



Quality Insights

Patentcloud Quality Insights Annotation Report  
***Staton Techiya, LLC et al v. Samsung Electronics Co., Ltd.  
et al***

EDTX-2-21-cv-00413

Focus on: U.S. Pat. No. 10,966,015

Filing date: Nov. 05, 2021

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Click on a page number to read

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# Map claims to specification and file wrapper

# Map claims to specification - '015

Which claim terms are or are not in the specification?

31 Terms Identified in This Claim
Click to Select Terms

**Select Text**

Highlight text from within the claim with your cursor and click on the tooltip "Select Terms" to find references in the Specification.

**Claim# 1**

The following claim terms are not literally supported by the specification, which may have rooms for different interpretations.

"portion", "manually"

---

A method for activating ambient sound pass-through in an earphone in response to a detected keyword in the ambient sound field of the earphone user,

the steps of the method comprising

receiving at least one ambient sound microphone (ASM) signal;

receiving at least one audio content (AC) signal;

identifying if a keyword is matched to a portion of the ASM signal, wherein

the keyword is matched to the portion of the ASM signal when temporal or spectral patterns of the keyword and the portion of the ASM signal match within a threshold average value;

and generating an ASM gain if a keyword is matched to the portion of the ASM signal;

**Claim Analysis finds** these terms in the spec: "ambient sound field", "ambient sound microphone", "(ASM) signal", "audio content (AC) signal", as well as other terms that are highlighted in red.

# Map claims to specification - '015

Which claim terms are or are not in the specification?

31 Terms Identified in This Claim ☰ ☰

Select Text

Highlight text from within the claim with your cursor and click on the tooltip 'Select Terms' to find references in the Specification.

Claim# 1

The following claim terms are not literally supported by the specification, which may have rooms for different interpretations.

"portion", "manually"

A method for activating ambient sound pass-through in an earphone in response to a detected keyword in the ambient sound field of the earphone user, the steps of the method comprising:

Select Terms

receiving at least one ambient sound microphone (ASM) signal;

receiving at least one audio content (AC) signal;

Review the selected claim element and see how it is defined in the patent specification and related figures.

Selected elements of '015 Claim 1

Selected elements of Claim '1 in Spec

Figures of '015

**Claim Terms**

ambient sound microphone (ASM)

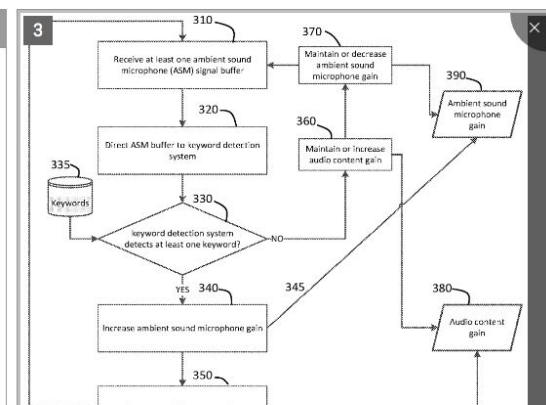
signal

The selected clause includes the following keywords:

- signal (35)
- ambient (23)
- sound (27)
- microphone (19)

**Content**

[0019] At least one exemplary embodiment is directed to a signal processing system is directed to an Audio Content (AC) signal (e.g. music or speech audio signal) from the said communication device 190 (e.g. mobile phone etc.) or said audio content delivery device 160 (e.g. music player); and further receives the at least one ASM signal and the optional ECM signal. Said signal processing system mixes the at least one ASM and AC signal and transmits the resulting mixed signal to the ECR in the loudspeaker. The mixing of the at least one ASM and AC signal is controlled by voice activity of the earphone wearer. FIG. 2 illustrates a method 200 for mixing ambient sound microphone with audio content. First an ambient sound microphone 147 is measured by the ambient sound microphone 147 and converted into an ambient sound microphone signal 220. The ambient sound microphone signal is sent to a voice pass through method 210 and to a signal gain



# Map claims to specification and Complaint - '015

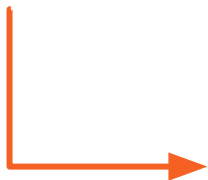
Does the allegedly infringing product element fall within or outside the patent's scope?

Claim Terms	Content
<p><b>ambient</b>   <b>sound</b>   <b>microphone</b> (ASM)</p> <p><b>signal</b></p> <p>The selected clause includes the following keywords:</p> <p><b>signal</b> (35)</p> <p><b>ambient</b> (23)</p> <p><b>sound</b> (27)</p> <p><b>microphone</b> (19)</p>	<p>[0019] At least one exemplary embodiment is directed to a <b>signal</b> processing system is directed to an Audio Content (AC) <b>signal</b> (e.g. music or speech audio <b>signal</b>) from the said communication device 190 (e.g. mobile phone etc.) or said audio content delivery device 160 (e.g. music player); and further receives the at least one ASM <b>signal</b> and the optional ECM <b>signal</b>. Said <b>signal</b> processing system mixes the at least one ASM and AC <b>signal</b> and transmits the resulting mixed <b>signal</b> to the ECR in the loudspeaker. The mixing of the at least one ASM and AC <b>signal</b> is controlled by voice activity of the earphone wearer. FIG. 2 illustrates a method 200 for mixing <b>ambient sound</b>   <b>sound</b>   <b>microphone</b> with audio content. First an <b>ambient sound</b>   <b>sound</b>   <b>microphone</b> 147 is measured by the <b>ambient sound</b>   <b>sound</b>   <b>microphone</b> 147 and converted into an <b>ambient sound</b>   <b>sound</b>   <b>microphone</b>   <b>signal</b> 220. The <b>ambient sound</b>   <b>sound</b>   <b>signal</b> is sent to a voice pass through method 210 and to a <b>signal</b> gain</p>

With the claim scope interpretation from **Claim Analysis**, verify your findings against the complaint.

Answer the question:

**Does the alleged invention element fall within or outside the patent's scope?**



173. The Bixby-enabled Samsung Galaxy Buds, Buds+, and Buds Pro include Ambient Sound Mode in which the gain of the signal from an Ambient sound Microphone is increased to enable the user of the Buds to better hear ambient sound when also listening to music or other sound.

# Map claims to the file wrapper - '015

Which claim terms are in the file wrapper(i.e. examiner's opinion) ?

Disclosure Rate by Prior Art

Claim	Disclosure by Single Reference		Disclosure by Multiple References	
	Prosecution History	Post-Grant	Prosecution History	Post-Grant
<input checked="" type="checkbox"/> #1	100%	0%	100%	0%
<input checked="" type="checkbox"/> #9	75%	0%	75%	0%
<input type="checkbox"/> #12	100%	0%	100%	0%

Confirm

Claim# 1  
 A method for activating ambient sound pass-through in an earphone in response to a detected keyword in the ambient sound field of the earphone user, the steps of the method comprising: receiving at least one ambient sound microphone (ASM) signal; receiving at least one audio content (AC) signal; identifying if a keyword is matched to a portion of the ASM signal, wherein the keyword is matched to the portion of the ASM signal when temporal or spectral patterns of the keyword and the portion of the ASM signal match within a threshold average value; and generating an ASM gain if a keyword is matched to the portion of the ASM signal; and applying the ASM gain to the ASM signal until

From **Claim Insights**, review how the asserted claims were disclosed by the prior art found by the examiner during prosecution and post-grant proceedings.

**A higher percentage means more claim elements were disclosed by the prior art.**

Claim Insights Summary Table > Claim Table (Claim# 1) | Select A Claim 1 9 **switch between claims**

How is each claim element disclosed by cited prior art? Click numbers to find detailed comparison.

**The percentage "%" indicates how many keywords in an element being disclosed by a specific references. [Click](#) to find comprehensive explanation of calculation.**

All  Prosecution history  Post-Grant  Responded prior arts only

Claims	Prior Art Ref. (4)			
	US2017/0142511	US2007/0189544	US10405082	US2009/0016541
#1.01 (A) (100%)	50%	100%	75%	0%
#1.02 (N/A)	N/A	N/A	N/A	N/A
#1.03 (A) (100%)	100%	100%	100%	0%
#1.04 (A) (100%)	100%	100%	100%	0%
#1.05 (A) (100%)	66%	100%	100%	50%

Disclosure Rate by Prior Art

# Map claims terms to the file wrapper - '015

Why was this patent granted? Which claims were amended and how did the scope change?

Claims	Prior Art Ref. (9)		
	US8681466	US9320018	US8428226
#1.01 (N/A)	N/A	N/A	N/A
#1.02 (100%)	100%	100%	100%
#1.03 (N/A)	N/A	N/A	N/A
#1.04 (75%)	50%	25%	25%
#1.05 (77%)	55%	22%	22%

All of the limitations of this asserted claim element in '015 were 100% known by Rosenberg (US2007/0189544) and US10405082.

Answer the question:  
**Why was this patent granted?**

Claim Insights Summary Table > Claim Table ( Claim# 1 ) > Claim Element Page ( Claim# 1.03 ) > US2007/0189544 | Select A Claim 1 9

Side-by-side comparison; Claim terms not found may imply the reasons for patentability.

Find 3 Result(s) Filter Clear All

**Rejection from Examiner**

**Claim Element**

#1.03 receiving at least one **ambient sound microphone (ASM) signal**.

**Prior Art Ref.** [US10405082] Rosenberg [US2007/0189544]

**Rejection** 20200611-CTNF Prosecution History 35 U.S.C.§ double patenting

2.

claims 1-10 rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of u.s. patent no.10,405,082 in view of **rosenberg**, u.s. . patent application publication no.2007/0189544(hereinafter **rosenberg** ).

regarding claim 1 of the instant application, claim 1 of the patent discloses:a method for activating ambient sound pass – through in an earphone in response to a detected keyword in the ambient sound field of the earphone user, the steps of the method comprising:receiving at least one **ambient sound microphone (asm) signal**,receiving at least one audio content(ac **signal**)identifying if a keyword is matched to a portion of the **asm signal**, wherein the keyword is matched to the portion of the **asm signal** when temporal or spectral patterns of the keywords and the portion of the **asm signal** match within a threshold average value.

further regarding claim 1 of the instant application, claim 1 of the patent does not disclose generating an **asm** gain if a keyword is matched to

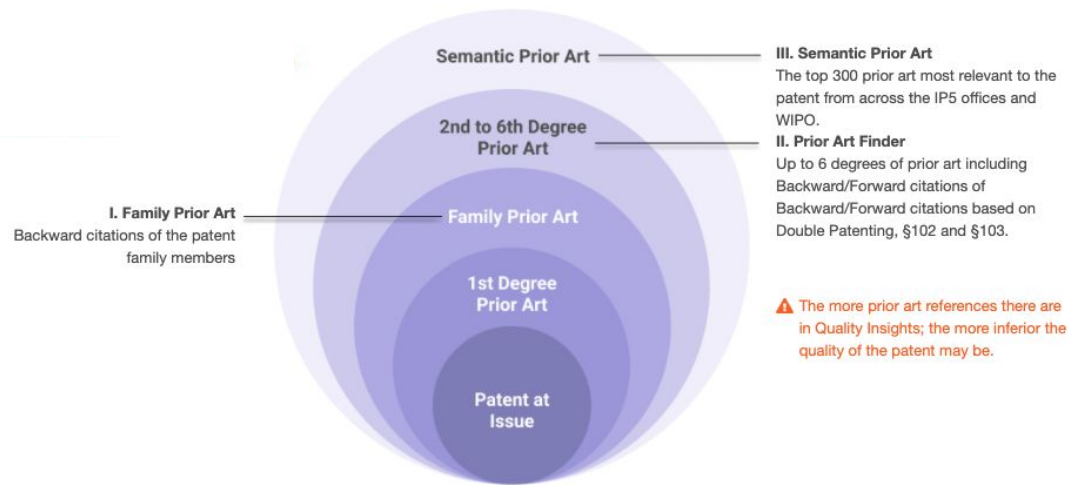
**Remarks** 20200902-REM

the foregoing amendments and the following remarks are made in response to the office action at the time of the office action, the examiner noted that claims 1-20 were pending and that claims 11-13 are allowed.note that in the interest of expedited prosecution claims 1, 9, and 14 have been amended as follows:generating an **asm** gain if a keyword is matched to the portion of the asvi **signal** and applying the **asm** gain to the **asm signal** until a new keyword is detected or manually ad'usted, mixing the modified ac **signal** and the modified **asm signals** to generate a mixed **signal**,applying the **asm** gain to the **asm signal** until a new keyword is detected or manually ad'usted;and sending the mixed **signal** to a speaker, where the processor has been configured to initiate at least one of the following based upon the keyword identified:initiate an increase gain to the ambient **signal**, initiate a decrease gain to the acoustic **signal** sent to the speaker, initiate a decrease gain to the ambient **signal**, and initiate an increase gain to the acoustic **signal** sent to the speaker;where the increase or decrease gain is applied until a new keyword is identified or manually changed."

**Remark from Applicant**



# How does Quality Insights generate prior art?



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# Prior Art Finder

# Prior Art Finder for '015

Review cited and citing patents of '015 from the first to the sixth degree

Filter by:

- Applicability
- Legal Basis (§102 or §103)
- Patent Office
- Legal Status

1st Degree Art  
**3**

2nd Degree Art  
**20**

N Degree Art  
**83**

**N Degree Art**  
Extend forward/backward citations from the Second Degree Art

[🔍 Discover prior art's similarity with claim chart format in seconds !](#)

KEEP Mode

Ranked By : Legal Basis (§102 first) | 🔍

✎ 📄 📄 📄 📄 📄 📄 ☰ ☰ ☰

**US10966015B2**

- ▼ 1st Degree (3)
- ▼ 2nd Degree (20)
- ▼ 3rd Degree (20)
- ▼ 4th Degree (20)
- ▼ 5th Degree (20)
- ▼ 6th Degree

**6th Degree List**

#	Patent No.	Title	Legal Status	Appl. Date	Pub./Issue Date	Assignee (Std)
1	<a href="#">US5131032A</a>	Echo canceller and communication apparat...	Expired	1990-03-13	1992-07-14	HITACHI LTD
2	<a href="#">US20170257072A1</a>	INTELLIGENT AUDIO OUTPUT DEVICES	PGPub - Granted	2017-05-17	2017-09-07	EBAY INC
3	<a href="#">US10194032B2</a>	Method and apparatus for in-ear canal sou...	Active	2015-11-16	2019-01-29	STATON TECHIYA LLC
4	<a href="#">US20120177209A1</a>	EARHEALTH MONITORING SYSTEM AND M...	PGPub - Granted	2012-03-21	2012-07-12	PERSONICS HOLDINGS INC
5	<a href="#">US20120177210A1</a>	EARHEALTH MONITORING SYSTEM AND M...	PGPub - Granted	2012-03-20	2012-07-12	PERSONICS HOLDINGS INC
6	<a href="#">US8326635B2</a>	Method and system for message alert and ...	Active	2008-12-23	2012-12-04	PERSONICS HOLDINGS INC

Up to 6th Degree  
Prior Art List

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# Family Prior Art

# Family Prior Art of '015

Review prior art cited by and cited against the family counterparts when available

Simple Family

**3**

Backward Citation: Patent

**59**

Backward Citation: Non-Patent Literature

**0**

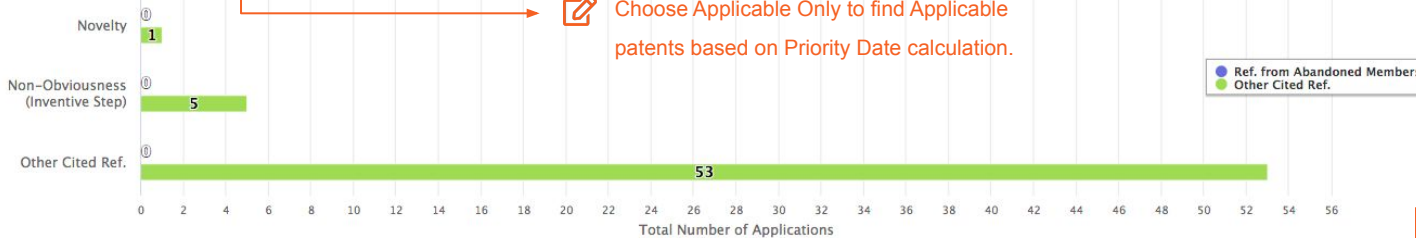
## Backward Citation: Patent

Click on Cited Patents for Potential Prior Art

Categorized to indicate relevance; You can start from applicable references cited as novelty prior art

All References (59)

Applicable Only (58)



Choose Applicable Only to find Applicable patents based on Priority Date calculation.

KEEP Mode

Ranked By : Appl. Date

<input type="checkbox"/>		#	Patent No.	Title	Legal Status	Appl. Date	Pub./Issue Date	Assignee (Std)	Applicability
<input type="checkbox"/>		1	<a href="#">US4237343A</a>	Digital delay/ambience processor	Expired	1978-02-09	1980-12-02	KURTIN STEPHEN L	AIA 102(a)(1) AIA 102(a)(2)
<input type="checkbox"/>		2	<a href="#">US5852804A</a>	Method and apparatus for speech recogniti...	Expired	1997-04-11	1998-12-22	FUJITSU LTD	AIA 102(a)(1) AIA 102(a)(2)
<input type="checkbox"/>		3	<a href="#">US6094489A</a>	Digital hearing aid and its hearing sense co...	Expired	1997-09-15	2000-07-25	NEC CORP	AIA 102(a)(1) AIA 102(a)(2)

Prior Art List

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# Semantic Prior Art

# Semantic Prior Art of 015

Review potential prior art ranked by concept similarity

Across IP5 and WIPO thanks to Patentcloud's proprietary algorithm

## Semantic Prior Art

Most Relevant US, EP, JP, KR, CN & WO 300 prior art references based on **Semantic Similarity** among the first claims and abstracts.

[Change Scope](#)

Select claim text or enter the desired text/keywords

*Discover prior art's similarity with claim chart format in seconds !*

KEEP Mode 0 are of high semantic similarity

Ranked By : Relevance



<input type="checkbox"/>		Ranking	Patent No.		Title	Legal Status <sup>?</sup>	Appl. Date	Pub./Issue Date	Assignee (Std)	Applicability
<input type="checkbox"/>		1	<a href="#">US9491542B2</a>		Automatic sound pass-through method and...	Active	2013-07-30	2016-11-08	PERSONICS HOLDINGS LLC	AIA 102(a)(1) AIA 102(a)(2)
<input type="checkbox"/>		2	<a href="#">US20110206217A1</a>		HEADSET SYSTEM WITH MICROPHONE FO...	Abandoned	2011-02-24	2011-08-25	GN NETCOM AS	AIA 102(a)(1) AIA 102(a)(2)
<input type="checkbox"/>		3	<a href="#">US20150215701A1</a>		AUTOMATIC SOUND PASS-THROUGH MET...	PGPub - Granted	2013-07-30	2015-07-30	PERSONICS HOLDINGS LLC	AIA 102(a)(1) AIA 102(a)(2)
<input type="checkbox"/>		4	<a href="#">US10063957B2</a>		Earpiece with source selection within ambi...	Active	2017-11-06	2018-08-28	BRAGI GMBH	AIA 102(a)(2)
<input type="checkbox"/>		5	<a href="#">US10045112B2</a>		Earpiece with added ambient environment	Active	2017-11-06	2018-08-07	BRAGI GMBH	AIA 102(a)(2)
<input type="checkbox"/>		6	<a href="#">US20080260180A1</a>		METHOD AND DEVICE FOR VOICE OPERAT...	PGPub - Granted	2008-04-14	2008-10-23	PERSONICS HOLDINGS INC	AIA 102(a)(1) AIA 102(a)(2)
<input type="checkbox"/>		7	<a href="#">US10045117B2</a>		Earpiece with modified ambient environme...	Active	2017-11-06	2018-08-07	BRAGI GMBH	AIA 102(a)(2)
<input type="checkbox"/>		8	<a href="#">US8611560B2</a>		Method and device for voice operated contr...	Active	2008-04-14	2013-12-17	NAVISENSE	AIA 102(a)(1) AIA 102(a)(2)

# Semantic Prior Art of '015

Review potential prior art ranked by concept similarity

**US10966015B2** [↗](#)

Automatic keyword pass-through system

- Overview
- History
- Claim Analysis
- Claim Insights
- Family Prior Art
- Prior Art Finder
- Semantic Prior Art**
- File Wrapper Search

[About Semantic Prior Art](#)

## Semantic Prior Art

Most Relevant US, EP, JP, KR, CN & WO 300 prior art references based on [Semantic Similarity](#) within the scope below. [Reset to Default](#)

Enter text to start searching for semantic prior art (English only)

+ Add text from claims

Submit

[Discover prior art's similarity with claim chart format in s](#)

Add text from claims

✕

Select A Claim

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

Next 10

A method for activating ambient sound pass-through in an earphone in response to a detected keyword in the ambient sound field of the earphone user, the steps of the method comprising: receiving at least one ambient sound microphone (ASM) signal; receiving at least one audio content (AC) signal; identifying if a keyword is matched to a portion of the ASM signal, wherein the keyword is matched to the portion of the ASM signal when temporal or spectral patterns of the keyword and the portion of the ASM signal match within a threshold average value; and generating an ASM gain if a keyword is matched to the portion of the ASM signal; and applying the ASM gain to the

Add



adding text from claims to find more related Prior Art



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# Comparison tools

# Prior Art Comparison (claim chart format)

What does this prior art say about the critical elements?

→ Disclosure Rate of Prior Art

1.01
1.02
1.03
1.04
1.05
1.06
1.07
1.08

Find 70 Result(s) | Disclosure Rate 100%

Claim Element	US9491542B2 Content
<div style="background-color: #333; color: white; padding: 5px; font-weight: bold;">Claim Element</div> <p>#1.03 receiving at least one <span style="background-color: #90EE90;">ambient sound microphone (ASM) signal</span>.</p> <p><b>Keyword List</b> ⓘ</p> <ul style="list-style-type: none"> <li> <span style="background-color: #FFD700; padding: 2px;">signal</span> (228) <span style="border: 1px solid #ccc; padding: 2px;">FW</span> <span style="border: 1px solid #ccc; padding: 2px;">PA</span> <ul style="list-style-type: none"> <li>signals</li> <li>Signal</li> </ul> </li> <li> <span style="background-color: #FFD700; padding: 2px;">asm</span> (84) <span style="border: 1px solid #ccc; padding: 2px;">FW</span> <span style="border: 1px solid #ccc; padding: 2px;">PA</span> <ul style="list-style-type: none"> <li>ASM</li> </ul> </li> <li> <span style="background-color: #FFD700; padding: 2px;">ambient sound microphone</span> (11) <span style="border: 1px solid #ccc; padding: 2px;">FW</span> <span style="border: 1px solid #ccc; padding: 2px;">PA</span> <ul style="list-style-type: none"> <li>ambient sound micropho.</li> </ul> </li> </ul>	<div style="background-color: #eee; padding: 5px; font-weight: bold;">US9491542B2 Content</div> <p><b>Abstract</b></p> <p>Earphone systems and methods for automatically directing ambient sound to an earphone device are provided . An ambient microphone <span style="background-color: #FFD700;">signal</span> from an ambient microphone proximate a sound isolating earphone or headset device is directed to a receiver within an earphone device according to mixing circuitry . The mixing circuitry is controlled by voice activity of the earphone device wearer . This enables hands - free operation of an earphone system to allow the earphone device wearer to maintain situation awareness with the surrounding environment . During detected voice activity , incoming audio content is attenuated while ambient sound is increased and provided to the earphone device . User voice activity is detected by analysis of at least one of an ear canal microphone <span style="background-color: #FFD700;">signal</span> or an <span style="background-color: #FFD700;">ambient sound microphone signal</span> .</p> <hr/> <p><b>Claims</b></p> <p><b>Claim# 1</b> A method for passing ambient sound to an earphone device configured to be inserted in an ear canal of a user , the method comprising the steps of : capturing the ambient sound from an <span style="background-color: #FFD700;">ambient sound microphone ( ASM )</span> proximate to the earphone device to form an <span style="background-color: #FFD700;">ASM signal</span> ; receiving an audio content ( AC ) <span style="background-color: #FFD700;">signal</span> from a remote device ; detecting voice activity of the user of the earphone device ; mixing the <span style="background-color: #FFD700;">ASM signal</span> and the AC <span style="background-color: #FFD700;">signal</span> to form a mixed <span style="background-color: #FFD700;">signal</span> , such that , in the mixed <span style="background-color: #FFD700;">signal</span> , an <span style="background-color: #FFD700;">ASM</span> gain of the <span style="background-color: #FFD700;">ASM signal</span> is increased and an AC gain of the AC <span style="background-color: #FFD700;">signal</span> is decreased when the voice activity is detected ; detecting a cessation of the voice activity ; delaying modification of the <span style="background-color: #FFD700;">ASM</span> gain and the AC gain for a predetermined time period responsive to the detected cessation of the voice activity ; and directing the mixed <span style="background-color: #FFD700;">signal</span> to an ear canal receiver ( ECR ) of the earphone device .</p> <p><b>Claim# 10</b> The method according to claim 7 , wherein the detecting of the voice activity includes : determining a time - smoothed level of the AC <span style="background-color: #FFD700;">signal</span> to form an AC level ; comparing the AC level with an AC level threshold ; and detecting the voice activity when the microphone level is greater than the microphone level threshold and the AC level</p>

✍ Answer the question:

What does this prior art say about the Claim elements: “ASM signal“, “ambient sound microphone ?

✍ Discover prior art similarity with keywords (includes keyword stemming) mapped to the selected prior art reference Abstract, Claims, and Specification.

Source: Quality Insights

InQuartik's Proprietary and Copyright@2021. All rights reserved. 18

# Prior Art Comparison (sample output)

Easily generate a table like below

	Claim	Claim-Term Interpretation	Semantic Prior Art - '542	3rd Degree Citation Prior Art - B
1	A method for activating ambient sound pass-through in an earphone in response to a detected keyword in the ambient sound field of the earphone user,	Refer to Claim Analysis results	75%	.....
	the steps of the method comprising:	.....	N/A	.....
	receiving at least one ambient sound microphone (ASM) signal;	.....	100%	.....
	receiving at least one audio content (AC) signal;	.....	100%	
	identifying if a keyword is matched to a portion of the ASM signal, wherein	.....	60%	.....
	the keyword is matched to the portion of the ASM signal when temporal or spectral patterns of the keyword and the portion of the ASM signal match within a threshold average value;	.....	37%	
	and generating an ASM gain if a keyword is matched to the portion of the ASM signal;	.....	80%	
	and applying the ASM gain to the ASM signal until a new keyword is detected or manually adjusted.		75%	

System-identified keywords and key phrases  
(highlighting of other keywords is available)

Results from claim to specification  
and file wrapper mapping

Results from prior art comparison by  
claim element

---

# Prior Art downloads

# Prior Art downloads

Select all

Export

Export

#	Patent No.	Title
<input checked="" type="checkbox"/>	1 CN1247662A	Dual use spea
<input checked="" type="checkbox"/>	2 EP0998105B1	Mobile teleph
<input checked="" type="checkbox"/>	3 JPH09-036932A	EXTERNAL R
<input checked="" type="checkbox"/>	4 JPH11-055358A	MOBILE RAD
<input checked="" type="checkbox"/>	5 US5317622	Ringling circuit for use in a telephone set f... <span>Abandoned</span>

Export Dialog:

Export Type:  Patent List (Excel)  Patent List (CSV)  Full Text (PDF)  Front Page (PDF)

Export Items:  Selected Patents

Export Fields:  Customized  All Fields  Save as my default settings.

Patent Field:

<input checked="" type="checkbox"/> Patent Office	<input checked="" type="checkbox"/> Appl. No.	<input type="checkbox"/> Appl. No. (PTO)	<input checked="" type="checkbox"/> Appl. Date
<input type="checkbox"/> Earliest Appl.	<input checked="" type="checkbox"/> Title	<input type="checkbox"/> Title (English)	<input type="checkbox"/> Patent No.
<input type="checkbox"/> Patent No. (PTO)	<input type="checkbox"/> Pub./Issue Date	<input type="checkbox"/> Pub. No.	<input type="checkbox"/> Pub. Date

File Name:

Buttons: Cancel, Export



Download patent data in Excel or PDF format for Family Prior Art, Second Degree Prior Art, and/or Semantic Prior Art.

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# Prosecution and PTAB History

## Key Events

# Key Events - '015

1 Prosecution & 0 Post-Grant\*

Event History

**1**

Family Status

**3** Applications

Prior Art Status

**374** Applications / **0** NPL References

**Event History** | **1** Prosecution History / **0** Post-Grant

Validity challenges to a patent in its prosecution history and post-grant events

**Prosecution History**

Appl. Date  
2019-08-29

Issue Date  
2021-03-30

Estimated Exp. Date  
2037-10-23

No Data

# of Family Counterparts and Legal Status

# of Highly Relevant Prior Art References

**Timeline of Prosecution:**

Other Document

Rejection Document

\*This complaint/petition is still pending institution. After institution, this case will appear under the Key Event tab.

**Legend**

Document Code	Document Description
CTFR	Final rejection
CTNF	Non-final rejection
CLM	Claims
REM	Remarks

# Key Events - '015

## Prosecution History

16/555824 Prior Art Ref. | 5 Ref.

Check prior art cited and the legal basis of these challenges

**Double Patenting** | 3 Ref.

[US20070189544](#) Rosenberg  
[US8611560](#) Goldstein  
[US10405082](#)

**§ 102** | 1 Ref.

[US20070189544](#) Rosenberg

**§ 103** | 5 Ref.

[US20070189544](#) (1st) Rosenberg  
[US10405082](#) (1st) Dennis  
[US20170142511](#) Goldstein  
[US8611560](#) Goldstein  
[US20180233125](#) Mitchell

Clickable events for original OAs and their OCR version when available.

Direct links to Grounds,

Claims Highlighted and Prior Art Details

Summary of 16/555824 History | 7 Event(s)

Data Last Updated on: 2021-09-02

Descriptions (Code)	Date	Prior Art Ref.
Notice of Allowance (NOA)	2020-11-25	
Applicant Arguments/Remarks Made in an Amendment (REM) <a href="#">Claims (CLM)</a>	2020-11-16	
Final Rejection (CTFR)	2020-09-11	Grounds <b>2</b> ^
Legal Basis	Claims	Prior Art Ref.
35 U.S.C. § 103	claim 10	Rosenberg US20070189544 (1st) Dennis US20170142511 Mitchell US20180233125
35 U.S.C. § 103	claim 9	Rosenberg US20070189544 (1st) Dennis US20170142511
Applicant Arguments/Remarks Made in an Amendment (REM)	2020-09-02	



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**Rejections, Remarks, and Notice of Allowance in Prosecution History** | 13 Records [↓](#)

<input type="checkbox"/> Descriptions (Code) <span style="font-size: 0.8em;">?</span>	Party	Date <span style="font-size: 0.8em;">?</span>
<input type="checkbox"/> Notice of Allowance (NOA)	USPTO	2015-09-24
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2015-06-19
<input type="checkbox"/> Non-Final Rejection (CTNF)	USPTO	2015-03-19
<input type="checkbox"/> Request for Continued Examination (RCEX)	Applicant	2015-03-03
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2015-03-03
<input type="checkbox"/> Final Rejection (CTFR)	USPTO	2014-11-03
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2014-10-15
<input type="checkbox"/> Non-Final Rejection (CTNF)	USPTO	2014-07-15
<input type="checkbox"/> Request for Continued Examination (RCEX)	Applicant	2014-06-26
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2014-06-26
<input type="checkbox"/> Final Rejection (CTFR)	USPTO	2014-02-26
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2014-02-07
<input type="checkbox"/> Non-Final Rejection (CTNF)	USPTO	2013-11-07

Data Last Updated on 2021-04-08

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<input type="checkbox"/> Descriptions (Code) <span style="font-size: small;">?</span>	Party	Date <span style="font-size: small;">?</span>
<input type="checkbox"/> Notice of Allowance (NOA)	USPTO	2015-09-24
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<input type="checkbox"/> Non-Final Rejection (CTNF)	USPTO	2015-03-19
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<input type="checkbox"/> Non-Final Rejection (CTNF)	USPTO	2014-07-15
<input type="checkbox"/> Request for Continued Examination (RCEX)	Applicant	2014-06-26
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2014-06-26
<input type="checkbox"/> Final Rejection (CTFR)	USPTO	2014-02-26
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2014-02-07
<input type="checkbox"/> Non-Final Rejection (CTNF)	USPTO	2013-11-07

Data Last Updated on 2021-04-08

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# Prosecution and PTAB History Side-by-side PDF and OCR

# Side by Side: PDF & OCR



Conduct a keyword search in a single document to identify the claim scope quickly and easily. You can even search additional claim terms within rejections.

The screenshot displays a software interface for keyword searching in a patent document. On the left, a "Keywords (2)" panel is highlighted with an orange box. It contains a "Select a Keyword Set" dropdown, a "Clear All" button, and two keyword entries: "sensor" (33) and "flexible substrate (1)". Below these is a "+ Add new keyword" button and a "Save to Keyword Set" button at the bottom.

The central document viewer shows page 5 of a patent document titled "US9226311B2 - CTNf (2015-03-19)". The page content includes:

Application/Control Number: 13/284,674 Page 5  
Art Unit: 2867

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the touch panel taught by Grant by adding drive or sense electrodes made of flexible conductive material as taught by Hotelling since the sensor traces provide level shifting from a low voltage level to a higher voltage level, thus providing a better signal-to-noise ratio for improved noise reduction purposes while the drive traces provide shielding for the sense traces.

Neither Grant nor Hotelling specifically teach wherein the flexible conductive material of the drive or sense electrodes comprises first and second conductive lines that electrically contact one another at an intersection.

However, Gray does teach wherein the flexible conductive material of the drive or sense electrodes comprises first and second conductive lines that electrically contact one another at an intersection (Fig. 2; [0063]: **A number of conductors forming rows and columns of a conductive pattern (e.g., indium tin oxide (ITO)) may be deposited on a substrate composed of polyester or other material on one or more layers of the touchscreen... the row and column oriented conductors may be disposed on the same layer...**; See also Miller US 5,089,672; Col. 2, lines 11-16; Col. 5, lines 1-20; Col. 5, lines 61-68).

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 Grant and Hotelling by including the conductive lines (rows and columns) taught by Gray for the purpose of "providing paths for signals traveling through the touchscreen" (See Gray; Abstract).

On the right, a search results panel shows the following text:

103(a) as being unpatentable over Grant et al. US 2008/0303792 A1 (previously cited and  
... PAGE 5 ...  
Application/Control Number: 13/284,674 Page 4  
Art Unit: 2867  
hereinafter Grant) in View of Hotelling et al. US 2008/0158183 A1 (previously cited and hereinafter Hotelling), in further View of Gray et al. US 2010/0045161 A1 (previously cited and hereinafter Gray) and in further View of Frey et al. US 2009/0219257 (Newly cited and hereinafter Frey).  
Regarding claim 1, Grant does teach an apparatus (Abstract) comprising:  
a substantially flexible substrate (Abstract: flexible touch sensitive surface); and  
a touch [0005], [0005], [0006], [0022], [0023], [0027], and [0071], e.g., flexible surface, flexible circuit, and capacitive touch [0005] which must be conductive to receive user input) disposed on the substantially flexible substrate ( see at least Figs. 1A-C; [0009-0011], configured to bend with the substantially flexible substrate ( Figs. 1A-1C, 3 and the corresponding descriptions; [0003]).  
Grant does not specifically teach the touch [0005] comprising drive or sense electrodes made of flexible conductive material.  
However, Hotelling does teach a touch [0005] (Fig. 2a, 5 and the corresponding descriptions, and the Summary of the Invention, i.e., a touch [0005] comprises of row and column traces made of copper) comprising drive or sense electrodes (see at least Figs. 1 and 2a; [0008; 0030-0033]; claim 9; sense traces formed on a first side of a dielectric substrate; and drive traces formed on a second side of the substrate) made of flexible conductive material ([0008]; traces made of copper or other highly conductive metals running along the edge of the substrate).  
... PAGE 6 ...  
Application/Control Number: 13/284,674 Page 5  
Art Unit: 2867  
It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the touch panel taught by Grant by adding drive or sense electrodes made of flexible conductive material as taught by Hotelling since the [0005] traces provide level shifting from a low voltage level to a higher voltage level, thus providing a better signal-to-noise ratio for improved noise reduction purposes while the drive traces provide shielding for the sense traces.  
Neither Grant nor Hotelling specifically teach wherein the flexible conductive material of the drive or sense electrodes comprises first and second conductive lines that electrically contact one another at an intersection.



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