

US008655420B1

(12) United States Patent

Pelland et al.

(54) WIRELESS EARPHONE SET

- (71) Applicant: Koss Corporation, Milwaukee, WI (US)
- (72) Inventors: Michael J. Pelland, Princeton, WI (US); Michael J. Koss, Milwaukee, WI (US)
- (73) Assignee: Koss Corporation, Milwaukee, WI (US)
- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

- (21) Appl. No.: 14/031,938
- (22) Filed: Sep. 19, 2013

Related U.S. Application Data

- (63) Continuation of application No. 13/609,409, filed on Sep. 11, 2012, which is a continuation of application No. 13/459,291, filed on Apr. 30, 2012, now Pat. No. 8,571,544, which is a continuation of application No. 12/936,488, filed as application No. PCT/US2009/039754 on Apr. 7, 2009, now Pat. No. 8,190,203.
- (60) Provisional application No. 61/123,265, filed on Apr. 7, 2008.
- (51) Int. Cl. *H04M 1/00*
- (52) U.S. Cl. USPC 455/575.2; 381/58

(2006.01)

See application file for complete search history.

(10) Patent No.: US 8,655,420 B1

(45) **Date of Patent: *Feb. 18, 2014**

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,784,685	Α	7/1998	Stanford et al.		
5,389,463	B2	5/2002	Bolas		
5,674,864	B1	1/2004	Kitamura		
5,792,091	B2	9/2004	Lemchen et al.		
	(Continued)				

FOREIGN PATENT DOCUMENTS

JP	2004-320597	11/2004
WO	WO 2006/047724 A2	5/2006

(Continued)

OTHER PUBLICATIONS

Supplementary European Search Report for European Application No. 09731146.8 mailed Jun. 10, 2011, 7 pages.

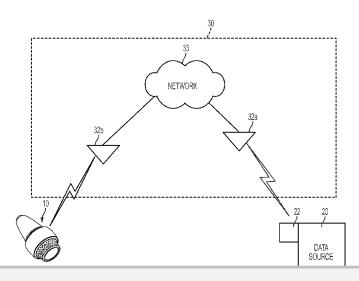
(Continued)

Primary Examiner — Kiet Doan (74) Attorney, Agent, or Firm — K&L Gates LLP

(57) ABSTRACT

An earphone set that comprises a paired set of earphones to be worn simultaneously by a user is disclosed. Each earphone in the paired set comprises at least one acoustic transducer for producing sound to be heard by the user. At least one of the earphones in the pair set comprises a transceiver circuit and at least one button. The transceiver circuit is for wirelessly receiving and transmitting signals via a wireless network. The at least one button is accessible to the user at an exterior of the at least one earphone. Upon activation of the at least one button by the user, an indication for a song played by the pair of earphones is caused to be transmitted wirelessly, by the transceiver circuit via the wireless network, to a remote server connected to the Internet. The song played by the pair of earphones may be streamed from a digital audio content server connected to the Internet.

14 Claims, 16 Drawing Sheets



(56) **References Cited**

U.S. PATENT DOCUMENTS

6,937,712	B2	8/2005	Lemchen et al.
7,003,515	B1	2/2006	Glaser
7,027,311	B2	4/2006	Vanderelli
7,095,455	B2	8/2006	Jordan
7,099,370	B2	8/2006	Takahashi
7,120,388	B2	10/2006	Hall
7,139,585	B2	11/2006	Hachimura et al.
7,467,021	B2	12/2008	Yuen
7,512,414	B2	3/2009	Jannard et al.
7,599,679	B2	10/2009	Awiszus
7,680,490	B2	3/2010	Bloebaum et al.
7,697,899	B2	4/2010	Rofougaran
7,764,775	B2	7/2010	Tarkoff et al.
7,805,210	B2	9/2010	Cucos
7,962,482	B2	6/2011	Handman
8,023,663	B2	9/2011	Goldberg
8,027,638	B2	9/2011	Sanguino
8,102,836	B2	1/2012	Jerlhagen
8,190,203	B2	5/2012	Pelland et al.
2004/0107271	A1*	6/2004	Ahn et al 709/219
2005/0064853	A1	3/2005	Radpour
2005/0198233	A1	9/2005	Manchester
2005/0240296	A1	10/2005	Nishiguchi et al.
2006/0206487	A1	9/2006	Harada
2006/0212442	A1	9/2006	Conrad
2006/0268830	A1	11/2006	Evans
2007/0008984	A1	1/2007	Philips
2007/0037615	A1	2/2007	Glezerman
2007/0049198	A1	3/2007	Walsh et al.
2007/0147630	A1	6/2007	Chiloyan
2007/0150963	A1	6/2007	Lee et al.
2007/0165875	A1	7/2007	Rezvani

2008/0031470 A1	2/2008	Angelhag
2008/0062939 A1		Van Horn
2008/0076489 A1	3/2008	Rosener et al.
2008/0080705 A1*	4/2008	Gerhardt et al 379/430
2008/0101279 A1	5/2008	Russell
2008/0165992 A1	7/2008	Kondo
2008/0194301 A1*	8/2008	Bailey 455/575.2
2009/0063703 A1	3/2009	Finkelstein et al.
2009/0225996 A1	9/2009	Brooking
2010/0246788 A1	9/2010	Menard et al.
2010/0290642 A1	11/2010	Hasegawa
2012/0213381 A1		Pelland et al.
2013/0039510 A1	2/2013	Pelland et al.

FOREIGN PATENT DOCUMENTS

WO	WO 2007/136620 A2	11/2007
WO	WO 2007/139578 A1	12/2007
WO	WO 2008/054985 A2	5/2008
WO	WO 2009/086555 A1	7/2009

OTHER PUBLICATIONS

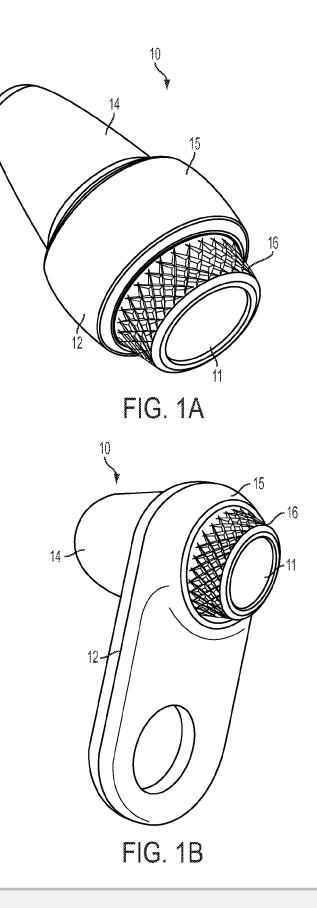
International Search Report for International Application No. $\rm PCT/$ US09/39754 mailed Jun. 11, 2009, 2 pages.

International Preliminary Examination Report for International Application No. PCT/US09/39754 mailed Oct. 28, 2010, 8 pages. Written Opinion of the International Searching Authority for International Application No. PCT/US09/39754 mailed Jun. 11, 2009, 5 pages.

IT Review, "LTB 802.11 WiFi Headphones", http://itreview. belproject.com/item/1536 accessed on Mar. 13, 2008 (4 pages).

* cited by examiner

Α



D OCKFT RM Α Find authenticated court documents without watermarks at <u>docketalarm.com</u>.

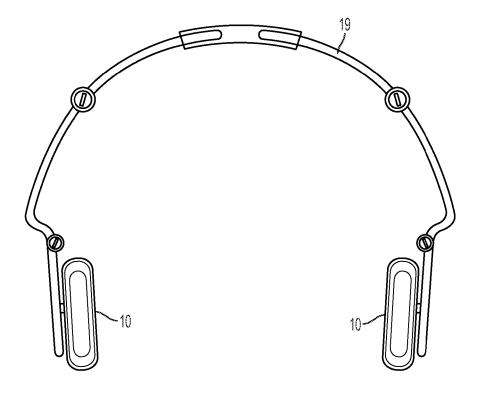
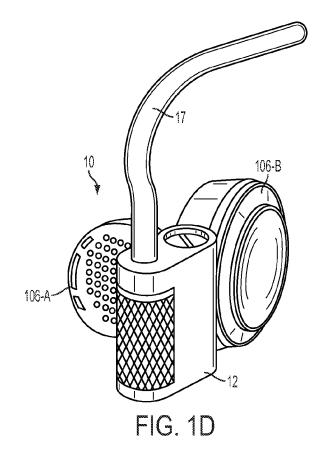
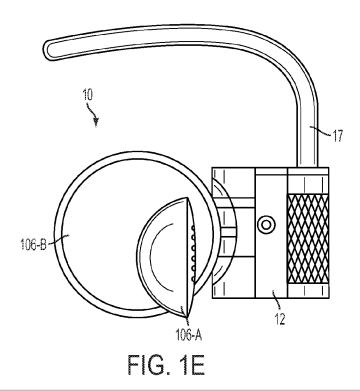


FIG. 1C

DOCKET A L A R M Find authenticated court documents without watermarks at <u>docketalarm.com</u>.

Α





DOCKET RM Α Find authenticated court documents without watermarks at docketalarm.com.

DOCKET A L A R M



Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.