 23, 2019

In re Application of :

Seung Jin KIM

DECISION ON PETITION

UNDER CFR 1.313(c)(2)

Application No : 15563937

Filed : 02-Oct-2017

Attorney Docket No : PNN.005NP

This is an electronic decision on the petition under 37 CFR 1.313(c)(2), filed July 23, 2019 , to withdraw the above-identified application from issue after payment of the issue fee.

The petition is **GRANTED.**

The above-identified application is withdrawn from issue for consideration of a submission under 37 CFR 1.114 (request for continued examination). See 37 CFR 1.313(c)(2).

Petitioner is advised that the issue fee paid in this application cannot be refunded. If, however, this application is again allowed, petitioner may request that it be applied towards the issue fee required by the new Notice of Allowance.

Telephone inquiries concerning this decision should be directed to the Patent Electronic Business Center (EBC) at 866-217-9197.

This application file is being referred to Technology Center AU 2654 for processing of the request for continuing examination under 37 CFR 1.114 .

Office of Petitions

Electronic Acknowledgement Receipt

EFS ID:	36656606
Application Number:	15563937
International Application Number:	
Confirmation Number:	3453
Title of Invention:	MOBILE SYSTEM WITH WIRELESS EARBUD
First Named Inventor/Applicant Name:	Seung Jin KIM
Customer Number:	20995
Filer:	Mincheol Kim/Chelsea Burdeno
Filer Authorized By:	Mincheol Kim
Attorney Docket Number:	PNN.005NP
Receipt Date:	23-JUL-2019
Filing Date:	02-OCT-2017
Time Stamp:	16:44:34
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1020
RAM confirmation Number	072419INTEFSW16443100
Deposit Account	111410
Authorized User	Chelsea Veinot

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.17 (Patent application and reexamination processing fees)

37 CFR 1.492 (National application filing, search, and examination fees)

37 CFR 1.492(a) (Basic national fee only)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	RCE-PNN_005NP.pdf	1349974 e9021a9adc10e662d7094903a0267124bb0ef35a	no	3
Warnings:					
Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	IDS-PNN_005NP.pdf	1035231 c6100a7d3e1b20ca64903e65ec71d0e8b993ed1e	no	5
Warnings:					
Information:					
3	Foreign Reference	CN203193717wAbs.PDF	910127 8e462056d6788c3373ce640c35cb92da5d497300	no	8
Warnings:					
Information:					
4	Foreign Reference	WO2005064813A1.PDF	1402730 3f2a762cd2eeeb67e085621b018f87f2b7cfe20b	no	36
Warnings:					
Information:					
5	Foreign Reference	CN203720788wAbs.PDF	1193818 e722391631197 65d8e48264f42c5fbe8a82d9b94	no	11
Warnings:					
Information:					
6	Foreign Reference	CN103815628wAbs.PDF	1629082 044306ba141b019a066308c6cc89cd78fbc7b56a	no	12
Warnings:					
Information:					

7	Foreign Reference	CN2489520wAbs.PDF	870822 f4782865b368a9afea43f7fd33e334697721d2dc	no	11
Warnings:					
Information:					
8	Non Patent Literature	Bragi-company-Wikipedia.PDF	5722890 4a5c9a1d21c909d7a8d0088910faf88f3c2bbf9e	no	9
Warnings:					
Information:					
9	Non Patent Literature	Bragi_TheDashPro_QuickGuide.PDF	658424 53b9e9540ab2ed07bebabbf99b051ae54d36fc4e	no	15
Warnings:					
Information:					
10	Petition automatically granted by EFS	petition-request.pdf	31459 365a605cee3e693936407e2a969558357039353e	no	2
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11	Fee Worksheet (SB06)	fee-info.pdf	32417 e26fb21b88fd4e930fb8fd96399a0c4be9b3d417	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	14836974		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/563,937	08/06/2019	10375218	PNN.005NP	3453

20995 7590 07/17/2019

KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Seung Jin KIM, Irvine, CA;
PINN, INC., Tustin, CA;

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/563,937	08/06/2019	10375218	PNN.005NP	3453

20995 7590 07/17/2019

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ISSUE NOTIFICATION

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APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Seung Jin KIM, Irvine, CA;
PINN, INC., Tustin, CA;

Document Description: Issue Fee Payment (PTO-85B)

Issue Fee Transmittal Form

Application Number	Filing Date	First Named Inventor	Atty. Docket No.	Confirmation No.
15563937	02-Oct-2017	Seung Jin KIM	PNN.005NP	3453

TITLE OF INVENTION :

MOBILE SYSTEM WITH WIRELESS EARBUD

Entity Status	Application Type	Art Unit	Class - Subclass	EXAMINER
Small	U.S. National Stage under 35 USC 371	2654	311000	DAVID TON

Issue Fee Due	Publication Due	Total Fee(s) Due	Date Due	Prev. Paid Fee
$500	$0	$500	12-Sep-2019	$500

1.Change of Correspondence Address and/or Indication Of Fee Address (37 CFR 1.33 & 1.363)

Current Correspondence Address:	Current Indicated Fee Address :
20995 KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE CA 92614 UNITED STATES 949-760-0404 efiling@knobbe.com	
☐ Change of correspondence address requested, system generated AIA/122-EFS form attached	☐ Fee Address indication requested, system generated SB/47-EFS form attached

2.Entity Status

Change in Entity Status

○ Applicant certifying micro entity status; system generated Micro Entity certification form attached. See 37 CFR 1.29.
Note: Absent a valid certification of micro entity status, issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment. If this box is checked, you will be prompted to choose a micro entity status on the gross income basis (37 CFR 1.29(a)) or the institution of higher education basis (37 CFR 1.29(d)), and make the applicable certification online.

◉ Applicant asserting small entity status. See 37 CFR 1.27.
Note: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

○ Applicant changing to regular undiscounted fee status.
Note: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

Document Description: Issue Fee Payment (PTO-85B)

3.The Following Fee(s) Are Submitted:

☐ Issue Fee	☒ I authorize USPTO to apply my previously paid issue fee to the current fees due
☐ Publication Fee	☒ The Director is hereby authorized to apply my previously paid issue fee to the current fee due and to charge deficient fees to Deposit Account Number 111410
☐ Advance Order - # of copies _____	☒ If **in addition to** the payment of the issue fee amount submitted with this form, there are any discrepancies in any amount(s) due, the Director is authorized to charge any deficiency, or credit any overpayment, to Deposit Account Number 111410 . The **issue fee must be submitted** with this form. **If payment of the issue fee does not accompany this form, checking this box and providing a deposit account number will NOT be effective to satisfy full payment of the fee(s) due.**

4.Firm and/or Attorney Names To Be Printed

NOTE: If no name is listed, no name will be printed
For printing on the patent front page, list to be displayed as entered

1. KNOBBE MARTENS OLSON & BEAR LLP
2.
3.

5.Assignee Name(s) and Residence Data To Be Printed

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

Name	City	State	Country	Category
PINN, INC.	Irvine	CALIFORNIA	united states	corporation

6.Signature

I certify, in accordance with 37 CFR 1.4(d)(4) that I am an attorney or agent registered to practice before the Patent and Trademark Office who has filed and has been granted power of attorney in this application. I also certify that this Fee(s) Transmittal form is being transmitted to the USPTO via EFS-WEB on the date indicated below.

Signature	/Mincheol Kim/	**Date**	06-13-2019
Name	Mincheol Kim	**Registration Number**	51306

Electronic Acknowledgement Receipt

EFS ID:	36293200
Application Number:	15563937
International Application Number:	
Confirmation Number:	3453
Title of Invention:	MOBILE SYSTEM WITH WIRELESS EARBUD
First Named Inventor/Applicant Name:	Seung Jin KIM
Customer Number:	20995
Filer:	Mincheol Kim/tony do
Filer Authorized By:	Mincheol Kim
Attorney Docket Number:	PNN.005NP
Receipt Date:	13-JUN-2019
Filing Date:	02-OCT-2017
Time Stamp:	18:13:48
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	Web85b.pdf	46257 fc7cb1d42e7f4ee1e3727b6cd0d2e9f80cbb93f9	no	2

Warnings:

Information:	
Total Files Size (in bytes):	46257

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Doc Code: IFEE

Document Description: Issue Fee Payment (PTO-85B)

PTOL/85B-EFS

Issue Fee Transmittal Form

Application Number	Filing Date	First Named Inventor	Atty. Docket No.	Confirmation No.
15563937	02-Oct-2017	Seung Jin KIM	PNN.005NP	3453

TITLE OF INVENTION :

MOBILE SYSTEM WITH WIRELESS EARBUD

Entity Status	Application Type	Art Unit	Class - Subclass	EXAMINER
Small	U.S. National Stage under 35 USC 371	2654	311000	DAVID TON

Issue Fee Due	Publication Due	Total Fee(s) Due	Date Due	Prev. Paid Fee
$500	$0	$500	12-Sep-2019	$500

1.Change of Correspondence Address and/or Indication Of Fee Address (37 CFR 1.33 & 1.363)

Current Correspondence Address:	Current Indicated Fee Address :
20995 KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE CA 92614 UNITED STATES 949-760-0404 efiling@knobbe.com	
☐ Change of correspondence address requested, system generated AIA/122-EFS form attached	☐ Fee Address indication requested, system generated SB/47-EFS form attached

2.Entity Status

Change in Entity Status

○ Applicant certifying micro entity status; system generated Micro Entity certification form attached. See 37 CFR 1.29.
Note: Absent a valid certification of micro entity status, issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment. If this box is checked, you will be prompted to choose a micro entity status on the gross income basis (37 CFR 1.29(a)) or the institution of higher education basis (37 CFR 1.29(d)), and make the applicable certification online.

◉ Applicant asserting small entity status. See 37 CFR 1.27.
Note: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

○ Applicant changing to regular undiscounted fee status.
Note: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

Document Description: Issue Fee Payment (PTO-85B)

3.The Following Fee(s) Are Submitted:

☐ Issue Fee

☒ I authorize USPTO to apply my previously paid issue fee to the current fees due

☐ Publication Fee

☒ The Director is hereby authorized to apply my previously paid issue fee to the current fee due and to charge deficient fees to Deposit Account Number 111410

☐ Advance Order - # of copies _____

☒ If **in addition to** the payment of the issue fee amount submitted with this form, there are any discrepancies in any amount(s) due, the Director is authorized to charge any deficiency or credit any overpayment, to Deposit Account Number 111410. The **issue fee must be submitted** with this form. **If payment of the issue fee does not accompany this form, checking this box and providing a deposit account number will NOT be effective to satisfy full payment of the fee(s) due.**

4.Firm and/or Attorney Names To Be Printed

NOTE: If no name is listed, no name will be printed
For printing on the patent front page, list to be displayed as entered

1. KNOBBE MARTENS OLSON & BEAR LLP
2.
3.

5.Assignee Name(s) and Residence Data To Be Printed

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

Name	City	State	Country	Category
PINN, INC.	Irvine	CALIFORNIA	united states	corporation

6.Signature

I certify, in accordance with 37 CFR 1.4(d)(4) that I am an attorney or agent registered to practice before the Patent and Trademark Office who has filed and has been granted power of attorney in this application. I also certify that this Fee(s) Transmittal form is being transmitted to the USPTO via EFS-WEB on the date indicated below.

Signature	/Mincheol Kim/	**Date**	06-13-2019
Name	Mincheol Kim	**Registration Number**	51306

United States Patent and Trademark Office

- Sales Receipt -

Adjustment date: 06/14/2019 CCHAU2

04/08/2019 INTEFSW 00004129 15563937

01 FC:2501 -500.00 OP

United States Patent and Trademark Office

- Sales Receipt -

06/14/2019 CCHAU2 00000010 15563937

01 FC:2501 500.00 OP

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

20995 7590 06/12/2019

KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER
TON, DAVID L

ART UNIT	PAPER NUMBER
2654	

DATE MAILED: 06/12/2019

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/563,937	10/02/2017	Seung Jin KIM	PNN.005NP	3453

TITLE OF INVENTION: MOBILE SYSTEM WITH WIRELESS EARBUD

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0.00	$500.00	$0	09/12/2019

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

20995 7590 06/12/2019

KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/563,937	10/02/2017	Seung Jin KIM	PNN.005NP	3453

TITLE OF INVENTION: MOBILE SYSTEM WITH WIRELESS EARBUD

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0.00	$500.00	$0	09/12/2019

EXAMINER	ART UNIT	CLASS-SUBCLASS
TON, DAVID L	2654	381-311000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. Fees submitted: ❑ Issue Fee ❑ Publication Fee (if required) ❑ Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/563,937	10/02/2017	Seung Jin KIM	PNN.005NP	3453

20995 7590 06/12/2019

KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER	
TON, DAVID L	

ART UNIT	PAPER NUMBER
2654	

DATE MAILED: 06/12/2019

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 15/563,937	Applicant(s) KIM, Seung Jin	
	Examiner DAVID L TON	Art Unit 2654	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to RCE filed on 05/23/2019.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 23-60 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file areply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/DAVID L TON/
Primary Examiner, Art Unit 2654

DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 05/23/2019 has been entered.

Information Disclosure Statement

3. The information disclosure statement (IDS) was submitted on 05/23/2019. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Reasons for Allowance

4. Claims 23-60 are allowed.

Reasons for allowance have been provided in the previous Office Action.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID L TON whose telephone number is (571)270-

7839. The examiner can normally be reached on Monday - Friday 8:00 AM - 6:00 PM (EST).

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DAVID L TON/
Primary Examiner, Art Unit 2654

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/563,937	KIM, Seung Jin
	Examiner	**Art Unit**
	DAVID L TON	2654

CPC						
Symbol					**Type**	**Version**
H04M	/	1	/	05	F	2013-01-01
H04M	/	1	/	6066	I	2013-01-01
H04R	/	1	/	1016	I	2013-01-01
H04M	/	1	/	7253	I	2013-01-01
H04R	/	2420	/	07	A	2013-01-01

CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
	/		/					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	38	
/DAVID L TON/ Primary Examiner, Art Unit 2654	31 May 2019	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	32	4A and 7

U.S. Patent and Trademark Office — Part of Paper No.: 20190531

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/563,937	KIM, Seung Jin
	Examiner	**Art Unit**
	DAVID L TON	2654

INTERNATIONAL CLASSIFICATION				
CLAIMED				
H04M	/	1	/	05
H04M	/	1	/	60
H04M	/	1	/	725
H04R	/	1	/	10

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	**SUBCLASS**

CROSS REFERENCES(S)						
CLASS	**SUBCLASS (ONE SUBCLASS PER BLOCK)**					

NONE (Assistant Examiner) (Date)	**Total Claims Allowed:** 38	
/DAVID L TON/ Primary Examiner, Art Unit 2654 (Primary Examiner) 31 May 2019 (Date)	O.G. Print Claim(s) 32	O.G. Print Figure 4A and 7

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	15/563,937	KIM, Seung Jin
	Examiner	**Art Unit**
	DAVID L TON	2654

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
	1		10		19	6	28	15	37	24	46	33	55		
	2		11		20	7	29	16	38	25	47	34	56		
	3		12		21	8	30	17	39	26	48	35	57		
	4		13		22	9	31	18	40	27	49	36	58		
	5		14	1	23	10	32	19	41	28	50	37	59		
	6		15	2	24	11	33	20	42	29	51	38	60		
	7		16	3	25	12	34	21	43	30	52				
	8		17	4	26	13	35	22	44	31	53				
	9		18	5	27	14	36	23	45	32	54				

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	38	
/DAVID L TON/ Primary Examiner, Art Unit 2654	31 May 2019	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	32	4A and 7

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