

US009544684B2

(12) United States Patent Gohara

(10) Patent No.: US 9,544,684 B2 (45) Date of Patent: Jan. 10, 2017

(54) SOUND DETERMINATION UNIT BASED ON MEAN AMPLITUDES OF PARTIAL SOUND SEGMENTS

(71) Applicant: NINTENDO CO., LTD., Kyoto (JP)

- (72) Inventor: Shigetoshi Gohara, Kyoto (JP)
- (73) Assignee: NINTENDO CO., LTD., Kyoto (JP)
- (*) Notice: Subject to any disclaimer, the term of this

patent is extended or adjusted under 35 U.S.C. 154(b) by 252 days.

(21) Appl. No.: 14/496,546

(22) Filed: Sep. 25, 2014

(65) Prior Publication Data

US 2015/0139431 A1 May 21, 2015

(30) Foreign Application Priority Data

Nov. 18, 2013 (JP) 2013-238008

(51) Int. Cl.

H04R 29/00 (2006.01)

H04R 3/00 (2006.01) (52) U.S. Cl.

(2013.01); *H04R* 2420/07 (2013.01) (58) Field of Classification Search

CPC H04R 3/00 (2013.01); H04R 2410/00

(56) References Cited

U.S. PATENT DOCUMENTS

2006/0107824 2006/0182291			Bando et al. Kunieda	G10L 15/00
			Namba	381/110
			Yamada	381/56
2011/0103390	AI	3/2011	ramada	381/56

FOREIGN PATENT DOCUMENTS

JP 2006-145851 6/2006

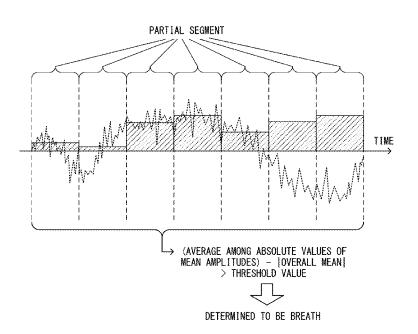
Primary Examiner — Paul S Kim

Assistant Examiner — Katherine Faley
(74) Attorney, Agent, or Firm — Nixon & Vanderhye P.C.

(57) ABSTRACT

An example information processing device determines a sound input to a microphone. The information processing device includes an obtaining section, a mean amplitude calculation section, and a determination section. The obtaining section obtains data of a sound detected by the microphone. For a sound of a predetermined determination segment, the mean amplitude calculation section calculates a mean amplitude, which is an average amplitude, for each of a plurality of partial segments included in the determination segment. The determination section determines whether or not the sound input to the microphone is a predetermined type of a sound (e.g., a sound made by breath blowing) based on the mean amplitudes for the partial segments.

16 Claims, 7 Drawing Sheets



^{*} cited by examiner