

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
18 August 2005 (18.08.2005)

PCT

(10) International Publication Number
WO 2005/074803 A1

(51) International Patent Classification⁷: **A61B 7/02**,
G06F 19/00

(21) International Application Number:
PCT/IL2005/000143

(22) International Filing Date: 6 February 2005 (06.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/771,150 4 February 2004 (04.02.2004) US

(71) Applicant (for all designated States except US): **DEEP-BREEZE LTD.** [IL/IL]; 15 Bareket Street, Industrial Park, 38900 Caesarea (IL).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **BOTBOL, Meir** [IL/IL]; 7 Neve Hadarim Street, 37017 Pardes Hana (IL).

(74) Agent: **REINHOLD COHN AND PARTNERS**; P.O.Box 4060, 61040 Tel Aviv (IL).

(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, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

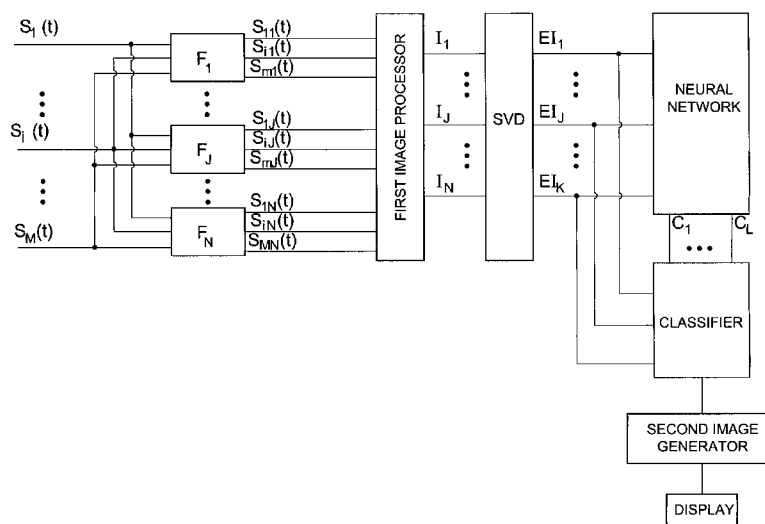
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, 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:

— with international search report

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.

(54) Title: METHOD AND SYSTEM FOR TISSUE DIFFERENTIATION



(57) **Abstract:** A system and method for tissue differentiation. In the method, M acoustic signals $s_i(t)$, $i = 1$ to M, are obtained from M locations on a body surface. The N signals are subjected to band pass filtering using N band-pass filters, so as to generate N x M signals $s_{ij}(t)$, $i = 1$ to M, $j = 1$ to N. K images I_1 to I_K , where $K \leq N$, are then generated using the signals $s_{ij}(t)$, $i = 1$ to M, $j = 1$ to N. The pixels are divided into a predetermined number L of categories C_L , from 1 to L, using the images I_1 to I_K . For each category C_L , from 1 to L, and for each pixel $p(x,y)$, a probability p_L of assigning the pixel $p(x,y)$ to the category C_L is determined. An image may then be generated using the probabilities p_L .

WO 2005/074803 A1