(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
8 June 2006 (08.06.2006)

PCT

(10) International Publication Number
WO 2006/060607 A2

(51) International Patent Classification:
*G06F 9/00* (2006.01) *G06F 17/00* (2006.01)

(21) International Application Number:
PCT/US2005/043531

(22) International Filing Date:
1 December 2005 (01.12.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/632,360 1 December 2004 (01.12.2004) US
10/907,989 22 April 2005 (22.04.2005) US

(71) Applicant *(for all designated States except US)*: **CREATIVE TECHNOLOGY LTD** [SG/SG]; 31 International Business Park, Creative Resource, Singapore 609921 (SG).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **TRIVI, Jean-Michel** [FR/US]; 1484 Dolphin Drive, Aptos, CA 95003 (US). **JOT, Jean-Marc** [FR/US]; 327 Doris Avenue, Aptos, CA 95003 (US). **SAVELL, Thomas, C.** [US/US]; 205 Stone Crest, Santa Cruz, CA 95060 (US). **GUZEWICZ, Michael** [US/US]; 233 Virginia Avenue, Campbell, CA 95008 (US).

(74) Agent: **SWERDON, Russell, N.**; Creative Labs, Inc., 1901 Mccarthy Boulevard, Milpitas, CA 95035 (US).

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

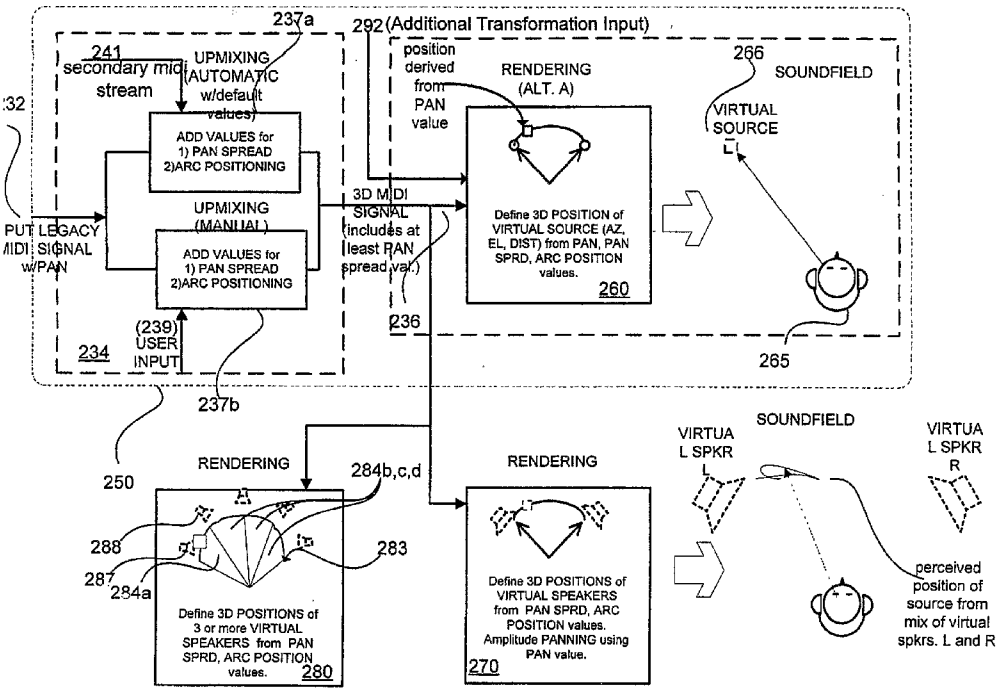
(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— *without international search report and to be republished upon receipt of that report*

*[Continued on next page]*

(54) **Title:** SYSTEM AND METHOD FOR FORMING AND RENDERING 3D MIDI MESSAGES




(57) **Abstract:** MIDI-generated audio streams or other input streams of audio events are perceptually associated with specific locations in 3D space with respect to the listener. A conventional pan parameter is redefined so that it no longer specifies the relative balance between the audio being fed to two fixed speaker locations. Instead, the new MIDI pan parameter extension specifies a virtual position of an audio stream in 3D space. Preferably, the relative position of a single audio stream is set along a predefined arc in 3D space.

WO 2006/060607 A2

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*