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(54) Title: SYSTEMS AND METHODS FOR RECONSTRUCTING AN AUDIO SIGNAL FROM TRANSFORMED AUDIO INFORMATION

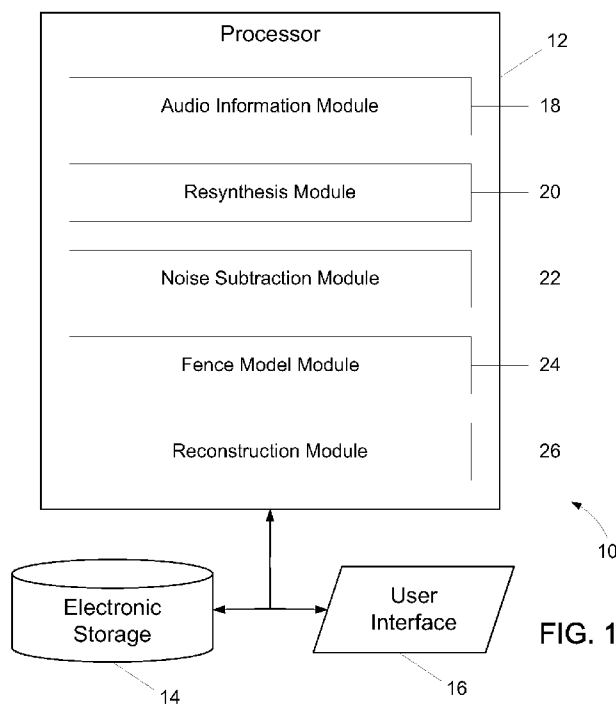


FIG. 1

(57) Abstract: A system and method may be configured to reconstruct an audio signal from transformed audio information. The audio signal may be resynthesized based on individual harmonics and corresponding pitches determined from the transformed audio information. Noise may be subtracted from the transformed audio information by interpolating across peak points and across trough points of harmonic pitch paths through the transformed audio information, and subtracting values associated with the trough point interpolations from values associated with the peak point interpolations. Noise between harmonics of the sound may be suppressed in the transformed audio information by centering functions at individual harmonics in the transformed audio information, the functions serving to suppress noise between the harmonics.

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A. CLASSIFICATION OF SUBJECT MATTER

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USPC - 704/258

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

B. FIELDS SEARCHED

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terms: pitch, harmonics, peak, transform, cosine, Gaussian curve, function, white noise, suppress, reverse, inverse, imaginary, trough, valley, track, subtract, reduce, oscillator, resonator, interpolation, spline, polynomial, audio, speech, voice, phase, synthesize, etc.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2009/0076822 A1 (Sanjaume) 19 March 2009 (19.03.2009), para [0015], [0028]-[0029], [0033]-[0038].	1-4
X --- Y	US 2007/0010997 A1 (Kim) 11 January 2007 (11.01.2007), fig. 6A, para [0026]-[0034], [0036]-[0037], [0041], [0044], [0061], [0066], [0073].	5, 10, 13, 14 ----- 6-9, 11, 12
Y	US 2010/0260353 A1 (Ozawa) 14 October 2010 (14.10.2010), para [0006], [0113]-[0115], [0267].	6-9
Y	US 2004/0220475 A1 (Szabo et al.) 04 November 2004 (04.11.2004), fig. 2, 4A, 4B, para [0051], [0076], [0080].	11, 12
X, P	US 2011/0286618 A1 (Vandali et al.) 24 November 2011 (24.11.2011), entire document.	10-14

 Further documents are listed in the continuation of Box C.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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