



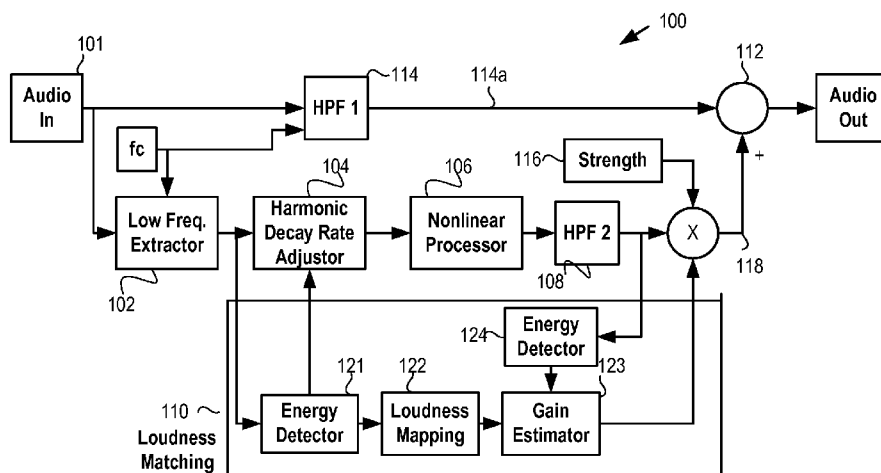
- (51) **International Patent Classification:**
H04S 7/00 (2006.01) *H04S 1/00* (2006.01)
- (21) **International Application Number:**
PCT/US2013/043194
- (22) **International Filing Date:**
29 May 2013 (29.05.2013)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
61/652,816 29 May 2012 (29.05.2012) US
- (71) **Applicant: CREATIVE TECHNOLOGY LTD** [SG/SG];
31 International Business Park, #03-01 Creative Resource,
Singapore 609921 (SG).
- (72) **Inventors; and**
- (71) **Applicants (for US only): YANG, Jun** [US/US]; 1144
Little John Way, San Jose, California 95129 (US). **VO-**
GELSANG, Klaas [NL/US]; 37828 Mosswood Drive,
Fremont, California 94536 (US). **RIDDER, Robert**
[NL/US]; 2339 Muriel Drive, Santa Cruz, California 95062
(US). **VERITY, Steven** [US/US]; 623 Los Padres Blvd.,
Santa Clara, California 95050 (US).
- (74) **Agents: SWERDON, Russell et al.**; Creative Labs, Inc.,
Legal Department, 1901 McCarthy Boulevard, Milpitas,
CA 95035 (US).

(81) **Designated States** (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) **Designated States** (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) **Title:** ADAPTIVE BASS PROCESSING SYSTEM

(57) **Abstract:** An effective and simple psychoacoustic bass generation system generates a harmonic signal having inter-modulation controllable to remain below a threshold level and includes a high-pass filter configured to pass harmonics which are reproducible with fidelity by the loudspeaker or other transducer and a loudness matching block configured to compensate the loudness of the desired harmonics to match the loudness of the original signal.