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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
19 September 2013 (19.09.2013)

WIPO | PCT

(10) International Publication Number
WO 2013/138262 A1

(51) International Patent Classification:
A61B 18/12 (2006.01)

(21) International Application Number:
PCT/US2013/030319

(22) International Filing Date:
12 March 2013 (12.03.2013)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
13/418,136 12 March 2012 (12.03.2012) US

(71) Applicant: **ADVANCED CARDIAC THERAPEUTICS, INC.** [US/US]; 1278 Glenneyre, Laguna Beach, CA 92651 (US).

(72) Inventors: **MCCARTHY, John**; 37 Shore Drive, Newbury, NH 03255 (US). **LENIHAN, Timothy, J.**; Emy Destinnoe 237, 50009 Hradec Kralove (CZ). **KANOWSKY, Eric, R.**; 3905 State Street #7-520, Santa Barbara, CA 93015 (US).

(74) Agents: **CHOI, Jaime, D.** et al.; Jones Day, 222 East 41st Street, New York, NY 10017-6702 (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, 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, 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, ML, MR, NE, SN, TD, TG).

Published:

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

[Continued on next page]

(54) Title: SYSTEMS AND METHODS FOR TEMPERATURE-CONTROLLED ABLATION USING RADIOMETRIC FEEDBACK IN AN INTERFACE MODULE BASED SYSTEM

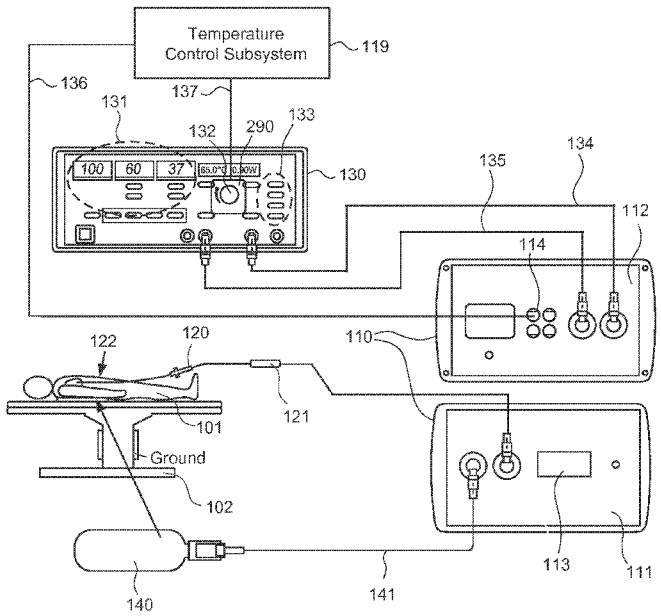


FIG. 1A

(57) Abstract: The present invention provides systems and methods for temperature-controlled ablation using radiometric feedback. Under one aspect, an interface module for use with an electrosurgical generator and an integrated catheter tip (ICT) having a radiometer, an ablative tip, and a thermocouple, may include (a) a processor; (b) a first input/output (I/O) port to receive digital radiometer and digital thermocouple signals from the ICT; (c) a second I/O port to receive ablative energy from the generator; (d) a temperature display; (e) a patient relay; (f) a computer-readable medium storing instructions for causing the processor to: (i) calculate a temperature adjacent to the ICT based on the digital radiometer and thermocouple signals and operation parameters; (ii) causing the temperature display to display the calculated temperature; and (iii) closing the patient relay such that the patient relay passes ablative energy received on the second I/O port to the first I/O port; and (g) a temperature control subsystem to regulate the ablative power based on the calculated temperature.

WO 2013/138262 A1

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*