

(51) International Patent Classification:
G06F 17/00 (2006.01)(21) International Application Number:
PCT/US2010/036683(22) International Filing Date:
28 May 2010 (28.05.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/217,562 1 June 2009 (01.06.2009) US
12/762,915 19 April 2010 (19.04.2010) US(71) Applicant (for all designated States except US): **DTS, INC.** [US/US]; 5220 Las Virgenes Rd, Calabasas, CA 91302 (US).

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(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, 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, KM, 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, PE, PG, PH, PL, PT, RO, RS, RU, 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, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, 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, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

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

(54) Title: VIRTUAL AUDIO PROCESSING FOR LOUDSPEAKER OR HEADPHONE PLAYBACK

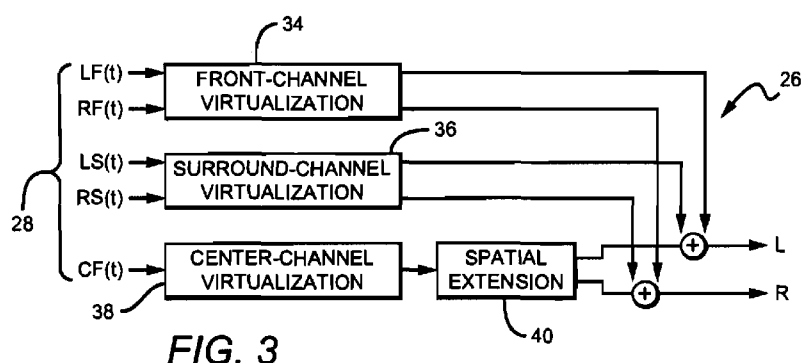


FIG. 3

(57) Abstract: There are provided methods and an apparatus for processing audio signals. According to one aspect of the present invention there is included a method for processing audio signals having the steps of receiving at least one audio signal having at least a center channel signal, a right side channel signal, and a left side channel signal; processing the right and left side channel signals with a first virtualizer processor, thereby creating a right virtualized channel signal and a left virtualized channel signal; processing the center channel signal with a spatial extensor to produce distinct right and left outputs, thereby expanding the center channel with a pseudo-stereo effect; and summing the right and left outputs with the right and left virtualized channel signals to produce at least one modified side channel output.