

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		
	First Named Inventor	Harold S. Mindlin II	
	Art Unit		
	Examiner Name		
	Attorney Docket Number	1520-0013	

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Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	
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	1	20050036637		2005-02-17	Janssen		

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		
	First Named Inventor	Harold S. Mindlin II	
	Art Unit		
	Examiner Name		
	Attorney Docket Number	1520-0013	

	1		<input type="checkbox"/>
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**EXAMINER SIGNATURE**

Examiner Signature		Date Considered	
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\*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.

<sup>1</sup> See Kind Codes of USPTO Patent Documents at [www.USPTO.GOV](http://www.USPTO.GOV) or MPEP 901.04. <sup>2</sup> Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>3</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>4</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>5</sup> 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		
Filing Date		
First Named Inventor	Harold S. Mindlin II	
Art Unit		
Examiner Name		
Attorney Docket Number	1520-0013	

**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.

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

None

**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	/Ronald Michael Reed/	Date (YYYY-MM-DD)	2011-04-12
Name/Print	Ronald Michael Reed	Registration Number	59,066

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 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.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>Application Data Sheet 37 CFR 1.76</b>		Attorney Docket Number	1520-0013
		Application Number	
Title of Invention	System and Method of Progressive Hearing Device Adjustment		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

**Secrecy Order 37 CFR 5.2**

- Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

**Applicant Information:**

<b>Applicant 1</b>						<input type="button" value="Remove"/>
<b>Applicant Authority</b> <input checked="" type="radio"/> Inventor		<input type="radio"/> Legal Representative under 35 U.S.C. 117		<input type="radio"/> Party of Interest under 35 U.S.C. 118		
<b>Prefix</b>	<b>Given Name</b>	<b>Middle Name</b>	<b>Family Name</b>	<b>Suffix</b>		
	Harold	S.	Mindlin	II		
<b>Residence Information (Select One)</b> <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service						
<b>City</b>	Austin	<b>State/Province</b>	TX	<b>Country of Residence<sup>i</sup></b>	US	
<b>Citizenship under 37 CFR 1.41(b)<sup>i</sup></b>		US				
<b>Mailing Address of Applicant:</b>						
<b>Address 1</b>	3808 Turkey Creek Drive					
<b>Address 2</b>						
<b>City</b>	Austin	<b>State/Province</b>	TX			
<b>Postal Code</b>	78730	<b>Country<sup>i</sup></b>	US			
<b>Applicant 2</b>						<input type="button" value="Remove"/>
<b>Applicant Authority</b> <input checked="" type="radio"/> Inventor		<input type="radio"/> Legal Representative under 35 U.S.C. 117		<input type="radio"/> Party of Interest under 35 U.S.C. 118		
<b>Prefix</b>	<b>Given Name</b>	<b>Middle Name</b>	<b>Family Name</b>	<b>Suffix</b>		
	David	Matthew	Landry			
<b>Residence Information (Select One)</b> <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service						
<b>City</b>	Austin	<b>State/Province</b>	TX	<b>Country of Residence<sup>i</sup></b>	US	
<b>Citizenship under 37 CFR 1.41(b)<sup>i</sup></b>		US				
<b>Mailing Address of Applicant:</b>						
<b>Address 1</b>	815 A Brazos Street Apt. #342					
<b>Address 2</b>						
<b>City</b>	Austin	<b>State/Province</b>	TX			
<b>Postal Code</b>	78701	<b>Country<sup>i</sup></b>	US			
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the <b>Add</b> button.						<input type="button" value="Add"/>

**Correspondence Information:**

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).

- An Address is being provided for the correspondence Information of this application.

<b>Application Data Sheet 37 CFR 1.76</b>		Attorney Docket Number	1520-0013	
		Application Number		
Title of Invention	System and Method of Progressive Hearing Device Adjustment			
Customer Number	89320			
Email Address	mreed@patentwerks.net	<input type="button" value="Add Email"/>	<input type="button" value="Remove Email"/>	

**Application Information:**

Title of the Invention	System and Method of Progressive Hearing Device Adjustment			
Attorney Docket Number	1520-0013	Small Entity Status Claimed	<input checked="" type="checkbox"/>	
Application Type	Nonprovisional			
Subject Matter	Utility			
Suggested Class (if any)		Sub Class (if any)		
Suggested Technology Center (if any)				
Total Number of Drawing Sheets (if any)	4	Suggested Figure for Publication (if any)	2	

**Publication Information:**

<input type="checkbox"/>	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
<input type="checkbox"/>	<b>Request Not to Publish.</b> I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application <b>has not and will not</b> be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

**Representative Information:**

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.			
Please Select One:	<input checked="" type="radio"/> Customer Number	<input type="radio"/> US Patent Practitioner	<input type="radio"/> Limited Recognition (37 CFR 11.9)
Customer Number	89320		

**Domestic Benefit/National Stage Information:**

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.			
Prior Application Status	Pending	<input type="button" value="Remove"/>	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61323841	2010-04-13
Prior Application Status	Pending	<input type="button" value="Remove"/>	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61350759	2010-06-02

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<b>Application Data Sheet 37 CFR 1.76</b>	Attorney Docket Number	1520-0013
	Application Number	
Title of Invention	System and Method of Progressive Hearing Device Adjustment	

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

### Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

Application Number	Country <sup>i</sup>	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			<input checked="" type="radio"/> Yes <input type="radio"/> No

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

### Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.

#### Assignee 1

If the Assignee is an Organization check here.

Organization Name     AUDIOTONIQ, Inc.

#### Mailing Address Information:

Address 1     206 South Wild Basin Road, Building A, Suite 220

Address 2

City     Austin     State/Province     TX

Country <sup>i</sup>     US     Postal Code     78746

Phone Number     Fax Number

Email Address

Additional Assignee Data may be generated within this form by selecting the **Add** button.

### Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.

<b>Signature</b>	/Ronald Michael Reed/		Date (YYYY-MM-DD)	2011-04-12	
First Name	Ronald	Last Name	Reed	Registration Number	59066

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>Application Data Sheet 37 CFR 1.76</b>	Attorney Docket Number	1520-0013
	Application Number	
Title of Invention	System and Method of Progressive Hearing Device Adjustment	

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## Privacy Act Statement

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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.

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>				
<b>Filing Date:</b>				
<b>Title of Invention:</b>	System and Method of Progressive Hearing Device Adjustment			
<b>First Named Inventor/Applicant Name:</b>	Harold S. Mindlin II			
<b>Filer:</b>	Ronald Michael Reed			
<b>Attorney Docket Number:</b>	1520-0013			
Filed as Small Entity				
<b>Utility under 35 USC 111(a) Filing Fees</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
Utility filing Fee (Electronic filing)	4011	1	82	82
Utility Search Fee	2111	1	270	270
Utility Examination Fee	2311	1	110	110
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				

Description	11 Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>462</b>

# Electronic Acknowledgement Receipt

<b>EFS ID:</b>	9861341
<b>Application Number:</b>	13085016
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1249
<b>Title of Invention:</b>	System and Method of Progressive Hearing Device Adjustment
<b>First Named Inventor/Applicant Name:</b>	Harold S. Mindlin II
<b>Customer Number:</b>	89320
<b>Filer:</b>	Ronald Michael Reed
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	1520-0013
<b>Receipt Date:</b>	12-APR-2011
<b>Filing Date:</b>	
<b>Time Stamp:</b>	15:44:36
<b>Application Type:</b>	Utility under 35 USC 111(a)

## Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$462
RAM confirmation Number	2422
Deposit Account	504999
Authorized User	

## File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
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1		13 1520-0013_Application.pdf	68370 f9eea89d703372dc90366efa7d0dde193f0a0e54	yes	23
<b>Multipart Description/PDF files in .zip description</b>					
		<b>Document Description</b>	<b>Start</b>	<b>End</b>	
		Specification	1	17	
		Claims	18	22	
		Abstract	23	23	
<b>Warnings:</b>					
<b>Information:</b>					
2	Drawings-only black and white line drawings	1520-0013_Dwgs.pdf	221233 6f1c3a46477917be15374b8ac44e7b11eb2cbe93	no	4
<b>Warnings:</b>					
<b>Information:</b>					
3	Oath or Declaration filed	1520-0013_Declaration.pdf	856903 0d1b963c1988db4af15bc98135ed387b569581e9	no	4
<b>Warnings:</b>					
<b>Information:</b>					
4	Information Disclosure Statement (IDS) Filed (SB/08)	1520-0013_IDS.pdf	611544 93aa9b813c16a534dee93e9226ea664dffc01aa5	no	4
<b>Warnings:</b>					
<b>Information:</b>					
5	Application Data Sheet	1520-0013_App_Data_Sheet.pdf	1104499 abf822be17671b492abe803c26e380d0ad047beb	no	5
<b>Warnings:</b>					
<b>Information:</b>					
6	Fee Worksheet (PTO-875)	fee-info.pdf	32588 62ec53f2a80b1d15a1a5cd8b8002d60a109a62bc	no	2
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			2895137		

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.

## System and Method of Progressive Hearing Device Adjustment

Harold S. Mindlin II  
David Matthew Landry

### CROSS REFERENCE TO RELATED APPLICATION(S)

[0001] This application is a non-provisional of and claims priority to U.S. Provisional patent application number 61/350,759, entitled "SYSTEM AND METHOD OF PROVIDING AN INCREMENTAL HEARING ADJUSTMENT FILTER," and filed on June 2, 2010, which is incorporated herein by reference in its entirety. Further, this application is a non-provisional of and claims priority to U.S. Provisional patent application number 61/323,841, entitled "SYSTEM AND METHOD OF PROGRESSIVE HEARING DEVICE ADJUSTMENT," and filed on April 13, 2010, which is incorporated herein by reference in its entirety.

### FIELD

[0002] This disclosure relates generally to hearing aid adjustments, and more particularly, to hearing aids, computer-readable media, and computing devices for incremental hearing aid adjustment.

### BACKGROUND

[0003] Hearing deficiencies can range from partial hearing impairment to complete hearing loss. Often, an individual's hearing ability varies across the range of audible sound frequencies, and many individuals have hearing impairment with respect to only select acoustic frequencies. For example, an individual's hearing loss may be greater at higher frequencies than at lower frequencies.

[0004] Hearing aids have been developed to alleviate the effects of hearing losses in individuals. Conventionally, hearing aids range from ear pieces configured to amplify sounds to configurable hearing devices offering adjustable operational parameters that can be configured by a hearing specialist to enhance the performance of the hearing aid. Parameters, such as volume or tone, often can be easily adjusted, and many hearing aids allow for the individual users to adjust these

parameters. However, other parameters may only be adjusted by the audiologist or by another health professional.

[0005] In instances where the individual's hearing loss varies across frequencies, such hearing aids can be tuned by an audiologist, for example, to compensate for the unique variations of the individual's hearing loss. The audiologist or health professional typically takes measurements using calibrated and specialized equipment to assess an individual's hearing capabilities in a variety of sound environments, and then adjusts the hearing aid based on the calibrated measurements to compensate for the individual's hearing loss. Subsequent adjustments to the hearing aid can require additional measurements and further calibration, which can be costly and time intensive.

[0006] However, for some users, the transition from not wearing a hearing aid to wearing a hearing aid can be traumatic. In particular, sounds that the user is not accustomed to hearing can suddenly be made audible to the user by the hearing aid. Some individuals, such as those wearing hearing aids for the first time, can experience psychological distress when hearing is restored to a normal level after years of suffering from hearing loss. Due to such distress, the first time user may have a difficult time adjusting to the hearing aid, and may give up on hearing aids altogether.

#### BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 is a graph illustrating a representative example of decibel level (in dB) versus frequency (in Hertz) for a representative hearing sensitivity threshold, a representative user's hearing deficit, and a series of incremental adjustments to advance the user's hearing from the user's hearing deficit level to an adjusted hearing level associated with a hearing aid profile.

[0008] FIG. 2 is a block diagram of an embodiment of a hearing aid system for providing incremental hearing correction adjustments.

[0009] FIG. 3 is a flow diagram of an embodiment of a method for incrementally adjusting the hearing correction of a hearing aid.

[0010] FIG. 4 is a flow diagram of a second embodiment of a method for incrementally adjusting the hearing correction of a hearing aid.

[0011] In the following description, the use of the same reference numerals in different drawings indicates similar or identical items.

#### DETAILED DESCRIPTION OF ILLUSTRATIVE EMBODIMENTS

[0012] Embodiments of a hearing aid and methods are described below that provide an incremental or progressive hearing adjustment for a user particularly for easing the transition from not wearing a hearing aid to wearing a hearing aid. In particular, rather than abruptly implementing the hearing correction for the user immediately, the hearing aid progressively applies incremental adjustments to progressively or gradually adjust the user's experience from an uncompensated hearing level to a fully compensated hearing level. Such incremental adjustments allow the user to become accustomed to the hearing compensation in small increments over time, thereby reducing the psychological and/or physical distress associated with an abrupt transition from uncompensated to corrected hearing.

[0013] As used herein, the term "hearing aid profile" refers to a collection of acoustic configuration settings for a hearing aid, such as hearing aid 202 depicted in FIG. 2, which are used by a processor 210 (in FIG. 2) to shape acoustic signals to correct for a user's hearing loss. The shaped acoustic signals (or modulated output signals) are provided to a speaker or bone conduction element for reproduction for a user. Each of the hearing aid profiles are designed to compensate for the hearing loss of the user based on the user's particular hearing characteristics (impairment). In particular, processor 210 can apply a particular hearing aid profile that is customized for the particular user to compensate for hearing deficits of the user or otherwise enhance the sound-related signals. The hearing aid profile includes parameters that configure the hearing aid 202. For example, such parameters can include signal amplitude and gain characteristics, signal processing algorithms, frequency response characteristics, coefficients associated with one or more signal processing algorithms, or any combination thereof.

[0014] In some instances, one or more of the hearing aid profiles may also include filters and/or further adjustments configured to compensate the user's hearing impairment for a particular sound environment. In such instances, the hearing aid profile may be configured based on the user's hearing impairment and based on a particular environmental model.

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[0015] As used herein, the term “hearing correction filter” refers to a collection of filters for hearing aid 202, which are applied by processor 210 within hearing aid 202 to a hearing aid profile to reduce the level of correction provided to the user by application of the hearing aid profile. The collection of hearing correction filters may include a series of hearing correction adjustments designed to be applied in a sequence over a period of time to provide incremental corrections for the user’s hearing loss to ease the user’s transition from uncompensated to corrected hearing. In such an instance, a first hearing correction filter attenuates the hearing aid profile by a pre-determined amount, limiting the adjustment provided by hearing aid 202. Each of subsequent hearing correction filter in the sequence increases the correction provided by (decreases the attenuation applied to) the hearing aid profile to some degree, until the sequence is complete and the hearing aid profile is fully applied to provide the desired hearing correction for the user. In an embodiment, an initial filter may decrease the compensation to allow hearing aid 202 to provide almost no correction initially. In this instance, the selected hearing aid profile represents a desired hearing compensation. Processor 210 can implement an algorithm to dynamically generate a plurality of intermediate filters that can be applied over a period of time to ease the user’s transition. Alternatively, such filters can be created by a hearing health professional.

[0016] As used herein, the term “incremental hearing correction” refers to a collection of acoustic configuration settings for hearing aid 202 (such as a hearing aid profile described above), which are used by processor 210 within hearing aid 202 to shape acoustic signals to correct for a user’s hearing loss. Each of the incremental hearing corrections represents an intermediate hearing adjustment to provide a modulated output signal having a level that is within a range between an uncompensated output level and the desired output level. In one embodiment, the incremental hearing corrections can be formed by applying one or more hearing correction filters to a selected hearing aid profile to produce the intermediate hearing aid profiles. In another embodiment, the incremental hearing corrections can be programmed by a hearing health professional. In still another embodiment, the incremental hearing corrections can be calculated dynamically as a function of a difference in decibels between the uncompensated level and the desired output level. The incremental hearing corrections are selectively applied over a period of time based on the length of time the user has been using hearing aids. In another

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embodiment, the incremental hearing corrections include a series of hearing correction profiles designed to be applied in a sequence to provide incremental correction for the user's hearing loss. For example, the incremental hearing corrections are applied, one at a time for periods of time, to slowly adjust the hearing correction of the hearing aid until a desired hearing level is reached to allow time for the user to become accustomed to the corrected hearing level. In another example, incremental hearing corrections may be generated from a difference between a selected hearing aid profile and a level corresponding to no hearing correction using an algorithm for defining intermediate profiles based on a variable such as time or user-requested increments. FIG. 1 is a graph 100 of a representative example of decibel level (in dB) versus frequency (in Hertz) depicting an embodiment of a representative hearing sensitivity threshold, a representative user's hearing deficit, and a series of incremental adjustments to advance the user's hearing from the user's hearing deficit level to an adjusted hearing level associated with a hearing aid profile. A normal hearing sensitivity threshold is represented on the graph 100 by a straight line at a -20dB level, which is generally indicated at 102. Any hearing sensitivity at or above hearing sensitivity threshold 102 would be considered "normal" on an audiogram. The user's actual hearing levels are represented on the graph 100 by a hearing loss line 106. Hearing loss line 106 represents a particular user's actual hearing sensitivity, i.e., the user's uncompensated hearing. Under normal operating conditions, hearing aid 202 (depicted in FIG. 2) would apply a selected hearing aid profile that is customized to compensate for the user's hearing impairment to correct the user's hearing so that the user's hearing sensitivity would correspond to hearing aid profile correction line 108. In other words, hearing aid profile correction line 108 represents a desired (final or fully compensated) hearing correction for the user, which can be achieved by applying a selected hearing aid profile to sound signals using a processor of a hearing aid.

[0017] The graph 100 also includes a plurality of intermediate hearing sensitivity levels that fall within a range between hearing loss line 106 and hearing aid profile correction line 108, which intermediate hearing sensitivity levels are achieved by applying hearing correction filters to the selected hearing aid profile and/or by applying incremental hearing corrections to the audio signal to provide incremental (progressive) hearing adjustments. Each of the intermediate hearing sensitivity lines 110, 112, 114, 116, and 118 represents one or more adjustments to

enhance the user's hearing sensitivity by applying an incremental hearing filter the selected hearing aid profile, reducing its hearing correction by a predetermined amount. In the illustrated example, the plurality of incremental hearing corrections (or hearing correction filters) are applied in a sequence to produce hearing sensitivity lines 110, 112, 114, 116, and 118, over a period of time, gradually adjusting the hearing correction from the user's uncompensated hearing level at hearing loss line 106 to the desired hearing level represented by the hearing aid profile correction line 108.

[0018] In the illustrated example, the hearing sensitivity lines 110, 112, 114, 116, and 118 appear to indicate that the incremental hearing corrections adjust selected frequencies to the desired hearing level while providing less of an enhancement to other frequencies. However, it should be understood that other incremental hearing corrections could be used. For example, in one particular instance, the incremental hearing correction could dampen or otherwise apply filters to the selected hearing aid profile to incrementally adjust the hearing correction across the entire range of frequencies substantially evenly. In another instance, the incremental hearing correction could adjust selected frequencies by different amounts, providing a non-uniform hearing correction.

[0019] In a particular example, the user or an audiologist may select a hearing aid profile, such as the hearing aid profile associated with correction line 108, to configure a hearing aid, such as hearing aid 202 depicted in FIG. 2. The hearing aid profile is applied by a processor of the hearing aid to modulate the audio output signal to compensate for the user's hearing impairment represented by the user's hearing loss line 106, which indicates impairment of the user's acoustic sensitivity at higher frequencies. In conventional hearing aids, the hearing aid would immediately apply the hearing aid profile to correct the user's hearing up to hearing aid profile correction line 108.

[0020] However, in embodiments of the hearing aid system described below, instructions executable by a processor of computing device 222, hearing aid 202, or another system may be used to produce multiple correction levels, which can be applied to the selected hearing aid profile, to make the hearing compensation more gradual to allow time for the user to become accustomed to the hearing aid and its audio compensation, easing the user into hearing aid by



compensating the audio output a little bit at a time, reducing the potential shock from a drastic change in hearing conditions.

[0021] In this example, a first incremental hearing correction may be applied initially to provide a hearing sensitivity corresponding to intermediate hearing line 110. After a period of time has passed or a trigger is received, hearing aid 202 applies a second incremental hearing correction, resulting in correction up to a second intermediate hearing line 112, further increasing the users hearing experience. The hearing aid continues applying the incremental hearing corrections to provide progressively enhanced hearing sensitivity as indicated intermediate hearing lines 112 and 114 and so on until the desired correction level of the selected hearing aid profile is reached, as indicated by hearing aid profile line 108.

[0022] By gradually adjusting the hearing correction over time through the sequential application of incremental hearing corrections (or through sequential application of hearing correction filters to the selected hearing aid profile), the hearing aid allows the user to gradually become acclimated to each acoustic adjustment before a next adjustment is applied, increasing the likelihood that the user will accept and continue to use the hearing aid. It should be understood that graph 100 in FIG. 1 depicts only a few hearing sensitivity levels corresponding to a few incremental hearing corrections corresponding to increments up to a particular hearing aid profile; however, any number of increments may be provided, depending on a number of factors including the specific implementation, the magnitude of the difference between the user's hearing level 106 and the hearing aid profile line 108, a pre-configured setting, or any number of other factors. Further, hearing correction filters can be applied to each hearing aid profile to produce a plurality of incremental hearing corrections for a give hearing aid profile. Thus, in operation, if hearing aid is switched from a first hearing aid profile to a second hearing aid profile, the currently selected hearing correction filter can be applied to the second hearing aid profile to continue to provide the desired, gradually progressive hearing adjustment.

[0023] Additionally, it should be appreciated that graph 100 represents an illustrative example only, and that other hearing aid profiles and other, more complex, incremental hearing correction lines (patterns or curves) may be used. Further, it should be understood that the filter or correction used to achieve the correction lines and ultimately the hearing aid profile is composed

of a plurality of coefficients, parameters, or other settings that are applied by a processor of the hearing aid to alter various characteristics of the sounds to modulate them to compensate for the user's hearing impairment.

**[0024]** FIG. 2 is a block diagram of an embodiment of a system 200 including a hearing aid 202 adapted to communicate with a computing device 252, either of which or both of which may be adapted to provide an incremental adjustment to a selected hearing aid profile. Hearing aid 202 includes a transceiver 216 that is configured to communicate with computing device 252 through a communication channel, which can be wired or wireless. In some instances, the communication channel can be a Bluetooth® communication channel. In some embodiments, transceiver 216 may be configurable to connect to a network 230 for receiving hearing aid profiles, filters, adjustment modules updates, incremental hearing corrections, other data, or any combination thereof. Hearing aid 102 also includes a processor 210 connected to transceiver device 216 and to a microphone 212 and a speaker 214. Hearing aid 202 further includes a memory 204 connected to processor 210 and configured to store processor executable instructions (signal processing instructions), parameter adjustment logic, one or more hearing aid profiles 218, one or more hearing correction filters 220, incremental adjustment logic 222, and incremental hearing corrections 224.

**[0025]** Computing device 252 is a personal digital assistant (PDA), smart phone, portable computer, tablet computer or other computing device adapted to send and receive radio frequency signals according to any protocol compatible with hearing aid 202. Representative examples of computing device 252 include the Apple iPhone®, which is commercially available from Apple, Inc. of Cupertino, California and the Blackberry®, available from Research In Motion Limited of Waterloo, Ontario. Other types of mobile telephone devices with short range wireless capability can also be used.

**[0026]** Computing device 252 includes a transceiver 264, which is connected to a processor 260, such that processor 260 may send and receive data packets to and from hearing aid 202 via transceiver device 264. Processor 260 is connected to a display interface 258 for displaying information to a user and to an input interface 256 for receiving user input. In some embodiments, a touch screen display may be used, in which case display interface 258 and input

interface 256 are combined. Computing device 252 further includes a network interface 266 that is configurable to connect to a network, such as the Internet. In an example, a user may interact with input interface 256 to cause computing device 252 to interact with the network, for example, to download hearing aid profiles, hearing correction filters, updated incremental adjustment instructions, and/or incremental hearing corrections from a remote device, such as a computer server.

[0027] Computing device 252 includes a memory 254, which is accessible by a processor 260. Memory 254 stores a plurality of instructions that are executable by processor 260, including graphical user interface (GUI) generator instructions. Memory 254 further includes a plurality of hearing aid profiles 270, hearing correction filters 272, incremental adjustment module 274, and incremental hearing corrections 276. Memory 254 may store a larger number of hearing aid profiles 270, hearing correction filters 272, and incremental hearing corrections 276 than memory 204, and processor 260 may selectively provide a desired hearing aid profile, hearing correction filter and/or incremental hearing correction to hearing aid 202 through the communication channel.

[0028] In an example, hearing aid 202 stores a selected hearing aid profile 218 and one or more hearing correction filters 220 in memory 204. In this instance, processor 210 selectively applies each a selected one of the hearing correction filters 220 to the selected hearing aid profile 218 to provide an incremental hearing correction for a period of time before advancing to a next incremental hearing correction by applying a next hearing correction filter 220 in a sequence. Thus, processor 210 selectively provides incremental hearing improvements to progressively enhance the user's hearing experience.

[0029] In a second example, hearing aid 202 stores the selected hearing aid profile 218 and one or more incremental hearing corrections 224. In this instance, processor selectively applies a selected one of the incremental hearing corrections 224 to provide an incremental hearing adjustment for a period of time before advancing to a next one of the incremental hearing corrections 224 in a sequence. Thus, processor 210 selectively provides incremental hearing improvements to progressively enhance the user's hearing experience.

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[0030] In a third example, hearing aid 202 stores the selected hearing aid profile 218 and data related to the user's hearing impairment. During operation, processor 210 dynamically calculates a number of increments based on a difference between a normal hearing level and a hearing level associated with the user. The processor 210 then uses the number of increments to subdivide the difference into adjustment increments. Processor 210 can use the adjustment increments to dynamically generate incremental hearing corrections, each of which can be applied for a period of time before advancing to a next incremental hearing correction in a sequence. Thus, processor 210 selectively provides incremental hearing improvements to progressively enhance the user's hearing experience.

[0031] In a fourth example, hearing aid 202 receives a trigger from computing device 252 through the communication channel. In response to the trigger, processor 210 either selects an incremental hearing correction 224, selects a filter from hearing correction filters 222 for application to a selected hearing aid profile 218 to produce an incremental hearing correction, or extracts an incremental hearing correction from the trigger. Once the incremental hearing correction is determined, processor 210 applies the incremental hearing correction to modulate an output signal to a hearing sensitivity level that is between an uncompensated hearing level and a normal hearing level. Processor 210 may receive subsequent triggers and perform a similar operation to progressively advance the output level toward normal hearing levels.

[0032] Thus, hearing aid 202 eases the user into the desired hearing level provided by the selected hearing aid profile over a period of time, reducing the psychological shock to the user of an abrupt change and reducing the probability that the user will reject the use of hearing aids altogether. In an alternative example, processor 210 or 260 may begin with the user's hearing level and dynamically generate incremental hearing corrections until a level associated with a selected hearing aid profile is reached. By dynamically creating each of the incremental hearing correction profiles for easing the user into normal hearing levels, the memory consumption is reduced and a wider range of increments can be provided, that can be more narrowly tailored to the user's actual hearing ability.

[0033] In general, either hearing aid 202 or computing device 252 may monitor the incremental hearing corrections. In a first embodiment, processor 210 in hearing aid 202 will monitor a clock

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in hearing aid 202 and record the number of cycles in memory 204, thus establishing and tracking a time base. Once the number of clock cycles stored in memory 204 exceeds a preset limit (or threshold), processor 210 generates a trigger, causing processor 210 to apply a next hearing correction in the sequence and to reset the clock counter. In a second embodiment, processor 210 may generate a trigger based on a calendar, such as a number of hours, days, weeks, or a specific date. For example, processor 210 may generate a trigger every day, every week, every Tuesday, every 12 hours, or periodically with respect to some other time increment. The length of each period in this case could be programmed by the user using input interface 256 of computing device, providing more user-control and allowing the user to customize the adjustment process.

**[0034]** In an alternative example, processor 260 in computing device 252 generate triggers and send a signal including the trigger to hearing aid 202 through the communication channel, causing processor 210 to apply the incremental hearing correction profile. Processor 260 may, as described above with respect to processor 210, monitor a number of clock cycles during which hearing aid 202 is in use or use a calendar to determine when to generate a trigger for hearing aid 202, for example, based on numbers of days, weeks, hours, etc. By utilizing processor 260 instead of processor 210 in hearing aid 102, substantial processing and memory storage can be offloaded to computing device 252, saving space, battery life, and processing power for hearing aid 202. Further, processor 260 may provide the incremental hearing correction to hearing aid 202 as part of the trigger.

**[0035]** Additionally, computing device 252 may utilize display interface 258 and input interface 256 to allow a user to generate the trigger. In this embodiment, the user selects an icon, menu item, or other selectable element to launch an application that produces a graphical user interface (GUI) and provides it to display interface 258. The user interacts with the GUI through input interface 256 to cause computing device 252 to communicate the trigger to hearing aid 202 so that the hearing aid 202 applies the next incremental hearing correction.

**[0036]** As mentioned above, a trigger is a command executable by processor 210 of hearing aid 202, causing processor 210 to apply the next incremental hearing correction profile to shape

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sound. In some instances, the trigger may also include the incremental hearing correction to be applied. For example, if the incremental hearing corrections are stored in memory 254 on computing device 252, processor 260 may transmit a selected one of the incremental hearing corrections 276 to hearing aid 202 through the communication channel. Either hearing aid 202 or computing device 252 may keep a record of which incremental hearing correction is next in the sequence.

[0037] Once a trigger is received by hearing aid 202, processor 210 obtains the next incremental hearing correction either from hearing aid corrections 224 in memory 204 or from the trigger received from computing device 252. In some instances, hearing aid 202 may signal computing device 252 to retrieve the next incremental hearing correction from incremental hearing corrections 276 in memory 254. Once processor 210 has received the selected incremental hearing correction, processor 210 applies it to shape the sound input received from microphone 212 to produce a modulated output signal for reproduction for the user by speaker 214.

[0038] In general, system 200 is configurable to apply hearing aid corrections 224 and/or hearing aid corrections 276 received from computing device 252 over a period of time, with each progressive adjustment following an acclimation period for the user to become acclimated to the adjusted audio signal before a next progressive adjustment is applied. However, it should be appreciated that the incremental hearing corrections 224 or 276 within a sequence may not be uniformly distributed over the range of acoustic levels between the uncompensated hearing level and a normal hearing level. Further, the amount of time that a particular incremental hearing correction is applied before moving to the next incremental correction may also vary. In one instance, the amount of time is longer for larger incremental hearing corrections as compared to smaller incremental hearing corrections. In another instance, the amount of time becomes progressively shorter as the incremental hearing corrections approach the hearing correction provided by the selected hearing aid profile.

[0039] In a particular embodiment, incremental hearing corrections 224 and 276 are generated by applying hearing correction filters 222 and 274 to a selected one of hearing aid profiles 218 or 270, respectively. In this instance, hearing aid 202 may switch from a first hearing aid profile to

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a second hearing aid profile based on environmental sound conditions or based on user input. In response to switching to the second hearing aid profile, the currently applied hearing correction filter is applied to the second hearing aid profile to attenuate the second hearing aid profile. Thus, the progressive hearing adjustment can continue across different hearing aid profiles over time until the user's hearing is fully compensated by hearing aid 202.

**[0040]** In one embodiment, processor 210 or processor 260 can divide a selected hearing aid profile into increments, beginning with a zero-adjustment point corresponding to the user's uncompensated hearing loss and ending at a fully-compensated hearing level, such as that provided by unattenuated application of a selected hearing aid profile. In the alternative the incremental hearing corrections 224 may be programmed by a hearing instrument specialist, audiologist, or ENT (ear nose and throat doctor) or generated by a remote computing device and downloaded onto computing device 252 via the network 230 (such as the Internet). In this instance, the number of incremental hearing corrections 224 or 276 can be a pre-determined number or can be determined based on an incremental correction limit per increment. In this latter instance, the number of increments can be determined by the magnitude of the correction; therefore, the number of increments varies based on the magnitude of the hearing correction provided by the hearing aid profile relative to a zero-adjustment baseline. In another embodiment, hearing correction filters 222 or 272 can be generated by a hearing instrument specialist, audiologist, or ENT or downloaded via the network 230. Hearing correction filters 222 or 272 may be attenuation filters designed to incrementally attenuate or dampen the adjustment provided by a selected hearing aid profile, such that each hearing correction filter provides incrementally less attenuation than a previous hearing correction filter in the sequence until the hearing aid profile is applied fully. In this instance, application of a hearing correction filter to a hearing aid profile produces an incremental hearing correction.

**[0041]** Once the filters are generated, processor 210 selectively applies a selected one of the incremental hearing correction filters to the selected hearing aid profile for a period of time before advancing to a next incremental hearing correction filter in the sequence, providing incremental hearing adjustments from the uncompensated baseline to the fully-compensated hearing experience provided by the unfiltered hearing aid profile. Thus, hearing aid 202 eases

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the user into the desired hearing correction over a period of time, reducing the shock to the user and reducing the probability that the user will reject hearing aid 202 altogether.

[0042] In general, either hearing aid 202 or computing device 252 may monitor the incremental hearing correction steps. In an embodiment, processor 210 in hearing aid 202 will monitor a clock signal in hearing aid 202 and count the number of cycles in memory 204. Once the number of clock cycles exceeds a preset limit (or threshold), processor 210 is triggered to apply a next hearing correction filter in the sequence and to reset the clock counter. In another embodiment, processor 210 may generate a trigger based on a pre-defined calendar schedule, such as a number of days or weeks or a specific date. In an alternative embodiment, processor 260 in computing device 252 generates triggers (either automatically or initiated by the user through display interface 258 and input interface 256) and sends a signal including the trigger to hearing aid 202 through the communication channel, causing processor 210 to apply the incremental hearing correction filter to the selected hearing aid profile.

[0043] Once a trigger is received by hearing aid 202, processor 210 obtains the next incremental hearing filter either from one or more incremental hearing filters 220 in memory 204 or from a signal received from computing device 352. In some instances, hearing aid 202 may signal computing device 252 to retrieve the incremental hearing filter 276 from one or more incremental hearing filters 376 in memory 354. Once processor 210 has received the next incremental hearing filter, processor 210 applies it to the selected hearing aid profile to generate a set of instructions to shape sound input received from microphone 212 to produce a modulated output signal for reproduction for the user by speaker 214.

[0044] While FIG. 2 depicts a block diagram of one possible system for providing an incremental hearing correction using hearing correction profiles, such a system can be used to implement a wide array of methods. One possible example of a method of applying a hearing correction setting is described below with respect to FIG. 3.

[0045] FIG. 3 is a flow diagram of an embodiment of a method 300 for incrementally adjusting the hearing correction of a hearing aid. At 302, a trigger is received to adjust a hearing aid to apply the next incremental hearing correction. The next incremental hearing correction



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represents a next incremental hearing correction in a progressive sequence of incremental hearing corrections that can be used to gradually adjust the user's hearing aid experience from an uncompensated sound experience to a fully compensated sound experience. The incremental hearing correction may be a hearing correction profile executed by the processor in the hearing aid or a hearing correction filter applied to the hearing aid profile executed by the processor in the hearing aid. Alternatively, the hearing correction settings may be stored as incremental hearing corrections and/or generated by a computing device and sent to the hearing aid as part of the trigger. The trigger is a command executable by a processor in the hearing aid. In some instances, the trigger may also include the next incremental hearing correction setting or an identifier thereof to allow the hearing aid to retrieve the next incremental hearing correction from memory. Either the hearing aid or a computing device may keep a record of which is the next incremental hearing correction setting to apply when a trigger is received. A trigger may be generated by a circuit within the hearing aid, by a process executing on the hearing aid, or by an external source, such as the computing device.

[0046] Several methods of generating a trigger are contemplated. In one embodiment, the processor in the hearing aid or the processor in the computing device monitors clock cycles and record the number of cycles in memory. Once the number of clock cycles exceeds a preset limit, the process generates a trigger and resets the clock counter to zero, providing a periodic signal, such as every 10 hours. In a second embodiment, the processor may generate a trigger based on a calendar. For example, a trigger may be generated every day or every week. In another embodiment, the period of time is programmable by the user. In still another embodiment, the period is preset by the audiologist or hearing health professional. In yet another embodiment, the trigger may be user initiated. For example, the user may utilize an external device, such as the computing device to trigger the next incremental hearing correction setting via a user interface. The user selection could then be communicated to the hearing aid.

[0047] Proceeding to 304, the processor in the hearing aid determines if the hearing correction setting is already compensating the user at a desired level of hearing. If the hearing correction is already at a desired level, method 300 proceeds to 306 and the processor in the hearing aid provides an user alert indicating to the user that hearing is at desired levels and that the adjustment process is complete. In an example, the alert may be an audible alert reproduced

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through a speaker of hearing aid. Alternatively, the alert may be sent to the computing device for display on the display interface. In yet another embodiment, the alert may be intended to notify the processor in the hearing aid or the processor in the computing device that the progressive adjustment process is complete, no further adjustments are needed or should be scheduled, and that the automatic adjustment process may terminate. In some instances, the alert may configure a register setting that disables the progressive (incremental) adjustment.

[0048] If at 304 the processor determines that the current hearing correction setting is not at the desired levels, the method 300 proceeds to 308 and a next incremental hearing correction setting is used to adjust the hearing correction by one or more increments. The incremental hearing correction setting may be retrieved from a memory on hearing aid, may be dynamically generated by applying a next hearing correction filter in a sequence of filters to the selected hearing aid profile, or may be included in the trigger received from the computing device.

[0049] Continuing to 310, the processor in the hearing aid applies the incremental hearing correction to the hearing aid. In an example, the processor in the hearing aid uses the incremental hearing correction to shape the input sound received at a microphone to produce a shaped output signal, which is at an intermediate output level and which will be played to the user through a speaker.

[0050] In some instances, it may be desirable to provide the incremental adjustment during an initial period after the user begins using the hearing aid and then to disable to incremental adjustment capability thereafter. An example of a method for providing the incremental adjustment during a first period and for disabling the incremental adjustment after the first period is described below with respect to FIG. 4.

[0051] FIG. 4 is a flow diagram of a second embodiment of a method 400 for incrementally adjusting the hearing correction of a hearing aid. At 402, on startup, the hearing aid determines a time in use, such as based on a number of clock cycles. After transition period, the user will have become accustomed to the hearing correction provided by the hearing aid, and will no longer need the incremental adjustments. The period of time may be configured by a user, determined based on the amount of correction required, programmed by a hearing health professional, or pre-programmed by the device manufacturer.

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[0052] At 404, if the time exceeds a transition threshold, the method 400 advances to 406 and a processor of the hearing aid applies a selected hearing aid profile to modulate an audio output of the hearing aid. Otherwise, at 404, if the time does not exceed the transition threshold, the method 400 advances to 408 and an incremental hearing correction is selected from a sequence of incremental hearing corrections, where the incremental hearing correction is configured to modulate the audio output to an audio output level between an uncorrected hearing level and a corrected hearing level achieved by applying the selected hearing aid profile.

[0053] Moving to 410, the processor of the hearing aid applies the selected incremental hearing correction to audio signals to modulate the audio output of the hearing aid. Continuing to 412, a time from application of the selected incremental hearing correction is monitored. At 414, if the time does not exceed an increment threshold, the method 400 returns to 412 and time continues to be monitored.

[0054] At 414, if the time exceeds the increment threshold, the method 400 proceeds to 416. At 416, if there is no other incremental hearing correction in the sequence, the method 400 continues to 406 and the selected hearing aid profile is applied. Otherwise, at 414, if there is another incremental hearing correction, the method 400 advances to 418 and an incremental hearing correction that is next is selected from the sequence, where the selected incremental hearing correction is configured to modulate the audio output to a next audio output level that is closer to the corrected level than that provided by the previously applied incremental hearing correction. The method 400 then returns to 410 and the selected incremental hearing correction is applied to modulate the audio output of the hearing aid.

[0055] In conjunction with the systems and methods described above with respect to FIGs. 2-4, a system is disclosed that allows a hearing aid to incrementally adjust the hearing correction for a user over a period of time to ease the user to a “normal” hearing level. As described above, a sequence of incremental hearing corrections are applied over a period of time to progressively advance the quality of the user’s hearing from an uncompensated state to a normal hearing level.

[0056] Although the present invention has been described with reference to preferred embodiments, workers skilled in the art will recognize that changes may be made in form and detail without departing from the scope of the invention.

WHAT IS CLAIMED IS:

## 1. A hearing aid comprising:

a microphone to convert sound into an electrical signal;  
a processor coupled to the microphone, the processor configured to apply a selected one of a sequence of incremental hearing corrections to the electrical signal to produce a modulated output signal to at least partially compensate for a hearing impairment of a user; and  
a speaker coupled to the processor and configured to convert the modulated output signal into an audible sound.

2. The hearing aid of claim 1, wherein each of the incremental hearing corrections comprises a collection of acoustic configuration settings configured to modulate the electrical signal to a level that is within a range between an uncompensated hearing level of the user and a corrected hearing level of the user to produce the modulated output signal.

3. The hearing aid of claim 2, wherein the sequence of the incremental hearing corrections comprises:

a first hearing correction configured to modulate the electrical signal to a first level that is within the range; and  
at least one second hearing correction configured to modulate the electrical signal to a second level that is within a second range between the first level and the corrected hearing level of the user.

4. The hearing aid of claim 1, further comprising a memory to store a hearing aid profile configured to compensate for the hearing impairment of the user to produce the modulated output signal at a level corresponding to a corrected hearing level of the user.

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5. The hearing aid of claim 4, wherein the memory stores a plurality of hearing correction filters;  
wherein the processor is configured to selectively apply particular ones of the plurality of hearing correction filters to the hearing aid profile to generate the selected one of the plurality of incremental hearing corrections; and  
wherein the processor selectively applies another one of the plurality of hearing correction profiles to the hearing aid profile to generate another one of the plurality of incremental hearing corrections after a period of time.
6. The hearing aid of claim 4, wherein the memory includes the plurality of incremental hearing corrections.
7. The hearing aid of claim 1, further comprising:  
a transceiver coupled to the processor and configurable to communicate with a computing device through a communication channel during operation, the transceiver to receive a signal from the computing device and to provide the signal to the processor;  
wherein the processor applies the selected one of the sequence of incremental hearing corrections in response to receiving the signal.
8. The hearing aid of claim 7, wherein the signal includes the selected one of the sequence of incremental hearing corrections.
9. The hearing aid of claim 7, further comprising a memory to store the sequence of incremental hearing corrections; and  
wherein the signal includes an indicator identifying the selected one of the incremental hearing corrections within the sequence; and  
wherein, in response to receiving the signal, the processor retrieves the selected one of the incremental hearing corrections from the memory and applies the selected one to the electrical signals.

10. A computer-readable medium comprising instructions that, when executed by a processor, cause the processor to:
  - apply a first hearing correction to an electrical signal to produce a modulated output signal, the first hearing correction to partially compensate for hearing impairment of a user to a first level that is within a range between an uncompensated hearing level of the user and a corrected hearing level of the user;
  - determine an amount of time during which the first hearing correction is applied; and
  - selectively apply at least one second hearing correction to the electrical signal to produce the modulated output signal when the amount of time exceeds a pre-determined threshold.
11. The computer-readable medium of claim 10, wherein the pre-determined threshold is configurable by a user.
12. The computer-readable medium of claim 10, further comprising second instructions that, when executed by the processor, cause the processor to receive the first hearing correction and the at least one second hearing correction from a transceiver configured to communicatively couple to a computing device during operation.
13. The computer-readable medium of claim 10, further comprising second instructions that, when executed by the processor, cause the processor to dynamically generate the first hearing correction and the at least one second hearing correction based on at least one of the hearing impairment of the user and a hearing aid profile including a collection of acoustic configuration settings for producing the modulated output signal at the corrected hearing level.

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14. A computing device comprising:

a transceiver configurable to communicate with a hearing aid through a communication channel;

a processor coupled to the transceiver; and

a memory coupled to the processor and configured to store instructions that, when executed by the processor, cause the processor to:

provide a signal related to a first hearing correction of a sequence of incremental hearing corrections to the hearing aid through the communication channel;

and

provide a second signal related to a next hearing correction of the sequence to the hearing aid when a period of time exceeds a threshold time increment.

15. The computing device of claim 14, wherein the memory stores further instructions that, when executed by the processor, cause the processor to:

initiate a timer to determine the period of time;

iteratively select and provide selection signals related to subsequent ones of the incremental hearing corrections from the sequence to the hearing aid when the period of time exceeds the threshold time increment; and

reset and restart the timer when each of the subsequent ones of the incremental hearing corrections is provided to the hearing aid.

16. The computing device of claim 14, wherein the threshold time increment varies with each of the incremental hearing corrections.

17. The computing device of claim 14, wherein the first signal and the second signal comprise triggers to initiate an adjustment to a currently selected incremental hearing correction executing on the hearing aid.

-22-

18. The computing device of claim 14, wherein the first hearing correction and the next hearing correction comprise collections of acoustic configuration settings for the hearing aid for modulating an audio output signal to compensate for a hearing impairment of a user, the next hearing correction representing an adjustment configured to modulate the audio output signal to an output level that is closer to a corrected hearing level than a first adjustment associated with the first hearing correction.

19. The computing device of claim 14, wherein the first signal and the second signal include the first hearing correction and the next hearing correction, respectively.

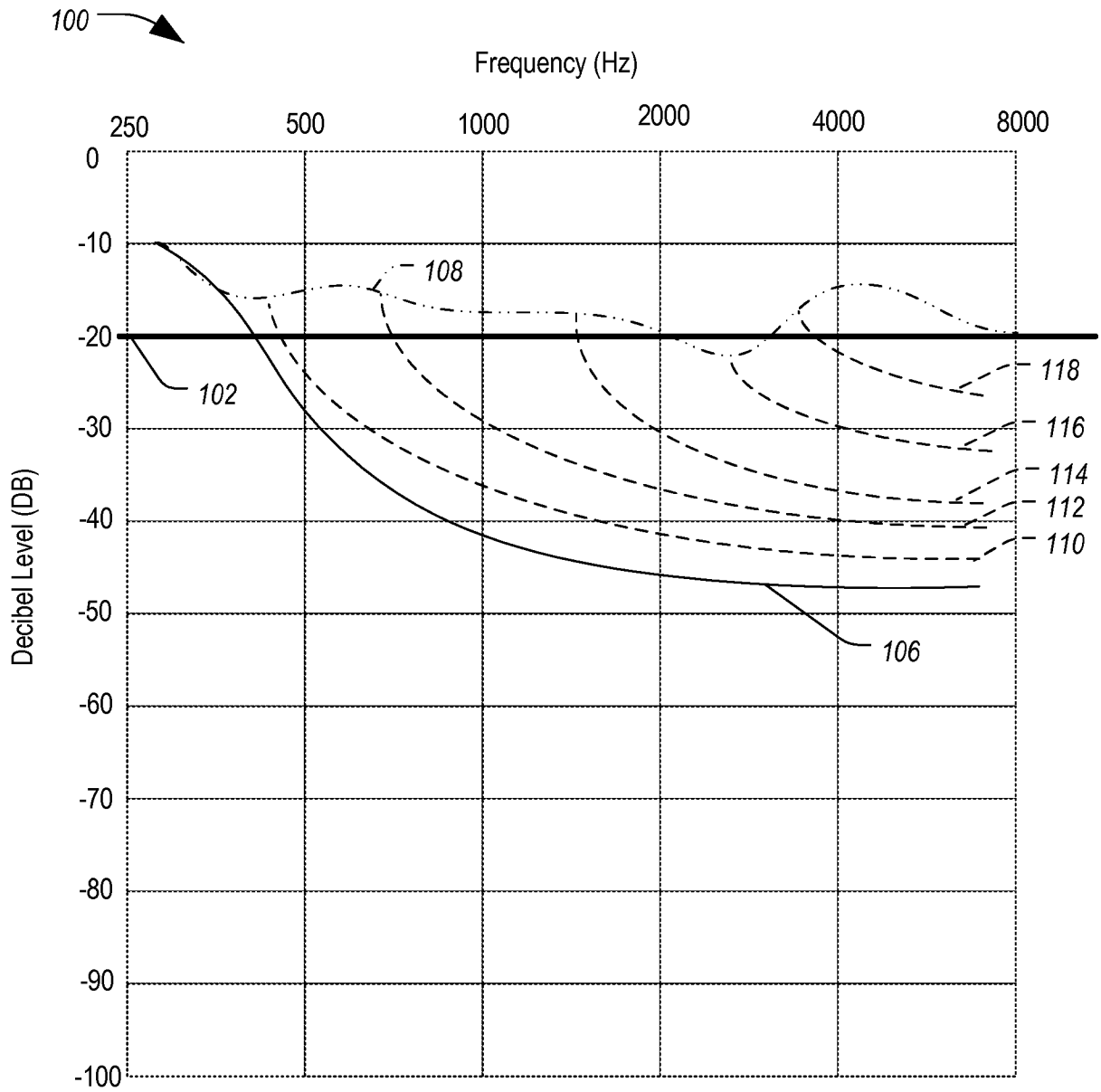
20. The computing device of claim 14, wherein the memory further comprises instructions that, when executed by the processor, cause the processor to progressively advance through the sequence of the incremental hearing corrections by providing each of the incremental hearing corrections to the hearing aid, one at a time, over a sequence of time increments to provide a progressive hearing aid adjustment from an uncompensated hearing level to a corrected hearing level to aid in the user in acclimating to the hearing aid.



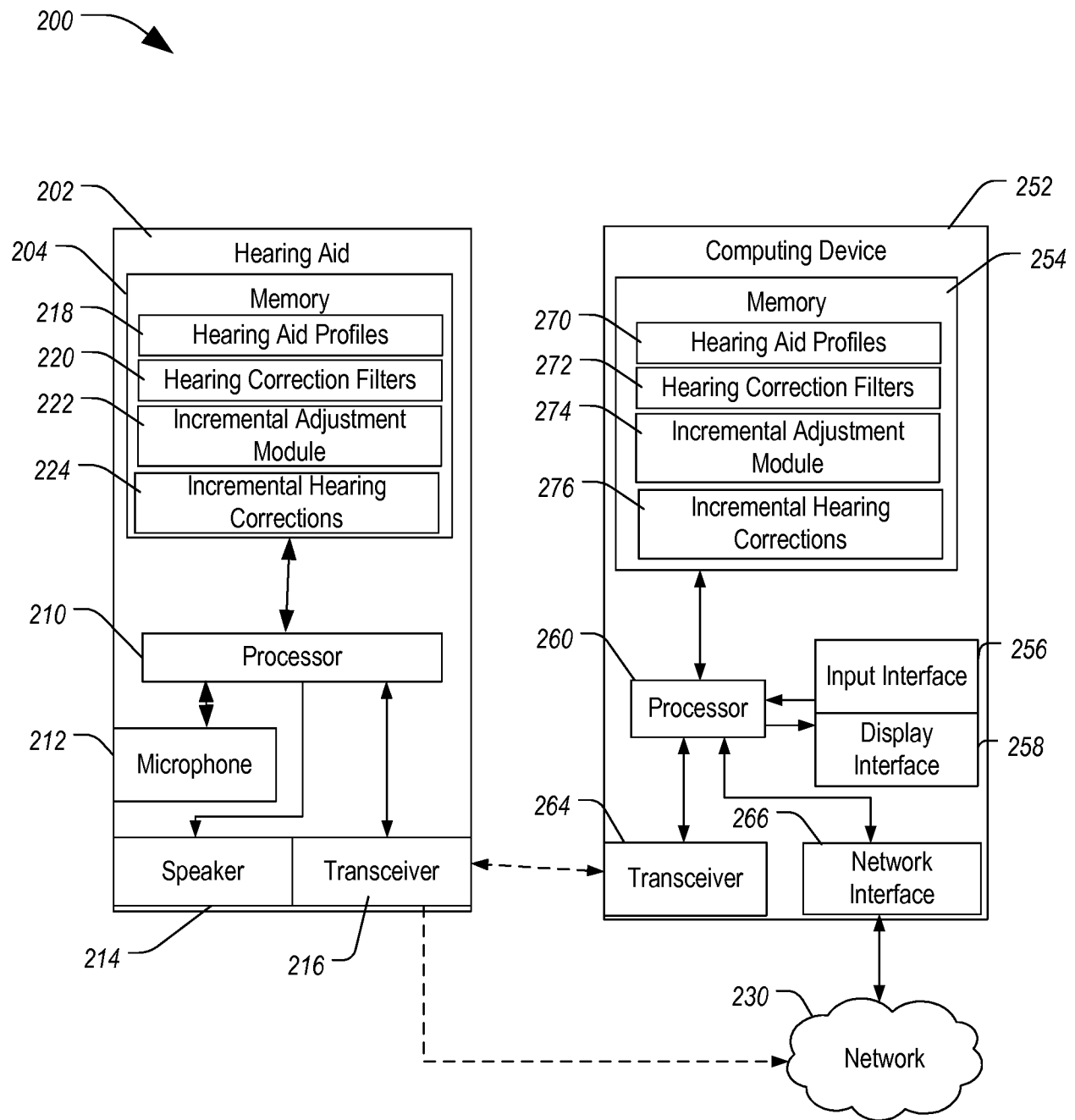
**System and Method of Progressive Hearing Device Adjustment**

## ABSTRACT OF THE DISCLOSURE

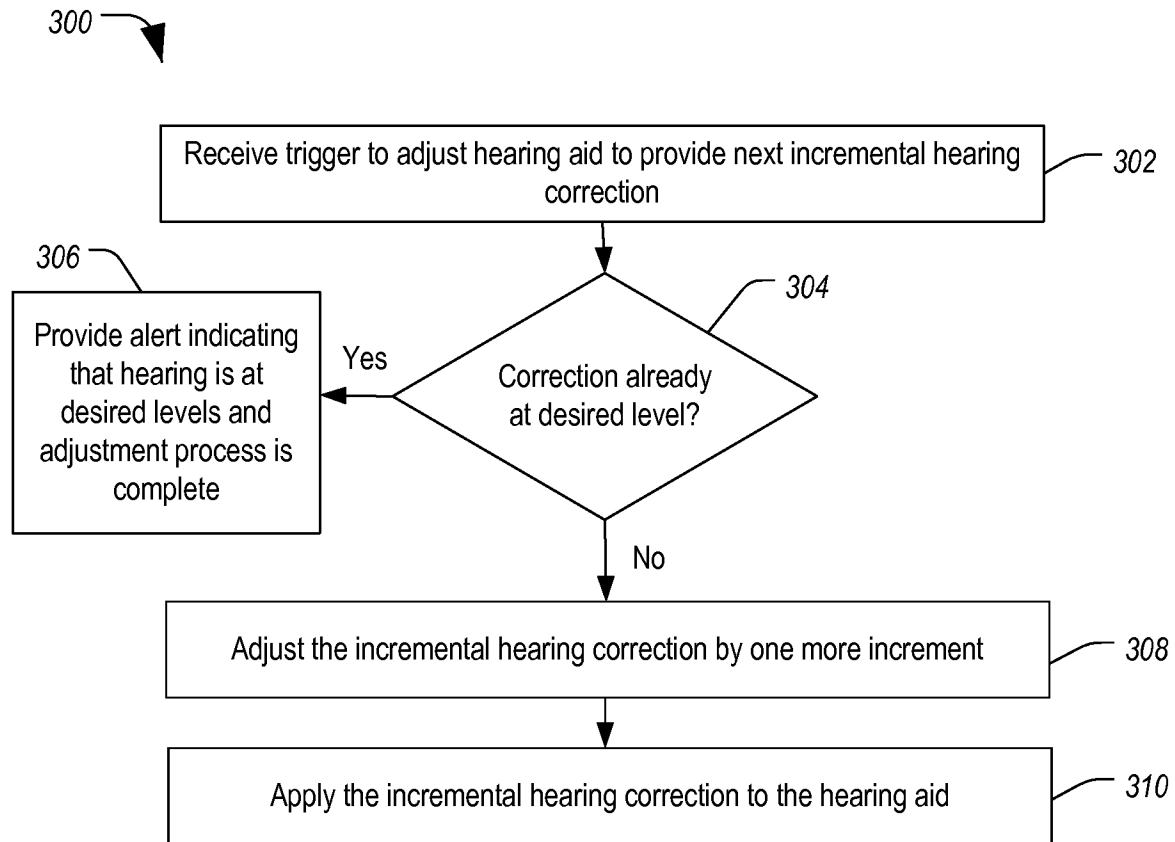
[0057] A hearing aid includes a microphone to convert sound into an electrical signal and a processor coupled to the microphone. The processor is configured to apply a selected one of a sequence of incremental hearing corrections to the electrical signal to produce a modulated output signal to at least partially compensate for a hearing impairment of a user. The hearing aid further includes a speaker coupled to the processor and configured to convert the modulated output signal into an audible sound.



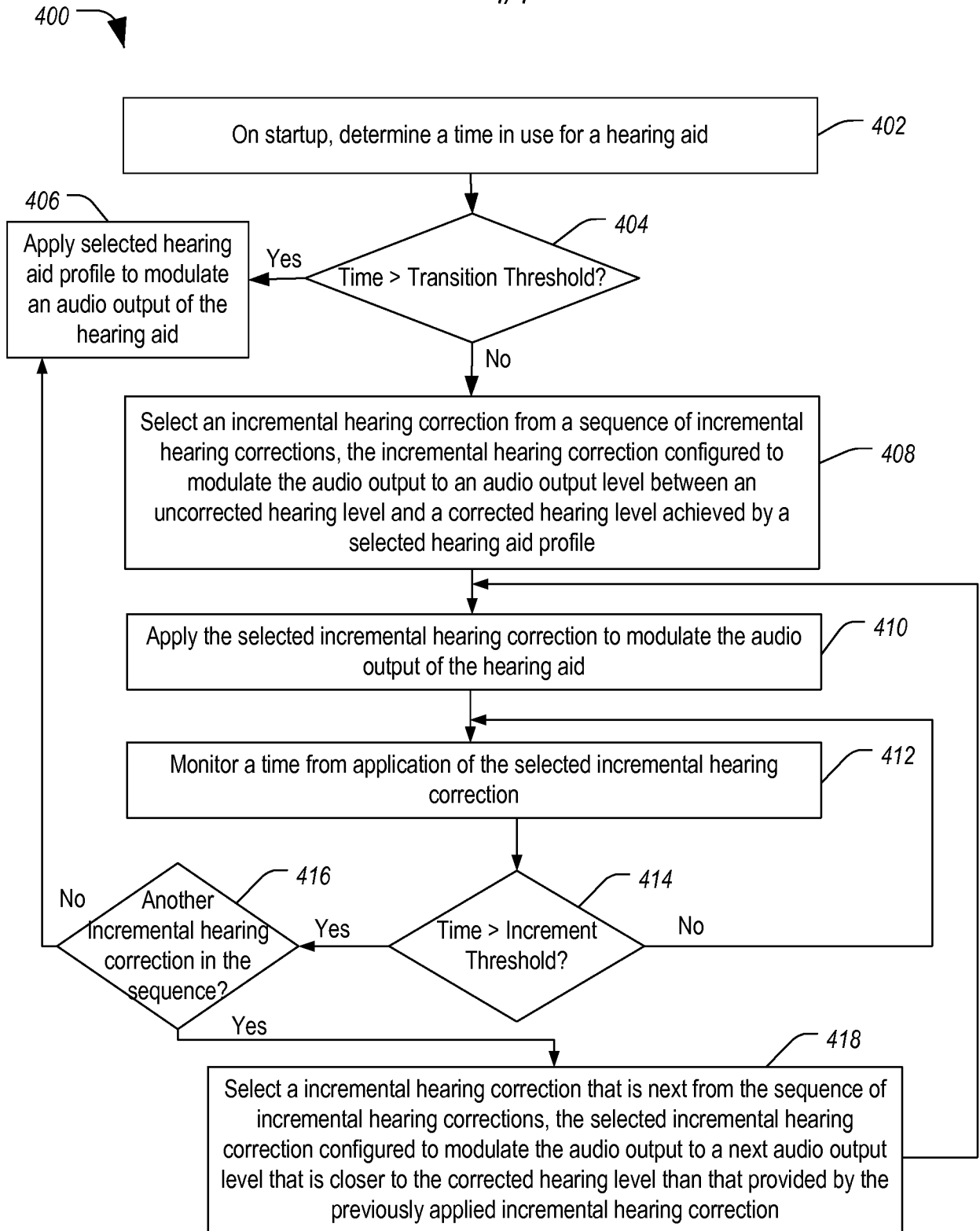
**FIG. 1**



**FIG. 2**



**FIG. 3**



**FIG. 4**

## DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below adjacent to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter that is claimed and for which a patent is sought by way of the application entitled

### SYSTEM AND METHOD OF PROGRESSIVE HEARING DEVICE

#### ADJUSTMENT

which (check)  is filed with this Declaration and Power of Attorney and marked with the above title and/or Attorney Docket Number, and which is the final application provided to me by POLANSKY & ASSOCIATES, PLLC

and is amended by the Preliminary Amendment attached hereto.

was filed on \_\_\_\_\_ as Application Serial No. \_\_\_\_\_

and was amended on \_\_\_\_\_ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified application, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate or under § 365(a) of any PCT international application(s) designating at least one country other than the United States of America, listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
Number	Country	Day/Month/Year Filed	Yes	No

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)
61/323,841	04/13/2010
61/350,759	06/02/2010

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which

became available between the filing date of the prior application and the national or PCT international filing date of this application.

U. S. Parent Application or PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)

I hereby appoint the attorney(s) and/or agent(s) associated with customer number **89320** to prosecute this application and to transact all business in the United States Patent and Trademark Office connected therewith.

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Title 18, United States Code, § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Please direct all correspondence concerning this application to the USPTO Customer Number, if provided, or otherwise to the firm named below:

## Customer Number 89320

### POLANSKY & ASSOCIATES, PLLC

12117 BEE CAVES ROAD, SUITE 160

AUSTIN, TEXAS 78738

Telephone: 512-777-2010

Facsimile: 512-777-2017

Full name of sole (or first joint) inventor: Harold S. Mindlin

Inventor's Signature: 

Residence: Austin, Texas

Post Office Address: 3808 Turkey Creek Drive  
Austin, TX 78730

Date: 9/11/11

Citizenship: US

Full name of sole (or second joint) inventor: David Matthew Landry

Inventor's Signature: \_\_\_\_\_

Residence: Austin, Texas

Post Office Address: 815A Brazos Street, Apt. 342  
Austin, Texas 78701

Date: \_\_\_\_\_

Citizenship: U.S.A.

## DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below adjacent to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter that is claimed and for which a patent is sought by way of the application entitled

### SYSTEM AND METHOD OF PROGRESSIVE HEARING DEVICE ADJUSTMENT

which (check)  is filed with this Declaration and Power of Attorney and marked with the above title and/or Attorney Docket Number, and which is the final application provided to me by POLANSKY & ASSOCIATES, PLLC  
 and is amended by the Preliminary Amendment attached hereto.  
 was filed on \_\_\_\_\_ as Application Serial No. \_\_\_\_\_.  
 and was amended on \_\_\_\_\_ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified application, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate or under § 365(a) of any PCT international application(s) designating at least one country other than the United States of America, listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
Number	Country	Day/Month/Year Filed	Yes	No

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Data (MM/DD/YYYY)
61/323,841	04/13/2010
61/350,759	06/02/2010

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge



the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

U. S. Parent Application or PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)

I hereby appoint the attorney(s) and/or agent(s) associated with **customer number 89320** to prosecute this application and to transact all business in the United States Patent and Trademark Office connected therewith.

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Title 18, United States Code, § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Please direct all correspondence concerning this application to the USPTO Customer Number, if provided, or otherwise to the firm named below:

## Customer Number 89320

### POLANSKY & ASSOCIATES, PLLC

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AUSTIN, TEXAS 78738

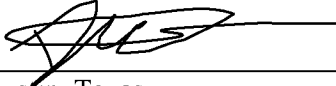
Telephone: 512-777-2010

Facsimile: 512-777-2017

Full name of sole (or first joint) inventor: Harold S. Mindlin

Inventor's Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
 Residence: Austin, Texas Citizenship: US  
 Post Office Address: 3808 Turkey Creek Drive  
 Austin, TX 78730

Full name of sole (or second joint) inventor: David Matthew Landry

Inventor's Signature:  \_\_\_\_\_ Date: 11 Apr 2011  
 Residence: Austin, Texas Citizenship: U.S.A.  
 Post Office Address: 815A Brazos Street, Apt. 342  
 Austin, Texas 78701


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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
13/085,016	04/12/2011	2614	462	1520-0013	20	3

**CONFIRMATION NO. 1249**

89320

Polansky & Associates, P.L.L.C.  
 12117 Bee Caves Road  
 Suite 160  
 Austin, TX 78738

**FILING RECEIPT**


Date Mailed: 04/26/2011

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

**Applicant(s)**

Harold S. Mindlin, Austin, TX;  
 David Matthew Landry, Austin, TX;

**Assignment For Published Patent Application**

AUDIOTONIQ, INC., Austin, TX

**Power of Attorney:** The patent practitioners associated with Customer Number 89320

**Domestic Priority data as claimed by applicant**

This appln claims benefit of 61/323,841 04/13/2010  
 and claims benefit of 61/350,759 06/02/2010

**Foreign Applications** (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.)

**If Required, Foreign Filing License Granted:** 04/20/2011

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/085,016**

**Projected Publication Date:** 10/13/2011

**Non-Publication Request:** No

**Early Publication Request:** No

**\*\* SMALL ENTITY \*\***

**Title**

System and Method of Progressive Hearing Device Adjustment

**Preliminary Class**

381

**PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES**

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

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**PATENT APPLICATION FEE DETERMINATION RECORD**

Substitute for Form PTO-875

Application or Docket Number  
13/085,016

**APPLICATION AS FILED - PART I**

(Column 1) (Column 2)

FOR	NUMBER FILED	NUMBER EXTRA
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A
TOTAL CLAIMS (37 CFR 1.16(j))	20 minus 20 = *	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 = *	
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$270 (\$135 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).	
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))		

**SMALL ENTITY**

RATE(\$)	FEE(\$)
N/A	82
N/A	270
N/A	110
x 26 =	0.00
x 110 =	0.00
	0.00
TOTAL	462

**OR OTHER THAN SMALL ENTITY**

RATE(\$)	FEE(\$)
N/A	
N/A	
N/A	
TOTAL	

\* If the difference in column 1 is less than zero, enter "0" in column 2.

**APPLICATION AS AMENDED - PART II**

(Column 1) (Column 2) (Column 3)

AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total (37 CFR 1.16(i))	* Minus **	=
Independent (37 CFR 1.16(h))	* Minus ***	=	
Application Size Fee (37 CFR 1.16(s))			
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))			

**SMALL ENTITY**

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

**OR OTHER THAN SMALL ENTITY**

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

(Column 1) (Column 2) (Column 3)

AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total (37 CFR 1.16(i))	* Minus **	=
Independent (37 CFR 1.16(h))	* Minus ***	=	
Application Size Fee (37 CFR 1.16(s))			
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))			

**SMALL ENTITY**

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

**OR OTHER THAN SMALL ENTITY**

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

\*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.


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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/085,016	04/12/2011	Harold S. Mindlin	1520-0013

**CONFIRMATION NO. 1249**

89320  
 Polansky & Associates, P.L.L.C.  
 12117 FM 2244 3-160  
 Austin, TX 78738

**PUBLICATION NOTICE**


**Title:**System and Method of Progressive Hearing Device Adjustment

**Publication No.**US-2011-0249839-A1

**Publication Date:**10/13/2011

**NOTICE OF PUBLICATION OF APPLICATION**

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

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Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

# POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).  
I hereby appoint:

29150

Practitioners associated with the Customer Number:

OR

Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:

29150

The address associated with Customer Number:

OR

Firm or Individual Name?

Lee & Hayes PLLC

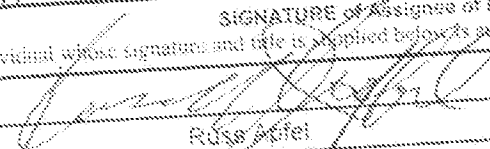
Address	601 West Riverside Avenue, Suite 1400		
City	Spokane	State	WA Zip 99201
Country	US		
Telephone	509-324-9258	Email	LHDocket@leehayes.com

Assignee Name and Address  
Audioioniq, Inc.  
206 Wild Basin Road #220  
Austin, TX 78746

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is applied below is authorized to act on behalf of the assignee.

Signature		Date	4/27/2012
Name	Russ Wolf	Telephone	
Title	Chief Executive Officer		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to be paid by the USPTO to process an application. Confidentiality is governed by 35 U.S.C. 422 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 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 1480, Alexandria, VA 22313-1480. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1480, Alexandria, VA 22313-1480.

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**STATEMENT UNDER 37 CFR 3.73(b)**

Applicant/Patent Owner: Harold S Mindlin II

Application No./Patent No.: 13/085,016 Filed/Issue Date: 4/12/2011

Titled: System and Method of Progressive Hearing Device Adjustment

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

states that it is:

- 1.  the assignee of the entire right, title, and interest in;
- 2.  an assignee of less than the entire right, title, and interest in  
(The extent (by percentage) of its ownership interest is \_\_\_\_\_ %); or
- 3.  the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

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 026118, Frame 0905, or for which a copy therefore is attached.

**OR**

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: \_\_\_\_\_

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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.

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

As required by 37 CFR 3.73(b)(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.

/Andrew Eisenberg/

5/17/2012

Signature

Date

Andrew L. Eisenberg

Reg. No. 69625

Attorney

Printed or Typed Name

512-456-5140

Title

This collection of information is required by 37 CFR 3.73(b). 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. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**



53  
**Electronic Acknowledgement Receipt**

<b>EFS ID:</b>	12813749
<b>Application Number:</b>	13085016
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1249
<b>Title of Invention:</b>	System and Method of Progressive Hearing Device Adjustment
<b>First Named Inventor/Applicant Name:</b>	Harold S. Mindlin
<b>Customer Number:</b>	89320
<b>Filer:</b>	David Alan Divine/Cherri Simon
<b>Filer Authorized By:</b>	David Alan Divine
<b>Attorney Docket Number:</b>	1520-0013
<b>Receipt Date:</b>	18-MAY-2012
<b>Filing Date:</b>	12-APR-2011
<b>Time Stamp:</b>	14:17:32
<b>Application Type:</b>	Utility under 35 USC 111(a)

**Payment information:**

Submitted with Payment	no
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**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	UQ7023.PDF	746551 <small>11b3439668ad0248822b1cf68101eb7a8fc42aef</small>	no	2

**Warnings:**

**Information:**

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.


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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/085,016	04/12/2011	Harold S. Mindlin	A046 - 0025US

**CONFIRMATION NO. 1249**
**POA ACCEPTANCE LETTER**


29150  
 LEE & HAYES, PLLC  
 601 W. RIVERSIDE AVENUE  
 SUITE 1400  
 SPOKANE, WA 99201

Date Mailed: 05/25/2012

**NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY**

This is in response to the Power of Attorney filed 05/18/2012.

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.

/tkim/

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Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101


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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/085,016	04/12/2011	Harold S. Mindlin	1520-0013

**CONFIRMATION NO. 1249**
**POWER OF ATTORNEY NOTICE**

89320  
 Polansky & Associates, P.L.L.C.  
 12117 FM 2244 3-160  
 Austin, TX 78738



Date Mailed: 05/25/2012

**NOTICE REGARDING CHANGE OF POWER OF ATTORNEY**

This is in response to the Power of Attorney filed 05/18/2012.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/tkim/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/085,016	04/12/2011	Harold S. Mindlin	A046 - 0025US	1249
29150	7590	04/04/2013	EXAMINER	
LEE & HAYES, PLLC 601 W. RIVERSIDE AVENUE SUITE 1400 SPOKANE, WA 99201			MCCARTY, TAUNYA A	
			ART UNIT	PAPER NUMBER
			2651	
			NOTIFICATION DATE	DELIVERY MODE
			04/04/2013	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

lhpto@leehayes.com

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	13/085,016	MINDLIN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Taunya McCarty	2651	

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

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1)  Responsive to communication(s) filed on 12 April 2011.
- 2a)  This action is **FINAL**.                      2b)  This action is non-final.
- 3)  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.
- 4)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 5)  Claim(s) 1-20 is/are pending in the application.
- 5a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 6)  Claim(s) \_\_\_\_\_ is/are allowed.
- 7)  Claim(s) 1-20 is/are rejected.
- 8)  Claim(s) \_\_\_\_\_ is/are objected to.
- 9)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

\* If any claims have been determined allowable, 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](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to [PPHfeedback@uspto.gov](mailto:PPHfeedback@uspto.gov).

### Application Papers

- 10)  The specification is objected to by the Examiner.
- 11)  The drawing(s) filed on 12 April 2011 is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

### Priority under 35 U.S.C. § 119

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a)  All    b)  Some \*    c)  None of:
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)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1)  Notice of References Cited (PTO-892)
- 2)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 3)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 4)  Other: \_\_\_\_\_.

**DETAILED ACTION*****Claim Objections***

1. Claims 5, 6, and 14 are objected to because of the following informalities:

Regarding claim 5, for the sake of consistency, “the plurality of hearing correction profiles” (lines 6-7) should be changed to “the plurality of hearing correction filters”.

Regarding claim 6, “the plurality of incremental hearing corrections” (lines 1-2) should be changed to “a plurality of incremental hearing corrections”.

Regarding claim 14, “provide a signal” (lines 7) should be changed to “provide a first signal”.

Appropriate correction is required.

***Claim Rejections - 35 USC § 101***

2. The following is a quotation of 35 U.S.C. 101 that forms the basis for the rejections under this section made in this Office action:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 10-13 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The specification fails to define the term “medium”, therefore claim 10 has been given the broadest reasonable interpretation of a computer readable medium (also called machine readable medium and other such variations) which typically covers forms of non-transitory tangible media and transitory propagating signals per se in view of the ordinary and customary meaning of computer readable media, particularly when the specification is silent. When the

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broadest reasonable interpretation of a claim covers a signal per se, the claim must be rejected under 35 U.S.C. § 101 as covering non-statutory subject matter. See *In re Nuijten*, 500 F.3d 1346, 1356-57 (Fed. Cir. 2007) (transitory embodiments are not directed to statutory subject matter) and Interim Examination Instructions for Evaluating Subject Matter Eligibility Under 35 U.S.C. § 101, Aug. 24, 2009; p. 2.

Claim 10 may be amended to narrow the claim to cover only statutory embodiments to avoid a rejection under 35 U.S.C. § 101 by adding the limitation “non-transitory” to the claim. Cf. *Animals-Patentability*, 1 077 Off. Gaz. Pat. Office 24 (April 21, 1987). Such an amendment would typically not raise the issue of new matter, even when the specification is silent because the broadest reasonable interpretation relies on the ordinary and customary meaning that includes signals per se. The limited situations in which such an amendment could raise issues of new matter occur, for example, when the specification does not support a non-transitory embodiment because a signal per se is the only viable embodiment such that the amended claim is impermissibly broadened beyond the supporting disclosure. See, e.g., *Gentry Gallery, Inc. v. Berkline Corp.*, 134 F.3d 1473 (Fed. Cir. 1998).

Claims 11-13 are rejected because they are dependent claims of the rejected claim 10.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.



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5. Claims 1, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by **Janssen** (U.S. Patent Application Publication 2005/036637; hereafter **Janssen**).

Regarding claim 1, **Janssen** a hearing aid comprising:

a microphone to convert sound into an electrical signal (2 of Fig. 1);

a processor coupled to the microphone, the processor configured to apply a selected one of a sequence of incremental hearing corrections to the electrical signal to produce a modulated output signal to at least partially compensate for a hearing impairment of a user (4 of Fig. 1); and

a speaker coupled to the processor and configured to convert the modulated output signal into an audible sound (3 of Fig. 1).

Regarding claim 4, **Janssen** further discloses further comprising a memory to store a hearing aid profile configured to compensate for the hearing impairment of the user to produce the modulated output signal at a level corresponding to a corrected hearing level of the user. (5 of Fig. 1)

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
8. Claims 2, 3, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Janssen** in view of **Davis et al.** (U.S. Patent 6574342; hereafter **Davis**).

Regarding claim 2, **Janssen** discloses all of the limitations on which claim 2 depends.

However, **Janssen** may not specifically disclose wherein each of the incremental hearing corrections comprises a collection of acoustic configuration settings configured to modulate the electrical signal to a level that is within a range between an uncompensated hearing level of the user and a corrected hearing level of the user to produce the modulated output signal.

In a similar field of endeavor, **Davis** teaches a hearing aid fitting system.

Specifically, **Davis** teaches “A method for fitting a hearing compensation device according to the present invention comprises selecting a plurality of loudness levels for a plurality of frequencies and comparing each loudness level for each frequency for perceived sameness. The loudness levels may then be adjusted as needed to achieve perceived sameness across the frequency spectrum. A gain curve for each frequency is calculated from the selected plurality of loudness levels.” (col. 3, lines 3-10)

**Davis** further teaches “In the perceived loudness interface 10, loudness curves 12 representing various loudness levels are displayed on a graph with a horizontal axis representing frequency in Hertz, the vertical axis representing loudness in decibels. Each of the loudness curves 12 indicate a perceived level of loudness, from very soft to uncomfortably loud, across the entire frequency spectrum.” (Fig. 1; col. 4, lines 4-10)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Janssen** by providing levels of loudness as taught by **Davis** for the purpose of providing a collection of acoustic configuration settings to modulate a signal to a level that is between an uncompensated hearing level of the user and a corrected hearing level of the user. This would be desirable in order to provide a hearing device user with a good fitting.

Regarding claim 3, **Davis** further discloses wherein the sequence of the incremental hearing corrections comprises:

a first hearing correction configured to modulate the electrical signal to a first level that is within the range; and

at least one second hearing correction configured to modulate the electrical signal to a second level that is within a second range between the first level and the connected hearing level of the user. (Figs. 1 and 3; col. 5, lines 7-14)

Regarding independent claim 10, the claim, is similar in scope to the rejected claims 1, 2 and 3.

It is noted that although the combination of **Janssen** and **Davis** does not expressly disclose a **computer readable** medium, one of ordinary skill in the art would recognize the limitations may be provided through software and/or hardware.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of **Janssen** and **Davis** by providing a **computer readable** medium comprising instructions executed by a processor.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Janssen**.

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Regarding claim 6, **Janssen** discloses all of the limitations on which claim 6 depends.

However, **Janssen** may not specifically disclose wherein the memory includes the plurality of incremental hearing corrections.

Nevertheless, it is well known in the art and one of ordinary skill in the art would recognize that several or various types of information or data may be stored in memory.

Therefore, for lack of any criticality, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Janssen** by storing the plurality of incremental hearing corrections in memory for the purpose of being able to access correction data as desired.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Janssen** in view of **Sacha** (U.S. Patent Application Publication 2003/0215105; hereafter **Sacha**).

Regarding claim 5, **Janssen** discloses all of the limitations on which claim 5 depends.

However, **Janssen** may not specifically disclose wherein the memory stores a plurality of hearing correction filters;

wherein the processor is configured to selectively apply particular ones of the plurality of hearing correction filters to the hearing aid profile to generate the selected one of the plurality of incremental hearing corrections; and

wherein the processor selectively applies another one of the plurality of hearing correction profiles to the hearing aid profile to generate another one of the plurality of incremental hearing corrections after a period of time.

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In a similar field of endeavor, **Sacha** teaches a hearing aid with time varying performance.

Specifically, **Sacha** teaches “Most often, a new hearing aid user is not fitted with the optimal target response at the first audiologist visit. This is because a patient with a hearing deficit that is suddenly compensated at an optimal level may find the new sounds uncomfortable or even intolerable until adaptation occurs. Patients initially fitted with optimal compensation may even discontinue using their hearing aid. Therefore, it is common practice for the audiologist to initially fit the hearing aid with a sub-optimal degree of compensation which is then ramped up to the optimal level during subsequent fittings at a rate the patient finds comfortable.” (Fig. 1; ¶3)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Janssen** by providing hearing aid compensation which is then ramped up to an optimal level as taught by **Sacha** for the purpose of providing a first-time hearing aid user a more comfortable hearing aid transition.

Regarding claims 7, 8 and 9, **Sacha** further discloses further comprising:

a transceiver coupled to the processor and configurable to communicate with a computing device through a communication channel during operation, the transceiver to receive a signal from the computing device and to provide the signal to the processor; wherein the processor applies the selected one of the sequence of incremental hearing corrections in response to receiving the signal (claim 7); wherein the signal includes the selected one of the sequence of incremental hearing corrections (claim 8); and further comprising a memory to store the sequence of incremental hearing corrections; and wherein the signal includes an indicator

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identifying the selected one of the incremental hearing corrections within the sequence; and wherein, in response to receiving the signal, the processor retrieves the selected one of the incremental hearing corrections from the memory and applies the selected one to the electrical signals (claim 9). (Fig. 1; ¶12)

11. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Janssen** and **Davis**, and further in view of **Sacha**.

Regarding claim 11, the combination of **Janssen** and **Davis** discloses all of the limitations on which claim 11 depends.

However, the combination of **Janssen** and **Davis** may not specifically disclose wherein the pre-determined threshold is configurable by a user.

In a similar field of endeavor, **Sacha** teaches a hearing aid fitting system as stated earlier.

Specifically, **Sacha** teaches “The programming interface 210 allows user input of data to a parameter modifying area of the memory 220 so that parameters affecting device operation may be changed.” (Fig. 1 and ¶8)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of **Janssen** and **Davis** by providing an interface that allows user input as taught by **Sacha** for the purpose of providing a user configurable device.

Regarding claim 12, which is similar in scope to rejected claim 7, is interpreted and rejected in the same manner and for the same reasons as stated above regarding claim 7.

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Regarding claim 13, which is similar in scope to rejected claim 2, is interpreted and rejected in the same manner and for the same reasons as stated earlier regarding claim 2.

12. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Janssen** in view of **Topholm** (U.S. Patent 5,202,927; hereafter **Topholm**).

Regarding independent claim 14, **Janssen** discloses

a transceiver configurable to communicate with a hearing aid through a communication channel (21 of Fig. 1); and

a processor coupled to the transceiver (Fig. 1).

However **Janssen**, does not expressly disclose a memory coupled to the processor and configured to store instructions that, when executed by the processor, cause the processor to: provide a signal related to a first hearing correction of a sequence of incremental hearing corrections to the hearing aid through the communication channel; and provide a second signal related to a next hearing correction of the sequence to the hearing aid when a period of time exceeds a threshold time increment.

In a similar field of endeavor, **Topholm** teaches a remote-controllable, programmable, hearing aid system.

Specifically, **Topholm** teaches “FIG. 1 shows a remote-controllable, programmable hearing aid system which consists of an external control unit 1 and an actual hearing aid 2” (Fig. 1; col. 1, lines 50-52)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Janssen** by a device with a memory coupled to a processor as

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taught by **Topholm** for the purpose of having a memory coupled to the processor and configured to store instructions that, when executed by the processor, cause the processor to: provide a signal related to a first hearing correction of a sequence of incremental hearing corrections to the hearing aid through the communication channel; and provide a second signal related to a next hearing correction of the sequence to the hearing aid when a period of time exceeds a threshold time increment.

Regarding claim 15, **Janssen** further discloses wherein the memory stores further instructions that, when executed by the processor, cause the processor to: initiate a timer to determine the period of time; iteratively select and provide selection signals related to subsequent ones of the incremental hearing corrections from the sequence to the hearing aid when the period of time exceeds the threshold time increment; and reset and restart the timer when each of the subsequent ones of the incremental hearing corrections is provided to the hearing aid. (repeat interval 25 of Fig. 1)

13. Claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Janssen** and **Topholm**, and further in view of **Sacha**.

Regarding claim 16, the combination of **Janssen** and **Davis** discloses all of the limitations on which claim 16 depends.

However, the combination of **Janssen** and **Davis** may not specifically disclose wherein the threshold time increment varies with each of the incremental hearing corrections.

In a similar field of endeavor, **Sacha** teaches a hearing aid fitting system as stated earlier.



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Specifically, **Sacha** teaches “The device may be programmed to select a signal processing parameter set for specifying to the signal processing circuit from a group of such parameter sets in a defined sequence based upon elapsed operating time intervals as measured by a timer or upon a specified number of detected power events representing the device being turned on..” (Fig. 1 and ¶4)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of **Janssen** and **Davis** by providing the teachings of **Sacha** for the purpose of a variable device.

Regarding claim 17, **Sacha** further discloses wherein the first signal and the second signal comprise triggers to initiate an adjustment to a. currently selected incremental hearing correction executing on the hearing aid. (¶9: “As described above, the patient's hearing deficit is compensated by selectively amplifying those frequencies at which the patient has a below normal hearing threshold. Other signal processing functions may also be performed in particular embodiments. The embodiment illustrated in FIG. 1, for example, also includes a gain control module 130 and a noise reduction module 135. The gain control module 130 dynamically adjusts the amplification in accordance with the amplitude of the input signal.”)

Regarding claim 18, **Sacha** further discloses wherein the first hearing correction and the next hearing correction comprise collections of acoustic configuration settings for the hearing aid for modulating an audio output signal to compensate for a hearing impairment of a user, the next hearing correction representing an adjustment configured to modulate the audio output signal to an output level that is closer to a corrected hearing level than a first adjustment associated with the first hearing correction. (¶11: “The programmable controller specifies one or more signal

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processing parameters to the filtering and amplifying module and/or other signal processing modules that determine the manner in which the input signal IS is converted into the output signal OS.”)

Regarding claim 19, **Sacha** further discloses wherein the first signal and the second signal include the first hearing correction and the next hearing correction, respectively. (¶11)

Regarding claim 20, **Sacha** further discloses , wherein the memory further comprises instructions that, when executed by the processor, cause the processor to progressively advance through the sequence of the incremental hearing corrections by providing each of the incremental hearing corrections to the hearing aid, one at a time, over a sequence of time increments to provide a progressive hearing aid adjustment from an uncompensated hearing level to a corrected hearing level to aid in the user in acclimating to the hearing aid. (¶3)

### *Conclusion*

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taunya McCarty whose telephone number is (571)270-3692. The examiner can normally be reached on M-F, 8:00 AM-5:00 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Yuwen Pan can be reached on 571-272-7855. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

**Any response to this action should be mailed to:**

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**Or faxed to:**

Application/Control Number: 13/085,016

Page 14

Art Unit: 2651

(571) 273-8300, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".

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/Taunya McCarty/  
Examiner, Art Unit 2651

/DUC NGUYEN/  
Supervisory Patent Examiner, Art Unit  
2651

<b>Notice of References Cited</b>	Application/Control No. 13/085,016	Applicant(s)/Patent Under Reexamination MINDLIN ET AL.	
	Examiner Taunya McCarty	Art Unit 2651	Page 1 of 1

## U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,574,342	06-2003	Davis et al.	381/314
*	B	US-2003/0215105	11-2003	Sacha, Mike K.	381/312
*	C	US-5,202,927	04-1993	Topholm, Jan	381/315
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

## FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

## NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number	13085016 - GAU: 2651
	Filing Date	
	First Named Inventor	Harold S. Mindlin II
	Art Unit	
	Examiner Name	
	Attorney Docket Number	1520-0013

U.S.PATENTS							Remove
Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	
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	1	20050036637		2005-02-17	Janssen		

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		13085016 - GAU: 2651
	Filing Date		
	First Named Inventor	Harold S. Mindlin II	
	Art Unit		
	Examiner Name		
	Attorney Docket Number	1520-0013	

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**EXAMINER SIGNATURE**

Examiner Signature	/Taunya McCarty/	Date Considered	03/25/2013
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\*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.

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

<b><i>Index of Claims</i></b>  	<b>Application/Control No.</b> 13085016	<b>Applicant(s)/Patent Under Reexamination</b> MINDLIN ET AL.
	<b>Examiner</b> TAUNYA MCCARTY	<b>Art Unit</b> 2651

✓	<b>Rejected</b>
=	<b>Allowed</b>

-	<b>Cancelled</b>
÷	<b>Restricted</b>

N	<b>Non-Elected</b>
I	<b>Interference</b>

A	<b>Appeal</b>
O	<b>Objected</b>

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

CLAIM		DATE							
Final	Original	03/25/2013							
	1	✓							
	2	✓							
	3	✓							
	4	✓							
	5	✓							
	6	✓							
	7	✓							
	8	✓							
	9	✓							
	10	✓							
	11	✓							
	12	✓							
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	15	✓							
	16	✓							
	17	✓							
	18	✓							
	19	✓							
	20	✓							

## EAST Search History

## EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	45287	(hearing adj (device or aid\$2 or element or appliance or apparatus or piece or unit or instrument or system) or earpiece)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/03/25 16:31
L2	1671	1 and (program\$5 adj (device or module))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/03/25 16:32
L3	501	381/314.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/03/25 16:32
L4	117	2 and 3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/03/25 16:32
S1	1	((HAROLD) near2 (MINDLIN)).INV.	US-PGPUB; USPAT; USOCR	OR	ON	2013/03/25 12:25
S2	51	((DAVID) near2 (LANDRY)).INV.	US-PGPUB; USPAT; USOCR	OR	ON	2013/03/25 12:26

3/ 25/ 2013 4:35:01 PM

C:\Users\tmccarty\Documents\EAST\Workspaces\13085016.wsp






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## BIB DATA SHEET

CONFIRMATION NO. 1249

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.	
13/085,016	04/12/2011	381	2651	A046 - 0025US	
<b>APPLICANTS</b> Harold S. Mindlin, Austin, TX; David Matthew Landry, Austin, TX;					
<b>** CONTINUING DATA *****</b> This appln claims benefit of 61/323,841 04/13/2010 and claims benefit of 61/350,759 06/02/2010					
<b>** FOREIGN APPLICATIONS *****</b>					
<b>** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** ** SMALL ENTITY **</b> 04/20/2011					
Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Verified and /TAUNYA A MCCARTY/ Acknowledged Examiner's Signature	<input type="checkbox"/> Met after Allowance Initials	<b>STATE OR COUNTRY</b> TX	<b>SHEETS DRAWINGS</b> 4	<b>TOTAL CLAIMS</b> 20	<b>INDEPENDENT CLAIMS</b> 3
<b>ADDRESS</b> LEE & HAYES, PLLC 601 W. RIVERSIDE AVENUE SUITE 1400 SPOKANE, WA 99201 UNITED STATES					
<b>TITLE</b> System and Method of Progressive Hearing Device Adjustment					
<b>FILING FEE RECEIVED</b> 462	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees		<input type="checkbox"/> 1.16 Fees (Filing)
			<input type="checkbox"/> 1.17 Fees (Processing Ext. of time)		<input type="checkbox"/> 1.18 Fees (Issue)
			<input type="checkbox"/> Other _____		<input type="checkbox"/> Credit

<b>Search Notes</b>  	<b>Application/Control No.</b>  13085016	<b>Applicant(s)/Patent Under Reexamination</b>  MINDLIN ET AL.
	<b>Examiner</b>  TAUNYA MCCARTY	<b>Art Unit</b>  2651

**CPC- SEARCHED**

Symbol	Date	Examiner

**CPC COMBINATION SETS - SEARCHED**

Symbol	Date	Examiner

**US CLASSIFICATION SEARCHED**

Class	Subclass	Date	Examiner

**SEARCH NOTES**

Search Notes	Date	Examiner
Inventor search (EAST)	03/25/2013	tam
EAST (381/314)(combination text and class/subclass and picture)	03/25/2013	tam

**INTERFERENCE SEARCH**

US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

/TAUNYA MCCARTY/  
Examiner.Art Unit 2651

<b>IN THE UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)</b>	
Application Serial Number	13/085,016
Confirmation Number	1249
Filing Date	April 12, 2011
Title of Application	System and Method of Progressive Hearing Device Adjustment
First Named Inventor	Harold S Mindlin II
Assignee	Audiotoniq, Inc.
Group Art Unit	2651
Examiner	Taunya A. McCarty
Attorney Docket Number	A046-0025US

To: Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

From: Andrew L. Eisenberg (Tel. 509-324-9256; Fax 509-323-8979)  
Lee & Hayes, PLLC  
601 W. Riverside Ave, Suite 1400  
Spokane, WA 99201

**Customer Number 29150**

### **Response to April 4, 2013 Non-Final Office Action**

Applicant's representative pays fees through the EFS Web; however, Applicant's representative hereby authorizes the Commissioner to charge any deficiency of fees and credit any overpayments to Deposit Account Number 12-0769.

**Claim Amendments** begin on page 2 of this document.

**A Statement of Substance of Interview** begins on page 9 of this document.

**Remarks** begin on page 10 of this document.

## CLAIM AMENDMENTS

1. (Currently Amended) A hearing aid comprising:
  - a microphone to convert sound into an electrical signals;
  - a speaker to output audible sound;
  - a processor; and
  - a memory to store instructions, which when executed by the processor, cause the processor to:
    - ~~-coupled to the microphone, the processor configured to~~
    - apply a ~~selected~~ first one of a sequence of incremental hearing corrections to the electrical signals to produce a modulated output signal to at least partially compensate for a hearing impairment of a user when output by the speaker; and
    - select a second one of the sequence of incremental hearing corrections in response to receiving a trigger, the second one being designated to follow the first one in the sequence of incremental hearing corrections; and
    - cause the speaker to output an alert when a final one of the sequence of incremental hearing corrections is being applied, the final one being the last hearing correction of the sequence of incremental hearing corrections.
  - ~~a speaker coupled to the processor and configured to convert the modulated output signal into an audible sound.~~

2. (Original) The hearing aid of claim 1, wherein each of the incremental hearing corrections comprises a collection of acoustic configuration settings configured to modulate

the electrical signal to a level that is within a range between an uncompensated hearing level of the user and a corrected hearing level of the user to produce the modulated output signal.

3. (Currently Amended) The hearing aid of claim 2, wherein ~~the sequence of the incremental hearing corrections comprises:~~

~~[[a]]the first hearing correction~~ one of the sequence of incremental hearing corrections is configured to modulate the electrical signal to a first level that is within the range; and

~~at least one second~~ one of the sequence of incremental hearing corrections is hearing correction configured to modulate the electrical signal to a second level that is within a second range between the first level and the corrected hearing level of the user.

4. (Original) The hearing aid of claim 1, further comprising a memory to store a hearing aid profile configured to compensate for the hearing impairment of the user to produce the modulated output signal at a level corresponding to a corrected hearing level of the user.

5. (Currently Amended) The hearing aid of claim 4, wherein the memory stores a plurality of hearing correction filters;

wherein the processor is configured to selectively apply particular ones of the plurality of hearing correction ~~filters~~ to the hearing aid profile to generate the selected one of the plurality of incremental hearing corrections; and

wherein the processor selectively applies another one of the plurality of hearing correction profiles to the hearing aid profile to generate another one of the plurality of incremental hearing corrections after a period of time.

6. (Currently Amended) The hearing aid of claim 4, wherein the memory includes ~~the~~ a plurality of incremental hearing corrections.
  
7. (Original) The hearing aid of claim 1, further comprising:
  - a transceiver coupled to the processor and configurable to communicate with a computing device through a communication channel during operation, the transceiver to receive a signal from the computing device and to provide the signal to the processor;
  - wherein the processor applies the selected one of the sequence of incremental hearing corrections in response to receiving the signal.
  
8. (Original) The hearing aid of claim 7, wherein the signal includes the selected one of the sequence of incremental hearing corrections.
  
9. (Original) The hearing aid of claim 7, further comprising a memory to store the sequence of incremental hearing corrections; and
  - wherein the signal includes an indicator identifying the selected one of the incremental hearing corrections within the sequence; and
  - wherein, in response to receiving the signal, the processor retrieves the selected one of the incremental hearing corrections from the memory and applies the selected one to the electrical signals.

10. (Currently Amended) A computer-readable ~~medium~~ device comprising instructions that, when executed by a processor, cause the processor to:

apply a first hearing correction to an electrical signal to produce a modulated output signal, the first hearing correction to partially compensate for hearing impairment of a user to a first level that is within a range between an uncompensated hearing level of the user and a corrected hearing level of the user;

determine an amount of time during which the first hearing correction is applied; and

selectively apply at least one second hearing correction to the electrical signal to produce the modulated output signal when the amount of time exceeds a pre-determined threshold, the pre-determined threshold is programmable by the user.

11. (Currently Amended) The computer-readable ~~medium~~ device of claim 10, wherein the pre-determined threshold is configurable by a user.

12. (Currently Amended) The computer-readable ~~medium~~ device of claim 10, further comprising second instructions that, when executed by the processor, cause the processor to receive the first hearing correction and the at least one second hearing correction from a transceiver configured to communicatively couple to a computing device during operation.

13. (Currently Amended) The computer-readable ~~medium~~ device of claim 10, further comprising second instructions that, when executed by the processor, cause the processor to dynamically generate the first hearing correction and the at least one second hearing correction based on at least one of the hearing impairment of the user and a hearing aid

profile including a collection of acoustic configuration settings for producing the modulated output signal at the corrected hearing level.

14. (Currently Amended) A computing device comprising:

a transceiver configurable to communicate with a hearing aid through a communication channel;

a processor coupled to the transceiver; and

a memory coupled to the processor and configured to store instructions that, when executed by the processor, cause the processor to:

provide a first signal related to a first hearing correction of a sequence of incremental hearing corrections to the hearing aid through the communication channel; and

provide a second signal related to a ~~next~~ second hearing correction of the sequence to the hearing aid in response to receiving a selection of the second hearing correction from a user of the hearing aid ~~when a period of time exceeds a threshold time increment.~~

15. (Original) The computing device of claim 14, wherein the memory stores further instructions that, when executed by the processor, cause the processor to:

initiate a timer to determine the period of time;

iteratively select and provide selection signals related to subsequent ones of the incremental hearing corrections from the sequence to the hearing aid when the period of time exceeds the threshold time increment; and



reset and restart the timer when each of the subsequent ones of the incremental hearing corrections is provided to the hearing aid.

16. (Original) The computing device of claim 14, wherein the threshold time increment varies with each of the incremental hearing corrections.

17. (Original) The computing device of claim 14, wherein the first signal and the second signal comprise triggers to initiate an adjustment to a currently selected incremental hearing correction executing on the hearing aid.

18. (Currently Amended) The computing device of claim 14, wherein the first hearing correction and the ~~next~~second hearing correction comprise collections of acoustic configuration settings for the hearing aid for modulating an audio output signal to compensate for a hearing impairment of a user, the ~~next~~second hearing correction representing an adjustment configured to modulate the audio output signal to an output level that is closer to a corrected hearing level than a first adjustment associated with the first hearing correction.

19. (Currently Amended) The computing device of claim 14, wherein the first signal and the second signal include the first hearing correction and the ~~next~~second hearing correction, respectively.

20. (Original) The computing device of claim 14, wherein the memory further comprises instructions that, when executed by the processor, cause the processor to progressively advance through the sequence of the incremental hearing corrections by providing each of the incremental hearing corrections to the hearing aid, one at a time, over a sequence of time increments to provide a progressive hearing aid adjustment from an uncompensated hearing level to a corrected hearing level to aid in the user in acclimating to the hearing aid.

## **STATEMENT OF SUBSTANCE OF INTERVIEW**

Applicant would like to sincerely thank Examiner McCarty for conducting a telephone interview with Applicant's representative, Andrew Eisenberg, on May 14, 2013.

During the interview, the independent claims and the cited documents were discussed. Several possible amendments were proposed. Applicant's representative understood the Examiner to agree that the currently cited documents do not fairly teach or suggest the claims as amended. Accordingly, Applicant herein respectfully submits that the independent claims are allowable over the currently cited documents based on the discussion that took place during the interview. Applicant sincerely thanks Examiner McCarty for her time, and respectfully submits that all pending claims stand allowable based on the amendments and reasons discussed in the interview.

## **REMARKS**

Applicant respectfully requests reconsideration and allowance of all of the claims of the application. The status of the claims is as follows:

- Claims 1-20 were pending at the time of the action.
- Applicant amends claims 1, 3, 5, 6, 10-14, 18 and 19
- Applicant presents 1-20 for examination.

Support for the amendments to claims 1, 3, 5, 6, 10-14, 18 and 19 is found in the specification, as originally filed, at least at paragraph [0035], [0042], [0047] and [0051].

The amendments submitted herein do not introduce new matter.

### **Claim Objection**

Claim 5 stands objected to as allegedly needing to be changed from, “the plurality of hearing correction profiles” to “the plurality of hearing correction filters”.

Claim 6 stands objected to as allegedly needing to be changed from, “the plurality of incremental hearing corrections” to “a plurality of incremental hearing connections”.

Claim 14 stands objected to as allegedly needing to be changed from, “provide a signal” to “provide a first signal”.

Applicant herein amends claims 5, 6, and 14 as shown above.

### **Claims 10-13 Recite Statutory Subject Matter Under § 101**

Claims 10-13 stand rejected under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter. Applicant respectfully traverses this rejection.

Nevertheless, for the sole purpose of expediting allowance and without commenting on the propriety of the Office's rejections, Applicant herein amends claims 10-13 as shown above. Applicant respectfully submits that these amendments render the § 101 rejection moot.

### **Cited Documents**

The Office applies the following to reject one or more claims of the Application:

- **Janssen:** Janssen, Franciscus, H., U.S. Patent Application Publication No. 2005/036637
- **Davis:** Davis, et al., U.S. Patent No. 6,574,342
- **Sacha:** Sacha, Mike, K., U.S. Patent Application Publication No. 2003/0215105
- **Topholm:** Jan Topholm, Holte, U.S. Patent No. 5,202,927

### **Claims 1-20 Are Allowable Over the Cited Documents**

Claims 1, and 4 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Janssen. Claims 2, 3, and 5-20 stand rejected under 35 U.S.C. § 103(a) as allegedly being obvious over a combination of one or more of Janssen, Davis, Sacha

and Topholm. Applicant respectfully requests reconsideration in light of the amendments presented herein.

Specifically, during the interview Applicant understood the Examiner to agree that the cited documents do not teach or suggest all of the features of the independent claims as amended. Accordingly, Applicant respectfully requests that the Office withdraw the rejections of independent claims 1, 10 and 14.

Furthermore, dependent claims 2-9, 11-13 and 15-20 ultimately depend from one of independent claims 1, 10 and 14. As discussed above, claims 1, 10 and 14 are allowable over the cited documents. Therefore, claims 2-9, 11-13 and 15-20 are also allowable over the cited documents at least due to the dependency of these claims from an allowable base claim, as well as for the additional features that each recites. Accordingly, Applicant respectfully requests that the Office withdraw the rejections of claims 1-20.

**Conclusion**

For at least the foregoing reasons, all pending claims are in condition for allowance. Applicant respectfully requests reconsideration and prompt issuance of the application.

If any issues remain that would prevent allowance of this application, **Applicant requests that the Examiner contact the undersigned representative before issuing a subsequent Action.**

Respectfully Submitted,

Lee & Hayes, PLLC  
Representatives for Applicant

By:  /Andrew Eisenberg 69625/

Dated:  May 21, 2013

Andrew L. Eisenberg  
(andrew@leehayes.com; 512-456-5140)  
Registration No. 69625

## 92 Electronic Acknowledgement Receipt

<b>EFS ID:</b>	15829014
<b>Application Number:</b>	13085016
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1249
<b>Title of Invention:</b>	System and Method of Progressive Hearing Device Adjustment
<b>First Named Inventor/Applicant Name:</b>	Harold S. Mindlin
<b>Customer Number:</b>	29150
<b>Filer:</b>	Andrew L. Eisenberg/Amanda Sasser
<b>Filer Authorized By:</b>	Andrew L. Eisenberg
<b>Attorney Docket Number:</b>	A046 - 0025US
<b>Receipt Date:</b>	21-MAY-2013
<b>Filing Date:</b>	12-APR-2011
<b>Time Stamp:</b>	12:55:57
<b>Application Type:</b>	Utility under 35 USC 111(a)

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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		Y80149.PDF	278164 <small>631c781f61ab75ceb7eef7e9840563d6fb98ca02</small>	yes	13



Multipart Description/PDF files in .zip description			
Document Description	Start	End	
Amendment/Req. Reconsideration-After Non-Final Reject	1	1	
Claims	2	8	
Applicant summary of interview with examiner	9	9	
Applicant Arguments/Remarks Made in an Amendment	10	13	

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**New Applications Under 35 U.S.C. 111**

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<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875	Application or Docket Number <b>13/085,016</b>	Filing Date <b>04/12/2011</b>	<input type="checkbox"/> To be Mailed
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ENTITY:  LARGE  SMALL  MICRO

**APPLICATION AS FILED – PART I**

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input checked="" type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A	N/A	<b>165</b>
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A	N/A	
TOTAL CLAIMS <small>(37 CFR 1.16(i))</small>	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>				
* If the difference in column 1 is less than zero, enter "0" in column 2.			<b>TOTAL</b>	<b>165</b>

**APPLICATION AS AMENDED – PART II**

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
<b>AMENDMENT</b>	<b>05/21/2013</b>	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total <small>(37 CFR 1.16(i))</small>	* 20	Minus	** 20	= 0	X \$40 = 0
	Independent <small>(37 CFR 1.16(h))</small>	* 3	Minus	***3	= 0	X \$210 = 0
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>						
					<b>TOTAL ADD'L FEE</b>	<b>0</b>

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
<b>AMENDMENT</b>		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total <small>(37 CFR 1.16(i))</small>	*	Minus	**	=	X \$ =
	Independent <small>(37 CFR 1.16(h))</small>	*	Minus	***	=	X \$ =
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>						
					<b>TOTAL ADD'L FEE</b>	

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.  
 \*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".  
 \*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".  
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE  
/TAMMY MCBETH BROWN/

This collection of information is required by 37 CFR 1.16. 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 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. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, 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.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/085,016	04/12/2011	Harold S. Mindlin	A046 - 0025US	1249
29150	7590	05/22/2013	EXAMINER	
LEE & HAYES, PLLC 601 W. RIVERSIDE AVENUE SUITE 1400 SPOKANE, WA 99201			MCCARTY, TAUNYA A	
			ART UNIT	PAPER NUMBER
			2651	
			NOTIFICATION DATE	DELIVERY MODE
			05/22/2013	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

lhpto@leehayes.com

<b>Applicant-Initiated Interview Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	13/085,016	MINDLIN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Taunya McCarty	2651	

All participants (applicant, applicant's representative, PTO personnel):

(1) Taunya McCarty. (3)\_\_\_\_\_.

(2) Andrew Eisenberg (Registration No. 69625). (4)\_\_\_\_\_.

Date of Interview: 05/14/2013.

Type:  Telephonic  Video Conference  
 Personal [copy given to:  applicant  applicant's representative]

Exhibit shown or demonstration conducted:  Yes  No.  
If Yes, brief description: \_\_\_\_\_.

Issues Discussed 101 112 102 103 Others  
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: Please see below.

Identification of prior art discussed: Janssen.

#### Substance of Interview

(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Generally discussed the proposed modifications of claims 1, 10 and 14 as per the attached FAX. Mr. Eisenberg will send a written reply.

**Applicant recordation instructions:** The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview

**Examiner recordation instructions:** Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

Attachment

/TAUNYA MCCARTY/  
Examiner, Art Unit 2651

/DUC NGUYEN/  
Supervisory Patent Examiner, Art Unit 2651

## Summary of Record of Interview Requirements

### Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

### Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,  
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

### Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

13085016 9&GAU: 2651

*FAX*

*Date:* 05/08/2013 12:16:17 PM 0700

*Pages:* 4

*Subject:*

*To:* Examiner McCarty

*Organization:* USPTO

*Fax Number:* 1-571-270-4692

*Phone Number:* 1-571-270-3692

*From:* Andrew Eisenberg

*Organization:* Lee & Hayes, PLLC

*Fax Number:* (512) 456-5140

*Phone Number:* (512) 456-5140

*Email:* andrew@leehayes.com

*Comments:*

Sent by M49-Tech Systems

**Fax** *Printer*

If you received this fax in error, or would like to opt-out, please call \_\_\_\_\_, fax \_\_\_\_\_  
or email \_\_\_\_\_

13085016 99GAU: 2651

Application Serial Number: 13/085,016

Attorney Docket Number: A046-0025US

To: Examiner McCarty  
Fax:  
Phone: (571) 272-3692

From: Andrew L. Eisenberg (Reg. No. 69625)  
Lee & Hayes, PLLC  
andrew@leehayes.com  
(Tel.: 512-456-5140; Fax 509-323-8979)

**Agenda and Request for an Examiner Interview**

– INFORMAL COMMUNICATION – FOR DISCUSSION PURPOSES ONLY –

As requested, please find herein an agenda for the interview scheduled for **5/14/2013** at **10:00 AM ET**. Thank you for agreeing to discuss this matter.

**Interview Agenda:**

- Discussion of possible amendments

I wish to discuss possible amendments to claim 1 as follows:

1. A hearing aid comprising:

a microphone to convert sound into an electrical signals;

a speaker to output audible sound;

a processor; and

Serial No.: 13/023,084  
Atty Docket No.: A046-0019US  
Atty/Agent: Andrew L. Eisenberg

-1-

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a memory to store instructions, which when executed by the processor, cause the processor to:

~~coupled to the microphone, the processor configured to~~

apply a ~~selected~~ first one of a sequence of incremental hearing corrections to the electrical signals to produce a modulated output signal to at least partially compensate for a hearing impairment of a user when output by the speaker; and

select a second one of the sequence of incremental hearing corrections in response to receiving a trigger, the second one being designated to follow the first one in the sequence of incremental hearing corrections; and

cause the speaker to output an alert when a final one of the sequence of incremental hearing corrections is being applied, the final one being the last hearing correction of the sequence of incremental hearing corrections.

~~a speaker coupled to the processor and configured to convert the modulated output signal into an audible sound.~~

10. A computer-readable ~~medium~~ device comprising instructions that, when executed by a processor, cause the processor to:

apply a first hearing correction to an electrical signal to produce a modulated output signal, the first hearing correction to partially compensate for hearing impairment of a user to a first level that is within a range between an uncompensated hearing level of the user and a corrected hearing level of the user;

determine an amount of time during which the first hearing correction is applied; and



selectively apply at least one second hearing correction to the electrical signal to produce the modulated output signal when the amount of time exceeds a pre-determined threshold, the pre-determined threshold is programmable by the user.

14. A computing device comprising:

a transceiver configurable to communicate with a hearing aid through a communication channel;

a processor coupled to the transceiver; and

a memory coupled to the processor and configured to store instructions that, when executed by the processor, cause the processor to:

provide a first signal related to a first hearing correction of a sequence of incremental hearing corrections to the hearing aid through the communication channel; and

provide a second signal related to a next hearing correction of the sequence to the hearing aid in response to receiving a user selection of the next hearing correction when a period of time exceeds a threshold time increment.

I look forward to discussing this with you.

Respectfully Submitted,

Lee & Hayes, PLLC  
Representative for Applicant

Andrew L. Eisenberg (andrew@leehayes.com; 512-456-5140)  
Registration No. 69625

Assistant: Amanda Sasser  
(509) 944-4771  
amandas@leehayes.com



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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
13/085,016 04/12/2011 Harold S. Mindlin A046 - 0025US 1249

29150 7590 07/26/2013
LEE & HAYES, PLLC
601 W. RIVERSIDE AVENUE
SUITE 1400
SPOKANE, WA 99201

EXAMINER

MCCARTY, TAUNYA A

Table with 2 columns: ART UNIT, PAPER NUMBER

2651

Table with 2 columns: NOTIFICATION DATE, DELIVERY MODE

07/26/2013

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

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Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

lhpto@leehayes.com

### Office Action Summary

<b>Application No.</b> 13/085,016		<b>Applicant(s)</b> MINDLIN ET AL.	
<b>Examiner</b> Taunya McCarty		<b>Art Unit</b> 2651	<b>AIA (First Inventor to File) Status</b> No

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

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1)  Responsive to communication(s) filed on amnd dated 05/21/2013.  
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.
- 2a)  This action is **FINAL**.                                      2b)  This action is non-final.
- 3)  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.
- 4)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 5)  Claim(s) 1-20 is/are pending in the application.  
     5a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 6)  Claim(s) \_\_\_\_\_ is/are allowed.
- 7)  Claim(s) 1-20 is/are rejected.
- 8)  Claim(s) \_\_\_\_\_ is/are objected to.
- 9)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

\* If any claims have been determined allowable, 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](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to [PPHfeedback@uspto.gov](mailto:PPHfeedback@uspto.gov).

#### Application Papers

- 10)  The specification is objected to by the Examiner.
- 11)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

#### Priority under 35 U.S.C. § 119

- 12)  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)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1)  Notice of References Cited (PTO-892)
- 2)  Information Disclosure Statement(s) (PTO/SB/08)  
     Paper No(s)/Mail Date \_\_\_\_\_
- 3)  Interview Summary (PTO-413)  
     Paper No(s)/Mail Date. \_\_\_\_\_
- 4)  Other: \_\_\_\_\_

**DETAILED ACTION**

1. This communication is responsive to the amendment dated 05/21/2013, where claims 1, 3, 5, 6, 10-14, 18 and 19 were amended.

***Response to Arguments***

2. Applicant's arguments filed on 05/21/2013 with respect to claims 1, 10 and 14 have been fully considered but are **moot** in view of the new ground(s) of rejection presented below.

***Claim Objections***

3. Claims 1, 5, 9 and 11 are objected to because of the following informalities:

Regarding claim 1 and 9, "signals" should be changed to "signal" (claim1, lines 2 and 9; and claim 9, line 7).

Regarding claim 5, "correction" should be changed to "corrections" (line 4).

Regarding claim 11, "a user" should be "the user".

Appropriate correction is required

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of 35 U.S.C. 112(b):

(B) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 4 and 5 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

Regarding claim 4, the claim recites "further comprising a memory" (line 1). Since claim 4 depends from claim 1, and claim 1 was amended to add a memory, it is not clear if the memory in claim 4 is the same as or different from the memory in claim 1. In an effort to expedite prosecution, Examiner interprets the memory in claim 4 to be the same as the memory in claim 1.

Claim 5 is rejected because it depends from the rejected claim 4.

6. For prior art rejection purposes, claims 4 and 5 are treated in view of the above 35 USC 112, 2<sup>nd</sup> rejection.

#### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by **Sacha** (U.S. Patent Application Publication 2003/0215105; hereafter **Sacha**).

Regarding independent claim 10, **Sacha** discloses a computer-readable device comprising instructions that, when executed by a processor, cause the processor to:

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apply a first hearing correction to an electrical signal to produce a modulated output signal, the first hearing correction to partially compensate for hearing impairment of a user to a first level that is within a range between an uncompensated hearing level of the user and a corrected hearing level of the user;

determine an amount of time during which the first hearing correction is applied; and

selectively apply at least one second hearing correction to the electrical signal to produce the modulated output signal when the amount of time exceeds a pre-determined threshold, the pre-determined threshold is programmable by the user. (a flash memory 220, timer 230 of Fig. 2, the flash memory is read as the claimed computer-readable device; ¶¶13-15: “The progression from each parameter set to another may occur after the same operating time interval, or different operating time intervals may be defined for each parameter set.”; Examiner interprets the teachings of **Sacha** to read on the limitations as claimed.

Regarding claim 11, **Sacha** further discloses wherein the pre-determined threshold is configurable by a user. (¶¶13-15: “The programming interface 210 represents a communications channel by which the device may be configured with variable operating parameters that are stored in the flash memory 220. One such parameter is an enable function for an event register 240 that, when enabled, records a power event input representing the powering up of the hearing aid.”; and “In an alternative embodiment, a timer 230 is provided that operates when the device is powered on. The timer records the time during which the device is powered up and stores that value in the flash memory when the device is powered down.”; Examiner interprets these teachings to read on the limitation as claimed.

Regarding claims 12 and 13, **Sacha** further discloses further comprising second

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instructions that, when executed by the processor, cause the processor to receive the first hearing correction and the at least one second hearing correction from a transceiver configured to communicatively couple to a computing device during operation (claim 12) and further comprising second instructions that, when executed by the processor, cause the processor to dynamically generate the first hearing correction and the at least one second hearing correction based on at least one of the hearing impairment of the user and a hearing aid profile including a collection of acoustic configuration settings for producing the modulated output signal at the corrected hearing level (claim 13). (¶12: “As noted above, a hearing aid programmed with a parameter set that provides optimal compensation may not be initially well tolerated by the patient. In order to provide for a gradual adjustment period, the controller is programmed to select a parameter set from a group of such sets in a defined sequence such that the hearing aid progressively adjusts from a sub-optimal to an optimal level of compensation delivered to the patient.”; and “In one embodiment, the overall gain of the hearing aid is gradually increased with each successively selected signal processing parameter set.”; since **Sacha** teaches that the controller is programmed to select a parameter set from a group of such sets, and that the overall gain of the hearing aid is gradually increased with each successively selected signal processing parameter set, Examiner interprets this teaching to clearly suggest it is understood that there is first hearing correction, at least one second hearing correction, and second instructions.)

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:



Art Unit: 2651

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 1 and 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Janssen** (U.S. Patent Application Publication 2005/036637; hereafter **Janssen**) in view of **Sacha** (U.S. Patent Application Publication 2003/0215105; hereafter **Sacha**).

Regarding claim 1, **Janssen** discloses a hearing aid (hearing aid 1 of Fig.1) comprising:  
a microphone to convert sound into an electrical signals (microphone 2 of Fig. 1);  
a speaker to output audible sound (loudspeaker 3 of Fig. 1);  
a processor (processor 4 of Fig. 1); and  
a memory to store instructions (memory 5 of Fig. 1; Examiner notes that it is well known in the art and one of ordinary skill in the art would recognize that several or various types of information such as instructions may be stored in a memory.), which when executed by the processor, cause the processor to:

However, while **Janssen** discloses a processor, **Janssen** may not expressly disclose that the processor is caused to apply a first one of a sequence of incremental hearing corrections to

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the electrical signals to produce a modulated output signal to at least partially compensate for a hearing impairment of a user when output by the speaker; and select a second one of the sequence of incremental hearing corrections in response to receiving a trigger, the second one being designated to follow the first one in the sequence of incremental hearing corrections.

In a similar field of endeavor, **Sacha** teaches a hearing aid with time varying performance.

Specifically, **Sacha** teaches a processor caused to apply a first one of a sequence of incremental hearing corrections to the electrical signals to produce a modulated output signal to at least partially compensate for a hearing impairment of a user when output by the speaker; and select a second one of the sequence of incremental hearing corrections in response to receiving a trigger, the second one being designated to follow the first one in the sequence of incremental hearing corrections (Fig. 1; ¶2: “Adjusting a hearing aid’s frequency specific amplification characteristics to achieve a desire optimal target response for an individual patient is referred to as fitting the hearing aid.”; and ¶3: “Most often, a new hearing aid user is not fitted with the optimal target response at the first audiologist visit. This is because a patient with a hearing deficit that is suddenly compensated at an optimal level may find the new sounds uncomfortable or even intolerable until adaptation occurs. Patients initially fitted with optimal compensation may even discontinue using their hearing aid. Therefore, it is common practice for the audiologist to initially fit the hearing aid with a sub-optimal degree of compensation which is then ramped up to the optimal level during subsequent fittings at a rate the patient finds comfortable.”, since **Sacha** teaches that “it is common practice for the audiologist to initially fit the hearing aid with a sub-optimal degree of compensation which is then ramped up to the

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optimal level during subsequent fittings at a rate the patient finds comfortable.”, Examiner interprets this teaching to suggest that it is well known to one of ordinary skill in the art to provide the limitations as claimed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Janssen** by providing the teachings of **Sacha** for the purpose of comfortable acclimatization in hearing aid use.

Examiner notes that the combination of **Janssen** and **Sacha** may not expressly disclose that the speaker is caused to output an alert when a final one of the sequence of incremental hearing corrections is being applied, the final one being the last hearing correction of the sequence of incremental hearing corrections.

Official Notice is taken that both the concept and the advantages of causing a speaker to output an alert is notoriously well known in the art. Outputting an alert to let a user know that, for example, a desired level, limit or setting has been attained would be desired. It would have been obvious to have a speaker to output an alert for the purpose of informing the user.

Regarding claim 4, **Janssen** further discloses further comprising a memory to store a hearing aid profile configured to compensate for the hearing impairment of the user to produce the modulated output signal at a level corresponding to a corrected hearing level of the user. (memory 5 of Fig. 1; Examiner notes that it is well known in the art and one of ordinary skill in the art would recognize that several or various types of information such as a hearing aid profile may be stored in a memory.)

Regarding claim 5, **Sacha** further discloses wherein the memory stores a plurality of hearing correction filters;

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wherein the processor is configured to selectively apply particular ones of the plurality of hearing correction to the hearing aid profile to generate the selected one of the plurality of incremental hearing corrections; and

wherein the processor selectively applies another one of the plurality of hearing correction profiles to the hearing aid profile to generate another one of the plurality of incremental hearing corrections after a period of time (Fig. 1; ¶3)

Regarding claim 6, it is noted that **Janssen** may not specifically disclose wherein the memory includes a plurality of incremental hearing corrections.

Nevertheless, it is well known in the art and one of ordinary skill in the art would recognize that several or various types of information or data may be stored in memory.

Therefore, for lack of any criticality, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Janssen** by storing a plurality of incremental hearing corrections in memory for the purpose of being able to access correction data as desired

Regarding claims 7, 8 and 9, **Sacha** further discloses further comprising:

a transceiver coupled to the processor and configurable to communicate with a computing device through a communication channel during operation, the transceiver to receive a signal from the computing device and to provide the signal to the processor; wherein the processor applies the selected one of the sequence of incremental hearing corrections in response to receiving the signal (claim 7); wherein the signal includes the selected one of the sequence of incremental hearing corrections (claim 8); and further comprising a memory to store the sequence of incremental hearing corrections; and wherein the signal includes an indicator

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identifying the selected one of the incremental hearing corrections within the sequence; and wherein, in response to receiving the signal, the processor retrieves the selected one of the incremental hearing corrections from the memory and applies the selected one to the electrical signals (claim 9). (Fig. 1; ¶12)

12. For prior art rejection purposes, claims 4 and 5 are treated in view of the above 35 USC 112, 2<sup>nd</sup> rejection.

13. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Janssen** and **Sacha**, and further in view of **Davis et al.** (U.S. Patent 6574342; hereafter **Davis**).

Regarding claim 2, the combination of **Janssen** and **Sacha** discloses all of the limitations on which claim 2 depends.

However, the combination of **Janssen** and **Sacha** may not specifically disclose wherein each of the incremental hearing corrections comprises a collection of acoustic configuration settings configured to modulate the electrical signal to a level that is within a range between an uncompensated hearing level of the user and a corrected hearing level of the user to produce the modulated output signal.

In a similar field of endeavor, **Davis** teaches a hearing aid fitting system.

Specifically, **Davis** teaches wherein each of the incremental hearing corrections comprises a collection of acoustic configuration settings configured to modulate the electrical signal to a level that is within a range between an uncompensated hearing level of the user and a corrected hearing level of the user to produce the modulated output signal (col. 3, lines 3-10: “A method for fitting a hearing compensation device according to the present invention comprises

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selecting a plurality of loudness levels for a plurality of frequencies and comparing each loudness level for each frequency for perceived sameness. The loudness levels may then be adjusted as needed to achieve perceived sameness across the frequency spectrum. A gain curve for each frequency is calculated from the selected plurality of loudness levels.”; and Fig. 1; col. 4, lines 4-10: “In the perceived loudness interface 10, loudness curves 12 representing various loudness levels are displayed on a graph with a horizontal axis representing frequency in Hertz, the vertical axis representing loudness in decibels. Each of the loudness curves 12 indicate a perceived level of loudness, from very soft to uncomfortably loud, across the entire frequency spectrum.”

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of **Janssen** and **Sacha** by providing levels of loudness as taught by **Davis** for the purpose of providing a collection of acoustic configuration settings to modulate a signal to a level that is between an uncompensated hearing level of the user and a corrected hearing level of the user. This would be desirable in order to provide a hearing device user with a good fitting.

Regarding claim 3, **Davis** further discloses wherein the first one of the sequence of incremental hearing corrections is configured to modulate the electrical signal to a first level that is within the range; and

second one of the sequence of incremental hearing corrections is configured to modulate the electrical signal to a second level that is within a second range between the first level and the connected hearing level of the user. (Figs. 1 and 3; col. 5, lines 7-14)

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14. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Janssen** in view of **Topholm** (U.S. Patent 5,202,927; hereafter **Topholm**), and further in view of **Zhang et al.** (U.S. Patent Application Publication 2010/0246869; hereafter **Zhang**).

Regarding independent claim 14, **Janssen** discloses

a transceiver configurable to communicate with a hearing aid through a communication channel (communication means 21 of external unit 20 of Fig. 1); and

a processor coupled to the transceiver (Fig. 1).

However **Janssen**, does not expressly disclose a memory coupled to the processor and configured to store instructions.

In a similar field of endeavor, **Topholm** teaches a remote-controllable, programmable, hearing aid system.

Specifically, **Topholm** teaches a memory coupled to the processor and configured to store instructions (first memory 5, second memory 6, and processor 4 of external control unit 1 of Fig. 1; Fig. 1 clearly shows that the memory is connected to the processor).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Janssen** by a device with a memory coupled to the processor and configured to store instructions as taught by **Topholm** for the purpose of storing program instructions.

**Topholm**, while disclosing a memory coupled to the processor and configured to store instructions, **Topholm** does not further expressly disclose that the instructions, when executed by the processor, cause the processor to: provide a first signal related to a first hearing correction of a sequence of incremental hearing corrections to the hearing aid through the communication

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channel; and provide a second signal related to a second hearing correction of the sequence to the hearing aid in response to receiving a selection of the second hearing correction from a user of the hearing aid.

In a similar field of endeavor, **Zhang** discloses a system for automatic fitting using real ear measurement.

**Zhang** teaches that the instructions, when executed by the processor, cause the processor to: provide a first signal related to a first hearing correction of a sequence of incremental hearing corrections to the hearing aid through the communication channel; and provide a second signal related to a second hearing correction of the sequence to the hearing aid in response to receiving a selection of the second hearing correction from a user of the hearing aid. (¶¶3-5: “Various prescriptive fitting formulae can be used to calculate custom targets for the hearing aid response. A goal of the fitting is to adjust the gain of the hearing aid so that its output in the patient's ear matches the prescribed targets. This is referred to as target matching.”; and “Some known target matching methods do not automatically adjust gain.”; since **Zhang** teaches “Various prescriptive fitting formulae”, interpreted by Examiner to read on the claimed instructions, and since **Zhang** teaches that known target matching methods do not automatically adjust, interpreted by Examiner to read on the claimed in response to receiving a selection of the second hearing correction from a user of the hearing aid.; Examiner interprets the teachings of **Zhang** to suggest that it is well known to one of ordinary skill in the art to provide incremental hearing corrections in response to a selection from a user.)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of **Janssen** and **Topholm** by causing a processor



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to provide incremental hearing corrections in response to a selection from a user as taught by **Zhang**. This would be desirable in order to allow a hearing aid user to acclimate to a particular target hearing correction at his or her own pace instead of at a preset or automatic pace.)

Regarding claim 15, **Janssen** further discloses wherein the memory stores further instructions that, when executed by the processor, cause the processor to: initiate a timer to determine the period of time; iteratively select and provide selection signals related to subsequent ones of the incremental hearing corrections from the sequence to the hearing aid when the period of time exceeds the threshold time increment; and reset and restart the timer when each of the subsequent ones of the incremental hearing corrections is provided to the hearing aid. (repeat interval 25 of Fig. 1)

15. Claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Janssen**, **Topholm** and **Zhang**, and further in view of **Sacha**.

Regarding claim 16, the combination of **Janssen**, **Topholm** and **Zhang** discloses all of the limitations on which claim 16 depends.

However, the combination of **Janssen**, **Topholm** and **Zhang** may not specifically disclose wherein the threshold time increment varies with each of the incremental hearing corrections.

In a similar field of endeavor, **Sacha** teaches a hearing aid fitting system as stated earlier.

Specifically, **Sacha** teaches “The device may be programmed to select a signal processing parameter set for specifying to the signal processing circuit from a group of such parameter sets in a defined sequence based upon elapsed operating time intervals as measured by

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a timer or upon a specified number of detected power events representing the device being turned on.” (Fig. 1 and ¶4)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of **Janssen, Topholm** and **Zhang** by providing the teachings of **Sacha** for the purpose of a variable device.

Regarding claim 17, **Sacha** further discloses wherein the first signal and the second signal comprise triggers to initiate an adjustment to a. currently selected incremental hearing correction executing on the hearing aid. (¶9: “As described above, the patient's hearing deficit is compensated by selectively amplifying those frequencies at which the patient has a below normal hearing threshold. Other signal processing functions may also be performed in particular embodiments. The embodiment illustrated in FIG. 1, for example, also includes a gain control module 130 and a noise reduction module 135. The gain control module 130 dynamically adjusts the amplification in accordance with the amplitude of the input signal.”)

Regarding claim 18, **Sacha** further discloses wherein the first hearing correction and the second hearing correction comprise collections of acoustic configuration settings for the hearing aid for modulating an audio output signal to compensate for a hearing impairment of a user, the second hearing correction representing an adjustment configured to modulate the audio output signal to an output level that is closer to a corrected hearing level than a first adjustment associated with the first hearing correction. (¶11: “The programmable controller specifies one or more signal processing parameters to the filtering and amplifying module and/or other signal processing modules that determine the manner in which the input signal IS is converted into the output signal OS.”)

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Regarding claim 19, **Sacha** further discloses wherein the first signal and the second signal include the first hearing correction and the second hearing correction, respectively. (¶11)

Regarding claim 20, **Sacha** further discloses wherein the memory further comprises instructions that, when executed by the processor, cause the processor to progressively advance through the sequence of the incremental hearing corrections by providing each of the incremental hearing corrections to the hearing aid, one at a time, over a sequence of time increments to provide a progressive hearing aid adjustment from an uncompensated hearing level to a corrected hearing level to aid in the user in acclimating to the hearing aid. (¶3)

### *Conclusion*

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taunya McCarty whose telephone number is (571)270-3692. The examiner can normally be reached on M-F, 8:00 AM-5:00 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Or faxed to:**

(571) 273-8300, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".

**Hand-delivered responses should be brought to:**

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

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/Taunya McCarty/  
Examiner, Art Unit 2651

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/DUC NGUYEN/  
Supervisory Patent Examiner, Art Unit  
2651

<b>Notice of References Cited</b>	Application/Control No. 13/085,016	Applicant(s)/Patent Under Reexamination MINDLIN ET AL.	
	Examiner Taunya McCarty	Art Unit 2651	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-2010/0246869	09-2010	Zhang et al.	381/320
B	US-			
C	US-			
D	US-			
E	US-			
F	US-			
G	US-			
H	US-			
I	US-			
J	US-			
K	US-			
L	US-			
M	US-			


**FOREIGN PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
N					
O					
P					
Q					
R					
S					
T					

**NON-PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)				
U					
V					
W					
X					

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<b>Search Notes</b>  	<b>Application/Control No.</b>  13085016	<b>Applicant(s)/Patent Under Reexamination</b>  MINDLIN ET AL.
	<b>Examiner</b>  TAUNYA MCCARTY	<b>Art Unit</b>  2651

**CPC- SEARCHED**

Symbol	Date	Examiner

**CPC COMBINATION SETS - SEARCHED**

Symbol	Date	Examiner

**US CLASSIFICATION SEARCHED**

Class	Subclass	Date	Examiner

**SEARCH NOTES**

Search Notes	Date	Examiner
Inventor search (EAST)	03/25/2013	tam
EAST (381/314)(combination text and class/subclass and picture)	03/25/2013	tam
Discussed Final with D. Nguyen (SPE-GAU2651)	06/11/2013	tam
Updated search (EAST); NPL-google scholar-hearing aid acclimatization	07/22/2013; 07/23/2013	tam
Discussed with B. Ensey (Primary-GAU2656)	07/23/2013	tam

**INTERFERENCE SEARCH**

US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

/TAUNYA MCCARTY/  
Examiner.Art Unit 2651

## EAST Search History

## EAST Search History (Prior Art)


Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S7	30189	(hearing adj (device or aid\$2 or element or appliance or apparatus or piece or unit or instrument or system))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/23 12:20
S8	65530	"381"/\$.cls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/23 12:20
S9	229419	"455"/\$.cls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/23 12:20
S10	8716	(S8 or S9) and S7	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/23 12:21
S11	8239	S10 and (@pd or @ptad or @prad or @ad or @rlad)<"20100414"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/23 12:22
S12	0	S11 and (Advanc\$3 near3 (gradual\$2 or slow\$2 or regular\$2 or progressive\$2 or increasing\$2 or refinement or accommodation or adjustment or clos\$3) same (Prescribed near3 fitting))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/23 12:37
S13	0	S11 and (Advanc\$5 near3 (gradual\$2 or slow\$2 or regular\$2 or progressive\$2 or increasing\$2 or refinement or accommodation or adjustment or clos\$3) same (Prescribed near3 fitting))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/23 12:38
S14	1	(Advanc\$5 near3 (gradual\$2 or slow\$2 or regular\$2 or progressive\$2 or increasing\$2 or refinement or accommodation or adjustment or clos\$3) same (Prescribed near3 fitting))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/23 12:39
S15	1	S7 and ((Advanc\$5 near3 (gradual\$2 or slow\$2 or regular\$2 or progressive\$2 or clos\$3)) same (fitting))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/23 12:41
S16	22	S7 and (prescrib\$3 with target)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/23 12:50
S17	18	S16 and (@pd or @ptad or @prad or @ad or @rlad)<"20100414"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/23 12:50
S18	30189	(hearing adj (device or aid\$2 or element or appliance or apparatus or piece or unit or instrument or system))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/23 13:41
S19	65530	"381"/\$.cls.	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2013/07/23 13:41



			125			
			EPO; JPO; DERWENT; IBM_TDB			
S20	229419	"455"/\$.cls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/23 13:41
S21	8716	(S19 or S20) and S18	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/23 13:41
S22	8239	S21 and (@pd or @ptad or @prad or @ad or @rlad)<"20100414"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/23 13:41
S23	12	S22 and (prescrib\$3 with target)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/07/23 13:41

7/ 23/ 2013 4:13:59 PM

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<b><i>Index of Claims</i></b>  	<b>Application/Control No.</b>  13085016	<b>Applicant(s)/Patent Under Reexamination</b>  MINDLIN ET AL.
	<b>Examiner</b>  TAUNYA MCCARTY	<b>Art Unit</b>  2651

✓	<b>Rejected</b>
=	<b>Allowed</b>

-	<b>Cancelled</b>
÷	<b>Restricted</b>

N	<b>Non-Elected</b>
I	<b>Interference</b>

A	<b>Appeal</b>
O	<b>Objected</b>

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

CLAIM		DATE							
Final	Original	03/25/2013	07/23/2013						
	1	✓	✓						
	2	✓	✓						
	3	✓	✓						
	4	✓	✓						
	5	✓	✓						
	6	✓	✓						
	7	✓	✓						
	8	✓	✓						
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	14	✓	✓						
	15	✓	✓						
	16	✓	✓						
	17	✓	✓						
	18	✓	✓						
	19	✓	✓						
	20	✓	✓						

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**Request  
for  
Continued Examination (RCE)  
Transmittal**

Address to:  
Mail Stop RCE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Application Number	13/085,016
Filing Date	4/12/2011
First Named Inventor	Harold S Mindlin II
Art Unit	2651
Examiner Name	Taunya A. McCarty
Attorney Docket Number	A046 - 0025US

**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. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. **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).
- a.  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.
- i.  Consider the arguments in the Appeal Brief or Reply Brief previously filed on \_\_\_\_\_
- ii.  Other \_\_\_\_\_
- b.  Enclosed
- i.  Amendment/Reply
- ii.  Affidavit(s)/ Declaration(s)
- iii.  Information Disclosure Statement (IDS)
- iv.  Other \_\_\_\_\_
2. **Miscellaneous**
- a.  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)
- b.  Other \_\_\_\_\_
3. **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 the following fees, any underpayment of fees, or credit any overpayments, to Deposit Account No. 12-0769.
- a.  RCE fee required under 37 CFR 1.17(e)
- ii.  Extension of time fee (37 CFR 1.136 and 1.17)
- iii.  Other \_\_\_\_\_
- b.  Check in the amount of \$ \_\_\_\_\_ enclosed
- c.  Payment by credit card (Form PTO-2038 enclosed) Payment made via EFS-Web.

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED**

Signature	/Andrew Eisenberg 69625/	Date	9/13/2013
Name (Print/Type)	Andrew L. Eisenberg	Registration No.	69625

**CERTIFICATE OF MAILING OR TRANSMISSION**

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

Signature	Filed via EFS web		
Name (Print/Type)		Date	

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. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop RCE, Commissioner for Patents, 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.*

## Instruction Sheet for RCEs

(not to be submitted to the USPTO)

### NOTES:

An RCE is not a new application, and filing an RCE will not result in an application being accorded a new filing date.

#### **Filing Qualifications:**

The application must be a utility or plant application filed on or after June 8, 1995. The application cannot be a provisional application, a utility or plant application filed before June 8, 1995, a design application, or a patent under reexamination. See 37 CFR 1.114(e).

#### **Filing Requirements:**

***Prosecution in the application must be closed.*** Prosecution is closed if the application is under appeal, or the last Office action is a final action, a notice of allowance, or an action that otherwise closes prosecution in the application (e.g., an Office action under *Ex parte Quayle*). See 37 CFR 1.114(b).

***A submission and a fee are required at the time the RCE is filed.*** If reply to an Office action under 35 U.S.C. 132 is outstanding (e.g., the application is under final rejection), the submission must meet the reply requirements of 37 CFR 1.111. If there is no outstanding Office action, the submission can be an information disclosure statement, an amendment, new arguments, or new evidence. See 37 CFR 1.114(c). The submission may be a previously filed amendment (e.g., an amendment after final rejection).

### WARNINGS:

#### **Request for Suspension of Action:**

All RCE filing requirements must be met before suspension of action is granted. A request for a suspension of action under 37 CFR 1.103(c) does not satisfy the submission requirement and does not permit the filing of the required submission to be suspended.

#### **Improper RCE will NOT toll Any Time Period:**

***Before Appeal*** - If the RCE is improper (e.g., prosecution in the application is not closed or the submission or fee has not been filed) and the application is not under appeal, the time period set forth in the last Office action will continue to run and the application will be abandoned after the statutory time period has expired if a reply to the Office action is not timely filed. No additional time will be given to correct the improper RCE.

***Under Appeal*** - If the RCE is improper (e.g., the submission or the fee has not been filed) and the application is under appeal, the improper RCE is effective to withdraw the appeal. Withdrawal of the appeal results in the allowance or abandonment of the application depending on the status of the claims. If there are no allowed claims, the application is abandoned. If there is at least one allowed claim, the application will be passed to issue on the allowed claim(s). See MPEP 1215.01.

**See MPEP 706.07(h) for further information on the RCE practice.**

## 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

<b>Application Number:</b>	13085016			
<b>Filing Date:</b>	12-Apr-2011			
<b>Title of Invention:</b>	System and Method of Progressive Hearing Device Adjustment			
<b>First Named Inventor/Applicant Name:</b>	Harold S. Mindlin			
<b>Filer:</b>	Andrew L. Eisenberg/Amanda Sasser			
<b>Attorney Docket Number:</b>	A046 - 0025US			
Filed as Large Entity				
<b>Utility under 35 USC 111(a) Filing Fees</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				

Description	131 Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Miscellaneous:</b>				
Request for Continued Examination	1801	1	1200	1200
<b>Total in USD (\$)</b>				<b>1200</b>

## 132 Electronic Acknowledgement Receipt

<b>EFS ID:</b>	16851402
<b>Application Number:</b>	13085016
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1249
<b>Title of Invention:</b>	System and Method of Progressive Hearing Device Adjustment
<b>First Named Inventor/Applicant Name:</b>	Harold S. Mindlin
<b>Customer Number:</b>	29150
<b>Filer:</b>	Andrew L. Eisenberg/Amanda Sasser
<b>Filer Authorized By:</b>	Andrew L. Eisenberg
<b>Attorney Docket Number:</b>	A046 - 0025US
<b>Receipt Date:</b>	13-SEP-2013
<b>Filing Date:</b>	12-APR-2011
<b>Time Stamp:</b>	16:11:06
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$1200
RAM confirmation Number	3266
Deposit Account	
Authorized User	

### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
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1		133 10P2878.PDF	292537  fc0c08371c0d256b07ddbfa6ccea6813fcfbfaa	yes	13
<b>Multipart Description/PDF files in .zip description</b>					
		<b>Document Description</b>	<b>Start</b>	<b>End</b>	
		Amendment Submitted/Entered with Filing of CPA/RCE	1	1	
		Claims	2	8	
		Applicant summary of interview with examiner	9	9	
		Applicant Arguments/Remarks Made in an Amendment	10	13	
<b>Warnings:</b>					
<b>Information:</b>					
2	Request for Continued Examination (RCE)	10P4901.PDF	88621  51c42a599b393843aff069d2a967ecfc64669ae0	no	3
<b>Warnings:</b>					
This is not a USPTO supplied RCE SB30 form.					
<b>Information:</b>					
3	Fee Worksheet (SB06)	fee-info.pdf	30251  0067c85a76d9d32e3db32932ffa9c05e840cfc0	no	2
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			411409		
<p><b>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.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  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.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  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.</p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  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.</p>					

<b>IN THE UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)</b>	
Application Serial Number	13/085,016
Confirmation Number	1249
Filing Date	April 12, 2011
Title of Application	System and Method of Progressive Hearing Device Adjustment
First Named Inventor	Harold S Mindlin II
Assignee	Audiotoniq, Inc.
Group Art Unit	2651
Examiner	Taunya A. McCarty
Attorney Docket Number	A046-0025US

To: Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

From: Andrew L. Eisenberg (Tel. 509-324-9256; Fax 509-323-8979)  
Lee & Hayes, PLLC  
601 W. Riverside Ave, Suite 1400  
Spokane, WA 99201

**Customer Number 29150**

### **Response to July 26, 2013 Final Office Action**

Applicant's representative files this communication with a Request for Continued Examination. Applicant's representative pays fees by credit card through the EFS Web; however, Applicant's representative hereby authorizes the Commissioner to charge any deficiency of fees and credit any overpayments to Deposit Account Number 12-0769.

**Claim Amendments** begin on page 2 of this document.

**A Statement of Substance of Interview** begins on page 9 of this document.

**Remarks** begin on page 10 of this document.

## CLAIM AMENDMENTS

1. (Currently Amended) A hearing aid comprising:

a microphone to convert sound into ~~[[an]]~~ electrical signals;

a speaker to output audible sound;

a processor; and

a memory to store instructions, which when executed by the processor, cause the processor to:

receive a selection of a hearing aid profile from a plurality of hearing aid profiles, the selected hearing aid profile configured to modulate the electrical signals to a level to compensate for a hearing impairment of a user;

apply a first one of a sequence of incremental hearing correction~~[[s]]~~ filters to the modulated electrical signals to produce a modulated output signal to reduce the amplitude of the modulated electrical signals produced by the selected hearing aid profile to a first level that is less than a level to compensate for the hearing impairment of the user ~~to at least partially compensate for a hearing impairment of a user when output by the speaker;~~

select a second one of the sequence of incremental hearing correction~~[[s]]~~ filters in response to receiving a trigger, the second one being designated to follow the first one in the sequence of incremental hearing corrections filter and to reduce the amplitude of the modulated electrical signals produced by the selected hearing aid profile to a second level that is greater than the first level and less than the level to compensate for the hearing impairment of the user;  
and

cause the speaker to output an alert when a final one of the sequence of incremental hearing correction[[s]] filters is being applied, the final one being the last hearing correction filter of the sequence of incremental hearing correction[[s]] filters.

2. (Currently Amended) The hearing aid of claim 1, wherein each of the incremental hearing corrections filters comprises a collection of acoustic configuration settings configured to modulate the electrical signal to a level that is within a range between an uncompensated hearing level of the user and the level to compensate for the hearing impairment of the user ~~a corrected hearing level of the user to produce the modulated output signal.~~

3.-6. (Canceled)

7. (Original) The hearing aid of claim 1, further comprising:  
 a transceiver coupled to the processor and configurable to communicate with a computing device through a communication channel during operation, the transceiver to receive a signal from the computing device and to provide the signal to the processor;  
 wherein the processor applies the selected one of the sequence of incremental hearing correction[[s]] filters in response to receiving the signal.

8. (Currently Amended) The hearing aid of claim 7, wherein the signal includes the selected one of the sequence of incremental hearing correction[[s]] filters.

9. (Currently Amended) The hearing aid of claim 7, further comprising a memory to store the sequence of incremental hearing correction[[s]] filters; and

wherein the signal includes an indicator identifying the selected one of the incremental hearing correction[[s]] filters within the sequence; and

wherein, in response to receiving the signal, the processor retrieves the selected one of the incremental hearing correction[[s]] filters from the memory and applies the selected one to the modulated electrical signals.

10. (Currently Amended) A computer-readable device comprising instructions that, when executed by a processor, cause the processor to:

select a hearing aid profile from a plurality of hearing aid profiles, the selected hearing aid profile configured to modulate an audio signal to a level to compensate for a hearing impairment of a user;

apply a first hearing correction filter to ~~an electrical signal~~ the selected hearing aid profile to ~~produce a modulated output signal, the first hearing correction to~~ reduce the amplitude of the modulated audio signal produced by the selected hearing aid profile to partially compensate for hearing impairment of a user to a first level that is within a range between an uncompensated hearing level of the user and a less than the corrected hearing level to compensate for the hearing impairment of the user;

determine an amount of time during which the first hearing correction filter is applied;

and

selectively apply ~~at least one~~ a second hearing correction filter to the selected hearing aid profile to reduce the amplitude of the modulated audio signal produced by the selected hearing aid profile to a second level that is greater than the first level and less than the level to compensate for the hearing impairment of the user ~~electrical signal to produce the modulated~~

~~output signal~~ when the amount of time exceeds a pre-determined threshold, the pre-determined threshold is programmable by the user.

11. (Currently Amended) The computer-readable device of claim 10, wherein the pre-determined threshold is configurable by ~~[[a]]~~the user.

12. (Currently Amended) The computer-readable device of claim 10, further comprising ~~second~~ instructions that, when executed by the processor, cause the processor to receive the first hearing correction filter and the ~~at least one~~ second hearing correction filter from a transceiver configured to communicatively couple to a computing device during operation.

13. (Currently Amended) The computer-readable device of claim 10, further comprising ~~second~~ instructions that, when executed by the processor, cause the processor to dynamically generate the first hearing correction filter and the ~~at least one~~ second hearing correction filter based on at least one of the hearing impairment of the user and a hearing aid profile including a collection of acoustic configuration settings for producing the modulated output signal at the corrected hearing level.

14. (Currently Amended) A computing device comprising:

a transceiver configurable to communicate with a hearing aid through a communication channel;

a processor coupled to the transceiver; and

a memory coupled to the processor and configured to store instructions that, when executed by the processor, cause the processor to:

generate a sequence of incremental hearing correction filters based at least in part on a magnitude of a difference between a hearing aid profile and a hearing loss level associated with a user of the hearing aid, the sequence of incremental hearing corrections filter including at least a first hearing correction filter and a second hearing correction filter;

provide a first signal related to [[a]]the first hearing correction filter of [[a]]the sequence of incremental hearing corrections to the hearing aid through the communication channel; and

provide a second signal related to a second hearing correction filter of the sequence to the hearing aid in response to receiving a selection of the second hearing correction from a user of the hearing aid.

15. (Currently Amended) The computing device of claim 14, wherein the memory stores further instructions that, when executed by the processor, cause the processor to:

initiate a timer to determine the period of time;

iteratively select and provide selection signals related to subsequent ones of the incremental hearing correction[[s]] filters from the sequence to the hearing aid when the period of time exceeds the threshold time increment; and

reset and restart the timer when each of the subsequent ones of the incremental hearing correction[[s]] filters is provided to the hearing aid.

16. (Currently Amended) The computing device of claim 14, wherein the threshold time increment varies with each of the incremental hearing correction[[s]] filters.

17. (Currently Amended) The computing device of claim 14, wherein the first signal and the second signal comprise triggers to initiate an adjustment to a currently selected incremental hearing correction filter executing on the hearing aid.

18. (Canceled)

19. (Currently Amended) The computing device of claim 14, wherein the first signal and the second signal include the first hearing correction filter and the second hearing correction filter, ~~respectively~~.

20. (Currently Amended) The computing device of claim 14, wherein the memory further comprises instructions that, when executed by the processor, cause the processor to progressively advance through the sequence of the incremental hearing correction[[s]] filters by providing each of the incremental hearing correction[[s]] filter to the hearing aid, one at a time, over a sequence of time increments to provide a progressive hearing aid adjustment from an uncompensated hearing level to a corrected hearing level to aid in the user in acclimating to the hearing aid.

21. (New) The hearing aid of claim 1, further comprising instructions that, when executed by the processor, cause the processor to generate the sequence of incremental hearing correction filters based at least in part on a magnitude of a difference between a hearing aid profile and a hearing loss level associated with the user of the hearing aid, the sequence of incremental hearing corrections filter including at least the first hearing correction filter and the second hearing correction filter.



22. (New) The computer-readable device of claim 10, further comprising instructions that, when executed by the processor, cause the processor to generate the sequence of incremental hearing correction filters based at least in part on a magnitude of a difference between a hearing aid profile and a hearing loss level associated with the user of the hearing aid, the sequence of incremental hearing corrections filter including at least the first hearing correction filter and the second hearing correction filter.

23. (New) The hearing aid of claim 1, further comprising instructions that, when executed by the processor, cause the processor to:

determine an amount of time during which the first hearing correction filter is applied;  
and

apply the second hearing correction filter when the amount of time exceeds a pre-determined threshold.

24. (New) The hearing aid of claim 23, wherein the pre-determined threshold is adjustable by the user.

25. (New) The computer-readable device of claim 14, further comprising instructions that, when executed by the processor, cause the processor to receive:

a selection of a hearing aid profile; and

provide the hearing aid profile to the hearing aid.

**STATEMENT OF SUBSTANCE OF INTERVIEW**

Applicant would sincerely like to thank Examiner McCarty for conducting a telephone interview with Applicant's representative, Andrew L. Eisenberg, on September 12, 2013.

During the interview, the independent claims and the cited documents were discussed. Several possible amendments were proposed. Applicant's representative understood the Examiner to agree that the currently cited documents do not fairly teach or suggest the claims as amended. Accordingly, Applicant herein respectfully submits that the independent claims are allowable over the currently cited documents base on the discussion that took place during the interview. Applicant sincerely thanks Examiner McCarty for her time, and respectfully submits that all pending claims stand allowable based on the amendments and reasons discussed in the interview.

## **REMARKS**

Applicant respectfully requests reconsideration and allowance of all of the claims of the application. The status of the claims is as follows:

- Claims 1-20 were pending at the time of the action.
- Applicant cancels claims 3-6 and 18.
- Applicant amends claims 1, 2, 8-17, 19, and 20.
- Applicant adds new claims 21-25.
- Applicant presents claims 1, 2, 7-17, and 19-25 for examination.

The Application supports the claim amendments at least at paragraph [0015] and [0022] of the originally filed application. The amendments submitted herein do not introduce new matter.

### **Claim Objection**

Claims 1, 5, 9 and 11 stand objected to as allegedly having informalities. Applicant herein amends claims 1, 5 and 11 as shown above. Applicant respectfully submits that these amendments render the objection moot.

### **Claims 4 and 5 Comply With § 112, Second Paragraph**

Claims 4 and 5 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. Applicant respectfully traverses this rejection. Nevertheless, for the sole purpose of expediting allowance and without commenting on the propriety of the Office's rejections, Applicant herein amends claim 4 as shown above. Applicant respectfully submits that this amendment renders the § 112, second paragraph rejections moot.

## Cited Documents

The Office applies the following to reject one or more claims of the Application:

- **Sacha:** Sacha, U.S. Patent Application Publication No. 2003/0215105
- **Janssen:** Janssen, U.S. Patent Application Publication No. 2005/036637
- **Davis:** Davis et al., U.S. Patent No. 6,574,342
- **Topholm:** Topholm, U.S. Patent No. 5,202,927
- **Zhang:** Zhang et al., U.S. Patent Application Publication No. 2010/0246869

## Claims 2, 7-9, 11-13, 15-17, 19 and 20 are Allowable over the Cited Documents

Claims 10-13 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Sacha. Claims 1, 2, 7-9 and 14-17, 19, and 20 stand rejected under 35 U.S.C. § 103(a) as allegedly being obvious over a combination of one or more of Sacha, Janssen, Davis, Topholm, and Zhang. Applicant respectfully requests reconsideration in light of the amendments presented herein.

Specifically, during the interview Applicant understood the Examiner to agree that the cited documents do not teach or suggest all of the features of the independent claims as amended. Accordingly, Applicant respectfully requests that the Office withdraw the rejections of independent claims 1, 10 and 14.

Furthermore, dependent claims 2, 7-9, 11-13, 15-17, 19 and 20 ultimately depend from one of independent claims 1, 10 and 14. As discussed above, claims 1, 10 and 14 are allowable over the cited documents. Therefore, claims 2, 7-9, 11-13, 15-17, 19 and 20 are also allowable over the cited documents at least due to the dependency of these claims from an allowable base claim, as well as for the additional features that each recites. Accordingly, Applicant respectfully requests that the Office withdraw the rejections of claims 1, 2, 7-17, 19 and 20.

**New Claims 21-15 are Allowable**

New claims 21-25 depends from one of independent claims 1, 10, or 45. As discussed above, claims 1, 10 and 14 are allowable over the cited documents. Therefore, claims 21-25 are also allowable over the cited documents at least due to their dependency from an allowable base claim, as well as for the additional features that each recites. For example, the cited documents do not disclose, teach or suggest “the sequence of incremental hearing correction filters based at least in part on a magnitude of a difference between a hearing aid profile and a hearing loss level associated with the user of the hearing aid, the sequence of incremental hearing corrections filter including at least the first hearing correction filter and the second hearing correction filter,” as recited in Applicant’s claim 22.

**Conclusion**

For at least the foregoing reasons, all pending claims are in condition for allowance. Applicant respectfully requests reconsideration and prompt issuance of the application.

If any issues remain that would prevent allowance of this application, **Applicant requests that the Examiner contact the undersigned representative before issuing a subsequent Action.**

Respectfully Submitted,

Lee & Hayes, PLLC  
Representatives for Applicant

By: /Andrew Eisenberg 69625/

Dated: 9/13/2013

Andrew L. Eisenberg  
(andrew@leehayes.com; 512-456-5140)  
Registration No. 69625



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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
13/085,016 04/12/2011 Harold S. Mindlin A046 - 0025US 1249

29150 7590 09/17/2013
LEE & HAYES, PLLC
601 W. RIVERSIDE AVENUE
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SPOKANE, WA 99201

EXAMINER

MCCARTY, TAUNYA A

Table with 2 columns: ART UNIT, PAPER NUMBER

2651

Table with 2 columns: NOTIFICATION DATE, DELIVERY MODE

09/17/2013

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

lhpto@leehayes.com

<b>Applicant-Initiated Interview Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	13/085,016	MINDLIN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Taunya McCarty	2651	

All participants (applicant, applicant's representative, PTO personnel):

(1) Taunya McCarty. (3) \_\_\_\_\_.

(2) Andrew Eisenberg (Registration No. 69625). (4) \_\_\_\_\_.

Date of Interview: 09/12/2013.

Type:  Telephonic  Video Conference  
 Personal [copy given to:  applicant  applicant's representative]

Exhibit shown or demonstration conducted:  Yes  No.  
If Yes, brief description: \_\_\_\_\_.

Issues Discussed  101  112  102  103  Others  
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: 10(1) and 14.

Identification of prior art discussed: Sacha.

#### Substance of Interview

(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Applicant's proposed modifications to the aforementioned claims were discussed. (see attached FAX) More specifically, paras. 13 and 15 of the specification as filed (distinction between "hearing aid profile" and "hearing correction filter"); claim 10: "hearing correction filter" (same modifications discussed for claims 1 and 14; did not discuss "select a second one of the sequence..." for claim 1.) Mr. Eisenberg will send a written reply.

**Applicant recordation instructions:** The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview

**Examiner recordation instructions:** Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

Attachment

/TAUNYA MCCARTY/  
Examiner, Art Unit 2651

/DUC NGUYEN/  
Supervisory Patent Examiner, Art Unit 2651



## Summary of Record of Interview Requirements

### Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

### Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,  
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

### Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

1308501635AU:2651

*FAX*

*Date:* 09/09/2013 08:20:08 AM -0700

*Pages:* 3

*Subject:* Interview Agenda 13/085,016

*To:* Examiner McCarty

*Organization:* USPTO

*Fax Number:* 1-571-270-4692

*Phone Number:*

*From:* Andrew Eisenberg

*Organization:* Lee & Hayes, PLLC

*Fax Number:* (512) 456-5140

*Phone Number:* (512) 456-5140

*Email:* andrew@leehayes.com

*Comments:*

Sent by MU3-Tech Systems

**Fax***finder*

If you received this fax in error, or would like to opt-out, please call \_\_\_\_\_, fax \_\_\_\_\_  
or email \_\_\_\_\_

Application Serial Number: 13/085,016  
Attorney Docket Number: A046-0025US

To: Examiner McCarty  
Fax: (571)-270-4692  
Phone: (571) 270-3692

From: Andrew L. Eisenberg (Reg. No. 69625)  
Lee & Hayes, PLLC  
andrew@leehayes.com  
(Tel.: 512-456-5140; Fax 509-323-8979)

### **Agenda and Request for an Examiner Interview**

– INFORMAL COMMUNICATION – FOR DISCUSSION PURPOSES ONLY –

As requested, please find herein an agenda for the interview scheduled for **9/12/2013** at **2:00 PM ET**. Thank you for agreeing to discuss this matter.

#### **Interview Agenda:**

- Discussion of differences between the application/claims and the cited documents
  - In particular, I wish to discuss at least the recitations of the independent claim 1. Specifically, I wish to discuss the cited references with respect to “select a second one of the sequence of incremental hearing corrections in response to receiving a trigger, the second one being designated to follow the first one in the sequence of incremental hearing corrections,” as recited by claim 1.
- Discussion of possible amendments

I wish to discuss possible amendments to claim 1 as follows:

Serial No.: 13/023,084  
Atty Docket No.: A046-0019US  
Atty/Agent: Andrew L. Eisenberg

-1-

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10. A computer-readable device comprising instructions that, when executed by a processor, cause the processor to:

select a hearing aid profile from a plurality of hearing aid profiles, the selected hearing aid profile configured to modulate an audio signal to a level to compensate for a hearing impairment of a user;

~~apply a first hearing correction to an electrical signal~~ the selected hearing aid profile to produce a modulated output signal, the first hearing correction to reduce the amplitude of the modulated audio signal produced by the selected hearing aid profile to partially compensate for hearing impairment of a user to a first level that is within a range between an uncompensated hearing level of the user and a less than the corrected hearing level to compensate for the hearing impairment of the user;

determine an amount of time during which the first hearing correction is applied; and

selectively apply at least one second hearing correction to the selected hearing aid profile to reduce the amplitude of the modulated audio signal produced by the selected hearing aid profile to a second level that is greater than the first level and less than the level to compensate for the hearing impairment of the user electrical signal to produce the modulated output signal when the amount of time exceeds a pre-determined threshold, the pre-determined threshold is programmable by the user.

14. A computing device comprising:

a transceiver configurable to communicate with a hearing aid through a communication channel;

a processor coupled to the transceiver; and

a memory coupled to the processor and configured to store instructions that, when

executed by the processor, cause the processor to:

generate a sequence of incremental hearing corrections based at least in part on a magnitude of a difference between a hearing aid profile and a hearing loss level associated with a user of the hearing aid, the sequence of incremental hearing corrections including at least a first hearing correction and a second hearing correction;

provide a first signal related to ~~[[a]]~~the first hearing correction of ~~[[a]]~~the sequence of incremental hearing corrections to the hearing aid through the communication channel; and

provide a second signal related to ~~a next~~ the second hearing correction of the sequence to the hearing aid in response to receiving a user selection ~~of the next hearing correction.~~

I look forward to discussing this with you.

Respectfully Submitted,

Lee & Hayes, PLLC  
Representative for Applicant

Andrew L. Eisenberg (andrew@leehayes.com; 512-456-5140)  
Registration No. 69625

Assistant: Amanda Sasser  
(509) 944-4771  
amandas@leehayes.com



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

29150 7590 10/02/2013
LEE & HAYES, PLLC
601 W. RIVERSIDE AVENUE
SUITE 1400
SPOKANE, WA 99201

Table with 2 columns: EXAMINER (MCCARTY, TAUNYA A), ART UNIT (2651), PAPER NUMBER

DATE MAILED: 10/02/2013

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.

13/085,016 04/12/2011 Harold S. Mindlin A046 - 0025US 1249
TITLE OF INVENTION: System and Method of Progressive Hearing Device Adjustment

Table with 7 columns: APPLN. TYPE, ENTITY STATUS, ISSUE FEE DUE, PUBLICATION FEE DUE, PREV. PAID ISSUE FEE, TOTAL FEE(S) DUE, DATE DUE

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: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

**PART B - FEE(S) TRANSMITTAL**

155

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE  
 Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450  
 or Fax (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)

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.

29150                      7590                      10/02/2013  
**LEE & HAYES, PLLC**  
 601 W. RIVERSIDE AVENUE  
 SUITE 1400  
 SPOKANE, WA 99201

**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 facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/085,016	04/12/2011	Harold S. Mindlin	A046 - 0025US	1249

TITLE OF INVENTION: System and Method of Progressive Hearing Device Adjustment

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$890	\$300	\$0	\$1190	01/02/2014

EXAMINER	ART UNIT	CLASS-SUBCLASS
MCCARTY, TAUNYA A	2651	381-314000

<p>1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).</p> <p><input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.</p> <p><input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. <b>Use of a Customer Number is required.</b></p>	<p>2. For printing on the patent front page, list</p> <p>(1) the names of up to 3 registered patent attorneys or agents OR, alternatively, _____ 1</p> <p>(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. _____ 2</p> <p>_____ 3</p>
---	---

**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 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.

(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

<p>4a. The following fee(s) are submitted:</p> <p><input type="checkbox"/> Issue Fee</p> <p><input type="checkbox"/> Publication Fee (No small entity discount permitted)</p> <p><input type="checkbox"/> Advance Order - # of Copies _____</p>	<p>4b. Payment of Fee(s): (<b>Please first reapply any previously paid issue fee shown above</b>)</p> <p><input type="checkbox"/> A check is enclosed.</p> <p><input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.</p> <p><input type="checkbox"/> The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).</p>
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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 form 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.

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NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

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Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_ Registration No. \_\_\_\_\_

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This collection of information 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 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, 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.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/085,016	04/12/2011	Harold S. Mindlin	A046 - 0025US	1249

29150                      7590                      10/02/2013  
**LEE & HAYES, PLLC**  
 601 W. RIVERSIDE AVENUE  
 SUITE 1400  
 SPOKANE, WA 99201

EXAMINER
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MCCARTY, TAUNYA A

ART UNIT	PAPER NUMBER
----------	--------------

2651

DATE MAILED: 10/02/2013

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 296 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 296 day(s).

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 Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

## 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.

<b>Notice of Allowability</b>	<b>Application No.</b> 13/085,016	<b>Applicant(s)</b> MINDLIN ET AL.	
	<b>Examiner</b> Taunya McCarty	<b>Art Unit</b> 2651	<b>AIA (First Inventor to File) Status</b> No

**-- 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 09/13/2013.  
 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 1, 2, 7-17, and 19-25 (renumbered as 1-20). 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](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to [PPHfeedback@uspto.gov](mailto: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. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                  |
| 2. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 6. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 7. <input type="checkbox"/> Other _____.   |
| 4. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____.          |  |

/Taunya McCarty/  
Examiner, Art Unit 2651

**EXAMINER'S AMENDMENT**

1. Please note that the examining group art unit number has changed from 2614 to 2651.
2. The present application is being examined under the pre-AIA first to invent provisions.
3. This communication is responsive to the request for continued examination dated 09/13/2013, where claims 1, 2, 7-17, 19 and 20 were amended, claims 3-6 and 18 were cancelled, and new claims 21-25 were added. It is noted that claim 7 was amended, although the amendment indicates that claim 7 is in original form.

***Continued Examination Under 37 CFR 1.114***

4. 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 final rejection. 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, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/13/2013 has been entered.
5. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Art Unit: 2651

6. Authorization for this examiner's amendment was given in a telephone interview with Andrew Eisenberg (Registration No. 69625) on 09/25/2013.

7. The application has been amended as follows:

In the CLAIMS:

Claim 1, line 17, change "corrections filter" to --correction filters--;

Claim 1, line 10, after "filters", delete -- t --;

Claim 1, line 10, after "filters", insert -- to--;

Claim 2, line 2, change "corrections" to --correction--;

Claim 2, line 2, change "corrections" to --correction--;

Claims 10-13 and 22, line 1 of each claim, before "computer-readable device", insert --non-transitory --;

Claim 14, line 10, change "corrections filter including" to --correction filters including--;

Claim 14, line 13, change "corrections" to --correction--;

Claim 14, line 13, before "to", insert --filters --;

Claim 14, line 16, before "to" (first occurrence), insert --of incremental hearing correction filters --;

Claim 14, line 17, before "from", insert --filter --;

Claim 21, line 5, change "corrections filter including" to --correction filters including--; and

Art Unit: 2651

Claim 22, line 5, change "corrections filter including" to --correction filters including--.

*Allowable Subject Matter*

8. Claims 1, 2, 7-17, and 19-25 are allowed. The following is an examiner's statement of reasons for the indication of allowable subject matter:

Regarding independent claim 1, the prior art of record, the combination of **Janssen** and **Sacha**, fails to teach a hearing aid with the particular limitation(s) of a memory to store instructions, which when executed by the processor, cause the processor to:

receive a selection of a hearing aid profile from a plurality of hearing aid profiles, the selected hearing aid profile configured to modulate the electrical signals to a level to compensate for a hearing impairment of a user;

apply a first one of a sequence of incremental hearing correction filters to the modulated electrical signals to produce a modulated output signal to reduce the amplitude of the modulated electrical signals produced by the selected hearing aid profile to a first level that is less than a level to compensate for the hearing impairment of the user;

select a second one of the sequence of incremental hearing correction filters in response to receiving a trigger, the second one being designated to follow the first one in the sequence of incremental hearing corrections filter and to reduce the amplitude of the modulated electrical signals produced by the selected hearing aid profile to a second level that is greater than the first level and less than the level to compensate for the hearing impairment of the user; and

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cause the speaker to output an alert when a final one of the sequence of incremental hearing correction filters is being applied, the final one being the last hearing correction filter of the sequence of incremental hearing correction filters. These limitation(s), when considered in combination with the remaining limitations of claim 1, are not taught nor suggested by the prior art of record.

Regarding independent claim 10, the prior art of record, **Sacha**, fails to teach a hearing aid with the particular limitation(s) of a non-transitory computer-readable device comprising instructions that, when executed by a processor, cause the processor to: select a hearing aid profile from a plurality of hearing aid profiles, the selected hearing aid profile configured to modulate an audio signal to a level to compensate for a hearing impairment of a user;

apply a first hearing correction filter to the selected hearing aid profile to reduce the amplitude of the modulated audio signal produced by the selected hearing aid profile to a first level that is less than the level to compensate for the hearing impairment of the user; and

selectively apply a second hearing correction filter to the selected hearing aid profile to reduce the amplitude of the modulated audio signal produced by the selected hearing aid profile to a second level that is greater than the first level and less than the level to compensate for the hearing impairment of the user when the amount of time exceeds a pre-determined threshold, the pre-determined threshold is programmable by the user. These limitation(s), when considered in combination with the remaining limitations of claim 10, are not taught nor suggested by the prior art of record.

Regarding independent claim 16, the prior art of record, the combination of **Janssen**, **Topholm** and **Zhang**, fails to teach a computing device with the particular limitation(s) of a

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memory coupled to the processor and configured to store instructions that, when executed by the processor, cause the processor to: generate a sequence of incremental hearing correction filters based at least in part on a magnitude of a difference between a hearing aid profile and a hearing loss level associated with a user of the hearing aid, the sequence of incremental hearing corrections filter including at least a first hearing correction filter and a second hearing correction filter. These limitation(s), when considered in combination with the remaining limitations of claim 16, are not taught nor suggested by the prior art of record.

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*

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taunya McCarty whose telephone number is (571)270-3692. The examiner can normally be reached on M-F, 8:00 AM-5:00 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Or faxed to:**



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Page 7

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(571) 273-8300, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".

**Hand-delivered responses should be brought to:**

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

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.

/Taunya McCarty/  
Examiner, Art Unit 2651

/DUC NGUYEN/  
Supervisory Patent Examiner, Art Unit  
2651

<b><i>Examiner-Initiated Interview Summary</i></b>	<b>Application No.</b> 13/085,016	<b>Applicant(s)</b> MINDLIN ET AL.	
	<b>Examiner</b> Taunya McCarty	<b>Art Unit</b> 2651	

All participants (applicant, applicant's representative, PTO personnel):

- (1) Taunya McCarty. (3)\_\_\_\_\_.
- (2) Andrew Eisenberg (Registration No. 69625). (4)\_\_\_\_\_.

Date of Interview: 25 September 2013.

Type:  Telephonic  Video Conference  
 Personal [copy given to:  applicant  applicant's representative]

Exhibit shown or demonstration conducted:  Yes  No.  
If Yes, brief description: \_\_\_\_\_.

Issues Discussed 101 112 102 103 Others  
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: 1, 2, 1-14, 21 and 22.

Identification of prior art discussed: \_\_\_\_\_.

#### Substance of Interview

(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)


Applicant's representative agreed to and gave authorization for this examiner's amendment to incorporate the Examiner's proposed modifications/typographical corrections. (see Examiner's Amendment).

**Applicant recordation instructions:** It is not necessary for applicant to provide a separate record of the substance of interview.

**Examiner recordation instructions:** Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

Attachment

/Taunya McCarty/  
Examiner, Art Unit 2651

<b>Search Notes</b>  	<b>Application/Control No.</b>  13085016	<b>Applicant(s)/Patent Under Reexamination</b>  MINDLIN ET AL.
	<b>Examiner</b>  TAUNYA MCCARTY	<b>Art Unit</b>  2651

**CPC- SEARCHED**

Symbol	Date	Examiner

**CPC COMBINATION SETS - SEARCHED**

Symbol	Date	Examiner

**US CLASSIFICATION SEARCHED**

Class	Subclass	Date	Examiner
381	314	03/25/2013	tam

**SEARCH NOTES**

Search Notes	Date	Examiner
Inventor search (EAST)	03/25/2013	tam
EAST (381/314)(combination text and class/subclass and picture)	03/25/2013	tam
Discussed Final with D. Nguyen (SPE-GAU2651)	06/11/2013	tam
Updated search (EAST); NPL-google scholar-hearing aid acclimatization	07/22/2013; 07/23/2013	tam
Discussed with B. Ensey (Primary-GAU2656)	07/23/2013	tam
Updated search (EAST); NPL-google scholar-hearing aid acclimatization	09/24/2013	tam
Discussed with D. Nguyen (SPE-GAU2651) via collaboration tools (non-transitory)	09/25/2013	tam

**INTERFERENCE SEARCH**

US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
	Please see attached search history.	09/25/2013	tam

/TAUNYA MCCARTY/  
Examiner.Art Unit 2651

## EAST Search History

## EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	2	((HAROLD) near2 (MINDLIN)).INV.	US-PGPUB; USPAT; USOCR	OR	ON	2013/09/24 10:37
S2	53	((DAVID) near2 (LANDRY)).INV.	US-PGPUB; USPAT; USOCR	OR	ON	2013/09/24 10:37
S3	47715	(hearing adj (device or aid\$2 or element or appliance or apparatus or piece or unit or instrument or system) or earpiece)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 10:37
S4	1806	S3 and (program\$5 adj (device or module))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 10:37
S5	600	381/314.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 10:37
S6	124	S4 and S5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 10:37
S7	30746	(hearing adj (device or aid\$2 or element or appliance or apparatus or piece or unit or instrument or system))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 10:37
S8	67940	"381"/\$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 10:37
S9	242483	"455"/\$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 10:37
S10	9173	(S8 or S9) and S7	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 10:37
S11	8527	S10 and (@pd or @ptad or @prad or @ad or @rlad)<"20100414"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 10:37
S12	0	S11 and (Advance\$3 near3 (gradual\$2 or slow\$2 or regular\$2 or progressive\$2 or increasing\$2 or refinement or accommodation or adjustment or clos\$3)	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2013/09/24 10:37

		same (Prescribed near3 fitting))	169	EPO; JPO; DERWENT; IBM_TDB			
S13	0	S11 and (Advanc\$5 near3 (gradual\$2 or slow\$2 or regular\$2 or progressive\$2 or increasing\$2 or refinement or accommodation or adjustment or clos\$3) same (Prescribed near3 fitting))		US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 10:37
S14	1	(Advanc\$5 near3 (gradual\$2 or slow\$2 or regular\$2 or progressive\$2 or increasing\$2 or refinement or accommodation or adjustment or clos\$3) same (Prescribed near3 fitting))		US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 10:37
S15	1	S7 and ((Advanc\$5 near3 (gradual\$2 or slow\$2 or regular\$2 or progressive\$2 or clos\$3)) same (fitting))		US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 10:37
S16	25	S7 and (prescrib\$3 with target)		US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 10:37
S17	19	S16 and (@pd or @ptad or @prad or @ad or @rlad)<"20100414"		US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 10:37
S18	30746	(hearing adj (device or aid\$2 or element or appliance or apparatus or piece or unit or instrument or system))		US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 10:37
S19	67940	"381"/\$.ccls.		US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 10:37
S20	242483	"455"/\$.ccls.		US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 10:37
S21	9173	(S19 or S20) and S18		US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 10:37
S22	8527	S21 and (@pd or @ptad or @prad or @ad or @rlad)<"20100414"		US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 10:37
S23	13	S22 and (prescrib\$3 with target)		US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 10:37
S24	0	acclimati?at\$3 same ((Advanc\$5 near3 (gradual\$2 or slow\$2 or regular\$2 or progressive\$2 or clos\$3)) same (fitting))		US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 10:58

S25	1	S1 and ((acclimat\$4 or accustomed or familiar\$4 or seasoned or habituated) same (Advanc\$5 or gradual\$2 or slow\$2 or regular\$2 or progressive\$2 or clos\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 11:03
S26	48670	((acclimat\$4 or accustomed or familiar\$4 or seasoned or habituated) same (Advanc\$5 or gradual\$2 or slow\$2 or regular\$2 or progressive\$2 or clos\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 11:03
S27	1	S1 and ((acclimat\$4 or accustomed or familiar\$4 or seasoned or habituated) same3 (Advanc\$5 or gradual\$2 or slow\$2 or regular\$2 or progressive\$2 or clos\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 11:04
S28	1	S1 and ((acclimat\$4 or accustomed or familiar\$4 or seasoned or habituated) same10 (Advanc\$5 or gradual\$2 or slow\$2 or regular\$2 or progressive\$2 or clos\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 11:04
S29	1	S1 and (acclimat\$4 or accustomed or familiar\$4 or seasoned or habituated) and (Advanc\$5 or gradual\$2 or slow\$2 or regular\$2 or progressive\$2 or clos\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 11:05
S30	10197	(acclimat\$4 or accustomed or familiar\$4 or seasoned or habituated) with (Advanc\$5 or gradual\$2 or slow\$2 or regular\$2 or progressive\$2 or clos\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 11:06
S31	379	S30 and hearing	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 11:06
S32	56	S30 same hearing	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 11:06
S33	51	S32 and (@pd or @ptad or @prad or @ad or @rlad)< "20100414"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 11:39
S34	203	hearing same ((second\$3 or next or pair or group or couple or other or another or many or several or numerous or plural or plurality or multi or multiple) near5 profile)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 11:46
S35	971	hearing same ((second\$3 or next or pair or group or couple or other or another or many or several or numerous or plural or plurality or multi or multiple) near5 filter)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 11:47
S36	21	S34 and S35	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 11:48
S37	20	S36 and (@pd or @ptad or @prad or @ad or @rlad)< "20100414"	US-PGPUB; USPAT;	OR	ON	2013/09/24 11:48

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S38	1	S33 and S37	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 12:24
S39	3	("2005/0036637").URPN.	USPAT	OR	ON	2013/09/24 12:31
S40	1	(11/911120).APP.	US-PGPUB; USOCR	OR	ON	2013/09/24 12:32
S41	8	("20020078161"   "20020191806"   "20040013280"   "5825894"   "6035050").PN. OR ("7885416").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2013/09/24 12:34
S42	30	("4049930"   "4777474"   "4821247"   "4972487"   "5210803"   "6008720"   "6320969").PN. OR ("6785394").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2013/09/24 12:34
S43	45	("3784750"   "3818149"   "3928733"   "3989904"   "4099035"   "4118604"   "4119814"   "4276781"   "4335281"   "4393275"   "4425481"   "4454609"   "4471171"   "4484345"   "4575586"   "4577641"   "4634815"   "4638125"   "4731850"   "4792977").PN. OR ("4941179").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2013/09/24 13:01
S44	37	hearing same ((second\$3 or next or pair or group or couple or other or another or many or several or numerous or plural or plurality or multi or multiple) with (filter and profile))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 15:17
S45	34	S44 and (@pd or @ptad or @prad or @ad or @rlad)<"20100414"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2013/09/24 15:18

## EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2	((HAROLD) near2 (MINDLIN)).INV.	US- PGPUB; USPAT; UPAD	OR	ON	2013/09/25 13:50
L2	53	((DAVID) near2 (LANDRY)).INV.	US- PGPUB; USPAT; UPAD	OR	ON	2013/09/25 13:51
L3	531	381/314.ccls.	US- PGPUB; USPAT; UPAD	OR	ON	2013/09/25 13:51
L4	303	(hearing same ((second\$3 or next or pair or group or couple or other or another or many or several or numerous or plural or plurality or multi or multiple) near5 filter)).CLM.	US- PGPUB; USPAT; UPAD	OR	ON	2013/09/25 13:53
L5	54	(hearing same ((second\$3 or next or pair or group or couple or other or another or many or several or numerous or plural or plurality or multi or multiple) near5 profile)).CLM.	US- PGPUB; USPAT; UPAD	OR	ON	2013/09/25 13:54
L6	3	(hearing same ((second\$3 or next or pair or group or couple or other or another or many or several or numerous or plural or plurality or multi or multiple) with (filter and profile))).CLM.	US- PGPUB; USPAT; UPAD	OR	ON	2013/09/25 13:56
L7	74	((acclimat\$4 or accustomed or familiar\$4 or seasoned or habituated) with (Advanc\$5 or gradual\$2 or slow\$2 or regular\$2 or progressive\$2 or clos\$3 or incremental)).CLM.	US- PGPUB; USPAT; UPAD	OR	ON	2013/09/25 13:58
L8	1	7 and 4	US-	OR	ON	2013/09/25


172

			PGPUB; USPAT; UPAD			13:59
L9	1	7 and 5	US- PGPUB; USPAT; UPAD	OR	ON	2013/09/25 13:59
L10	1	7 and 6	US- PGPUB; USPAT; UPAD	OR	ON	2013/09/25 13:59
L11	1	3 and 7	US- PGPUB; USPAT; UPAD	OR	ON	2013/09/25 14:01
L12	3	3 and 6	US- PGPUB; USPAT; UPAD	OR	ON	2013/09/25 14:01
L13	16	3 and 5	US- PGPUB; USPAT; UPAD	OR	ON	2013/09/25 14:02
L14	16	3 and 4	US- PGPUB; USPAT; UPAD	OR	ON	2013/09/25 14:03
L15	14	14 not 13	US- PGPUB; USPAT; UPAD	OR	ON	2013/09/25 14:03

9/ 25/ 2013 2:04:16 PM

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<p><b>Issue Classification</b></p> 	<p><b>Application/Control No.</b> 13085016</p>	<p><b>Applicant(s)/Patent Under Reexamination</b> MINDLIN ET AL.</p>
	<p><b>Examiner</b> TAUNYA MCCARTY</p>	<p><b>Art Unit</b> 2651</p>

CPC			Type	Version
Symbol				


CPC Combination Sets				
Symbol	Type	Set	Ranking	Version

/TAUNYA MCCARTY/ Examiner.Art Unit 2651  (Assistant Examiner)	09/25/2013  (Date)	<b>Total Claims Allowed:</b>  20	
/DUC NGUYEN/ Supervisory Patent Examiner.Art Unit 2651  (Primary Examiner)	09/26/2013  (Date)	O.G. Print Claim(s)  1	O.G. Print Figure  2

<p><b>Issue Classification</b></p> 	<p><b>Application/Control No.</b> 13085016</p>	<p><b>Applicant(s)/Patent Under Reexamination</b> MINDLIN ET AL.</p>
	<p><b>Examiner</b> TAUNYA MCCARTY</p>	<p><b>Art Unit</b> 2651</p>

US ORIGINAL CLASSIFICATION					INTERNATIONAL CLASSIFICATION								
CLASS		SUBCLASS			CLAIMED				NON-CLAIMED				
381		314			H	0	4	R	25 / 00 (2006.01.01)				
<b>CROSS REFERENCE(S)</b>													
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)												
381	60	312											

<p>/TAUNYA MCCARTY/ Examiner.Art Unit 2651</p> <p>(Assistant Examiner)</p>	<p>09/25/2013 (Date)</p>	<p><b>Total Claims Allowed:</b> 20</p>	
<p>/DUC NGUYEN/ Supervisory Patent Examiner.Art Unit 2651</p> <p>(Primary Examiner)</p>	<p>09/26/2013 (Date)</p>	<p>O.G. Print Claim(s) 1</p>	<p>O.G. Print Figure 2</p>

<b>Issue Classification</b> 	<b>Application/Control No.</b> 13085016	<b>Applicant(s)/Patent Under Reexamination</b> MINDLIN ET AL.
	<b>Examiner</b> TAUNYA MCCARTY	<b>Art Unit</b> 2651

<input type="checkbox"/> <b>Claims renumbered in the same order as presented by applicant</b>																<input type="checkbox"/> <b>CPA</b>		<input type="checkbox"/> <b>T.D.</b>		<input type="checkbox"/> <b>R.1.47</b>	
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original						
1	1	13	17																		
2	2	-	18																		
-	3	14	19																		
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12	16																				

/TAUNYA MCCARTY/ Examiner.Art Unit 2651  (Assistant Examiner)	09/25/2013  (Date)	<b>Total Claims Allowed:</b>  20	
/DUC NGUYEN/ Supervisory Patent Examiner.Art Unit 2651  (Primary Examiner)	09/26/2013  (Date)	O.G. Print Claim(s)  1	O.G. Print Figure  2



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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
13/085,016 04/12/2011 Harold S. Mindlin A046 - 0025US 1249

29150 7590 11/14/2013
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SPOKANE, WA 99201

EXAMINER

MCCARTY, TAUNYA A

Table with 2 columns: ART UNIT, PAPER NUMBER

2651

Table with 2 columns: NOTIFICATION DATE, DELIVERY MODE

11/14/2013 ELECTRONICELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

lhpto@leehayes.com



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P.O. Box 1450  
Alexandria, Virginia 22313-1450

<b>APPLICATION NO./ CONTROL NO.</b>	<b>FILING DATE</b>	<b>FIRST NAMED INVENTOR / PATENT IN REEXAMINATION</b>	<b>ATTORNEY DOCKET NO.</b>
13/085,016	12 April, 2011	MINDLIN ET AL.	A046 - 0025US

LEE & HAYES, PLLC 601 W. RIVERSIDE AVENUE SUITE 1400 SPOKANE, WA 99201	<b>EXAMINER</b>	
	RICHARD ELLIS	
	<b>ART UNIT</b>	<b>PAPER</b>
	OPIM	A-75879

DATE MAILED:

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner for Patents**

The attached addendum forms part of the previously mailed PTOL-85 (Notice of Allowance and Fees Due). This addendum does NOT change the time period set in the PTOL-85 for payment of the issue fee.

ANY QUESTIONS REGARDING THIS COMMUNICATION SHOULD BE DIRECTED TO THE OFFICE OF PATENT LEGAL ADMINISTRATION AT (571) 272-7701.

**Notices of Allowance and Fee(s) Due mailed between October 1, 2013 and  
December 31, 2013**

(Addendum to PTOL-85)

If the “Notice of Allowance and Fee(s) Due” has a mailing date on or after October 1, 2013 and before January 1, 2014, the following information is applicable to this application.

If the issue fee is being timely paid on or after January 1, 2014, the amount due is the issue fee and publication fee in effect January 1, 2014. On January 1, 2014, the issue fees set forth in 37 CFR 1.18 decrease significantly and the publication fee set forth in 37 CFR 1.18(d)(1) decreases to \$0.

If an issue fee or publication fee has been previously paid in this application, applicant is not entitled to a refund of the difference between the amount paid and the amount in effect on January 1, 2014.

**PART B - FEE(S) TRANSMITTAL**

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**  
**Commissioner for Patents**  
**P.O. Box 1450**  
**Alexandria, Virginia 22313-1450**  
 or **Fax** **(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)

Customer Number 29150  
 Lee & Hayes PLLC  
 601 W Riverside Ave Suite 1400  
 Spokane, WA 99201

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 facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

N/A filed via EFS-Web	(Depositor's name)
	(Signature)
	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/085,016	4/12/2011	Harold S Mindlin II	A046 - 0025US	1249

TITLE OF INVENTION: **System and Method of Progressive Hearing Device Adjustment**

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	480	0		480	1/2/2014

EXAMINER	ART UNIT	CLASS-SUBCLASS
Taunya A. McCarty	2651	

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). <input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached. <input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. <b>Use of a Customer Number is required.</b>	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 <u>Lee &amp; Hayes, PLLC</u> 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 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.

(A) NAME OF ASSIGNEE	(B) RESIDENCE: (CITY and STATE OR COUNTRY)
<b>Audiotoniq, Inc.</b>	<b>Austin TX</b>

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

4a. The following fee(s) are submitted: <input checked="" type="checkbox"/> Issue Fee <input type="checkbox"/> Publication Fee (No small entity discount permitted) <input type="checkbox"/> Advance Order - # of Copies _____	4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above) <input type="checkbox"/> A check is enclosed. <input checked="" type="checkbox"/> Payment by credit card. Form PTO-2038 is attached. Fees Paid Via EFS-Web <input checked="" type="checkbox"/> The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number <u>12-0769</u> (enclose an extra copy of this form).
---	--

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

a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.  b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature /Andrew Eisenberg 69625/ Date January 2, 2014  
 Typed or printed name Andrew L. Eisenberg Registration No. 69625

This collection of information 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 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, 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.

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	13085016			
<b>Filing Date:</b>	12-Apr-2011			
<b>Title of Invention:</b>	System and Method of Progressive Hearing Device Adjustment			
<b>First Named Inventor/Applicant Name:</b>	Harold S. Mindlin			
<b>Filer:</b>	Andrew L. Eisenberg/Linda Clark			
<b>Attorney Docket Number:</b>	A046-0025US			
Filed as Small Entity				
<b>Utility under 35 USC 111(a) Filing Fees</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
Utility Appl Issue Fee	2501	1	480	480
Publ. Fee- Early, Voluntary, or Normal	1504	1	0	0



Description	181 Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Extension-of-Time:</b>				
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>480</b>

182  
**Electronic Acknowledgement Receipt**

<b>EFS ID:</b>	17796192
<b>Application Number:</b>	13085016
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1249
<b>Title of Invention:</b>	System and Method of Progressive Hearing Device Adjustment
<b>First Named Inventor/Applicant Name:</b>	Harold S. Mindlin
<b>Customer Number:</b>	29150
<b>Filer:</b>	Andrew L. Eisenberg/Linda Clark
<b>Filer Authorized By:</b>	Andrew L. Eisenberg
<b>Attorney Docket Number:</b>	A046-0025US
<b>Receipt Date:</b>	02-JAN-2014
<b>Filing Date:</b>	12-APR-2011
<b>Time Stamp:</b>	11:18:07
<b>Application Type:</b>	Utility under 35 USC 111(a)

**Payment information:**

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$480
RAM confirmation Number	11514
Deposit Account	
Authorized User	

**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)	183 11V4197.PDF	37243	no	1
			4167d01807493e1983f524eb9b5ab4fb4dbdb54a		

**Warnings:**

**Information:**

2	Fee Worksheet (SB06)	fee-info.pdf	31826	no	2
			a770ad2773bb7d34abd8397cbabe327a9a5135b8		

**Warnings:**

**Information:**

<b>Total Files Size (in bytes):</b>			69069		
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**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 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.
13/085,016	02/18/2014	8654999	A046-0025US	1249

29150 7590 01/29/2014  
LEE & HAYES, PLLC  
601 W. RIVERSIDE AVENUE  
SUITE 1400  
SPOKANE, WA 99201

### 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 296 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):

Harold S. Mindlin, Austin, TX;  
David Matthew Landry, Austin, TX;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit [SelectUSA.gov](http://SelectUSA.gov).

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.

**POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO**

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:

Practitioners associated with the Customer Number: **25096**

OR

Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:

The address associated with Customer Number: **25096**

OR

Firm or Individual Name

Address

City

State

Zip

Country

Telephone

Email

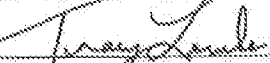
Assignee Name and Address:

III Holdings 4, LLC  
 2711 Centerville Rd  
 Suite 400  
 Wilmington, Delaware 19808

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/86 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

**SIGNATURE of Assignee of Record**

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee:

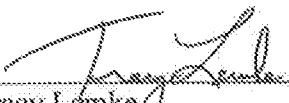
Signature		Date	9/8/15
Name	Tracy Lemke	Telephone	
Title	Authorized Person for III Holdings 4, LLC		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. 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 38 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 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. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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

DECLARATION REGARDING AUTHORITY TO SIGN  
ON BEHALF OF A LEGAL ENTITY  
37 C.F.R. 3.73(b)(2)(i)

I, Tracy Lemke (whose title is supplied below), hereby declare that I am authorized to sign documents on behalf of III Holdings 4, LLC

  
\_\_\_\_\_  
Tracy Lemke  
Authorized Person for III Holdings 4, LLC

7/8/15  
\_\_\_\_\_  
Date

Under the Paperwork Reduction Act of 1996, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**STATEMENT UNDER 37 CFR 3.73(b)**Applicant/Patent Owner: Harold S. Mindlin, David Matthew LandryApplication No./Patent No.: 8,854,999 Filed/Issue Date: February 18, 2014Entitled: System and Method of Progressive Hearing Device AdjustmentIII Holdings 4, LLC, a Limited Liability Company  
(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1.  the assignee of the entire right, title, and interest; or
2.  an assignee of less than the entire right, title and interest.  
(The extent (by percentage) of its ownership interest is \_\_\_\_\_ %)

in the patent application/patent identified above by virtue of either:

- 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 \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

OR

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

1. From: Inventors To: Audiotoniq, Inc.  
The document was recorded in the United States Patent and Trademark Office at Reel 036586, Frame 0001, or for which a copy thereof is attached.
2. From: Audiotoniq, Inc. To: III Holdings 4, LLC  
The document was recorded in the United States Patent and Trademark Office at Reel 036536, Frame 0249, or for which a copy thereof is attached.
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.

 Additional documents in the chain of title are listed on a supplemental sheet.

- As required by 37 CFR 3.73(b)(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\_\_\_\_\_  
Aaron J. Poledna, Reg. No. 54,675  
Printed or Typed Name\_\_\_\_\_  
Attorney for Assignee  
Title\_\_\_\_\_  
9/22/15  
Date\_\_\_\_\_  
(206) 359-6000  
Telephone Number

Docket No.: 0320525667US2  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

.....  
In re Patent Application of:  
Mindlin et al.

Patent No.: 8,654,999

Confirmation No.: 1249

Issued: February 18, 2014

Art Unit: 2651

For: System and Method of Progressive Hearing  
Device Adjustment  
.....

Examiner: T. A. McCarty

**NOTIFICATION OF LOSS OF ENTITLEMENT TO SMALL ENTITY STATUS**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Madam:

Assignee, III Holdings 4, LLC, hereby notifies the Patent and Trademark Office that it is no longer entitled to status as a small entity, and that the claim for small entity status previously filed by the Applicant is hereby withdrawn.



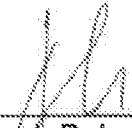
Application No.: 13/085,016

Docket No.: 0320525667US2

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-0665, under Order No. 0320525667US2 from which the undersigned is authorized to draw.

Dated: 9/22/15

Respectfully submitted,

By   
\_\_\_\_\_  
Aaron J. Poledna  
Registration No.: 54,675  
PERKINS COIE LLP  
P.O. Box 1247  
Seattle, Washington 98111-1247  
(206) 359-8000  
(206) 359-7198 (Fax)  
Attorney for Applicant

190  
**Electronic Acknowledgement Receipt**

<b>EFS ID:</b>	23576700
<b>Application Number:</b>	13085016
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1249
<b>Title of Invention:</b>	System and Method of Progressive Hearing Device Adjustment
<b>First Named Inventor/Applicant Name:</b>	Harold S. Mindlin
<b>Customer Number:</b>	29150
<b>Filer:</b>	Aaron J. Poledna/Pamela Stenslie
<b>Filer Authorized By:</b>	Aaron J. Poledna
<b>Attorney Docket Number:</b>	A046-0025US
<b>Receipt Date:</b>	23-SEP-2015
<b>Filing Date:</b>	12-APR-2011
<b>Time Stamp:</b>	11:27:42
<b>Application Type:</b>	Utility under 35 USC 111(a)

**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		2015_09_23_320525667US2_P OA.PDF	211923 <small>abefc6275c31abd1f661d19df47160f327480f58</small>	yes	3

Multipart Description/PDF files in .zip description			
Document Description	Start	End	
Power of Attorney	1	1	
Miscellaneous Incoming Letter	2	2	
Assignee showing of ownership per 37 CFR 3.73	3	3	

**Warnings:**

**Information:**

2	Maintenance Fee Address Change	2015_09_23_320525667US2_FeeAddress.PDF	87377 8c1b4c80e1d43ba13693a060ad52e04d2c82f26f	no	1
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**Warnings:**

**Information:**

3	Notification of loss of entitlement to small entity status	2015_09_23_320525667US2_LossSmallEntity.PDF	52288 7a612788492301009edd49509f8bb11be4477f53	no	2
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**Warnings:**

**Information:**

<b>Total Files Size (in bytes):</b>			351588
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**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.**

**"FEE ADDRESS" INDICATION FORM**

Address to:  
Mall Stop M Correspondence  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Fax to:  
571-273-6500

- OR -

**INSTRUCTIONS:** The issue fee must have been paid for application(s) listed on this form. In addition, only an address represented by a Customer Number can be established as the fee address for maintenance fee purposes (hereafter, fee address). A fee address should be established when correspondence related to maintenance fees should be mailed to a different address than the correspondence address for the application. **When to check the first box below:** If you have a Customer Number to represent the fee address. **When to check the second box below:** If you have no Customer Number representing the desired fee address, in which case a completed Request for Customer Number (PTO/SB/125) must be attached to this form. For more information on Customer Numbers, see the Manual of Patent Examining Procedure (MPEP) § 403.

For the following listed application(s), please recognize as the "Fee Address" under the provisions of 37 CFR 1.363 the address associated with:

Customer Number:

OR

The attached Request for Customer Number (PTO/SB/125) form.

PATENT NUMBER (if known)	APPLICATION NUMBER
8,654,999	13/085,016 Confirmation #1249

Completed by (check one):

Applicant/Inventor

Attorney or Agent of record 54,675  
(Reg. No.)

Assignee of record of the entire interest. See 37 CFR 3.71.  
Statement under 37 CFR 3.73(b) is enclosed.  
(Form PTO/SB/96)

Assignee recorded at Reel \_\_\_\_\_ Frame \_\_\_\_\_

Signature

Aaron J. Poledna

Typed or printed name

(206) 359-3982

Requester's telephone number

1/22/15

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

\* Total of 1 forms are submitted.


**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
13/085,016	04/12/2011	Harold S. Mindlin	A046-0025US

**CONFIRMATION NO. 1249**
**POA ACCEPTANCE LETTER**


25096  
 PERKINS COIE LLP - SEA General  
 PATENT-SEA  
 P.O. BOX 1247  
 SEATTLE, WA 98111-1247

Date Mailed: 10/01/2015

**NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY**

This is in response to the Power of Attorney filed 09/23/2015.

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.

/zabraha/


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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/085,016	04/12/2011	Harold S. Mindlin	A046-0025US

**CONFIRMATION NO. 1249**
**POWER OF ATTORNEY NOTICE**


29150  
 LEE & HAYES, PLLC  
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 SPOKANE, WA 99201

Date Mailed: 10/01/2015

**NOTICE REGARDING CHANGE OF POWER OF ATTORNEY**

This is in response to the Power of Attorney filed 09/23/2015.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. 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.

/zabraha/