

Search query (5): [SP]: reivindicaciones 1. un dispositivo de estimulación eléctrica y magnética de tejidos que comprende: - un circuito distribuidor de fuente múltiple (3) - un circuito de etapa de salida desacoplado (4) conectado al circuito distribuidor de fuente múltiple (3) y a una unidad de control (1) - la unidad de control (1) conectada al circuito distribuidor de fuente múltiple (3) y al circuito de etapa de salida desacoplado (4) donde la unidad de control (1) genera las salidas pe (12) y out (13) para estimular eléctrica y magnéticamente un tejido. 2. el dispositivo de la reivindicación 1, donde el circuito de etapa de salida desacoplado (4) está conectado a un transductor 3. el dispositivo de la reivindicación 1, donde el circuito de etapa de salida desacoplado (4) y la unidad de control (1) se conectan a un adc (5). 4. el dispositivo de la reivindicación 3, caracterizado porque el circuito distribuidor de fuente múltiple (3) es dual. 5. el dispositivo de la reivindicación 1, caracterizado porque el circuito distribuidor de fuente múltiple (3) comprende: - una unidad de control (1) conectada a un circuito de switch controlado (16) y a un selector de salida de fuente (20) - el circuito de switch controlado (16) está conectado a un circuito regulador de voltaje (18) y a una impedancia (17) - la impedancia (17) conectada al circuito regulador de voltaje (18) y a el circuito switch controlado (16) - el circuito regulador de voltaje (18) está conectado a un limitador de corriente (19) - el limitador de corriente (19) está conectado a un capacitor (21), a un banco de condensadores (33) y al sector de salida de fuente (20) donde la unidad de control (1) controla el circuito de switch controlado (16) mediante una señal de control de fuente (6) y controla el selector de salida de fuente (20) mediante un bus de señales de control salida (15), el selector de salida de fuente (20) conecta o desconecta uno o varios condensadores del banco de condensadores (33). 6. el dispositivo de la reivindicación 5, donde el circuito distribuidor de fuente múltiple (3) comprende: - un segundo circuito de switch controlado (34) conectado a un segundo circuito regulador de voltaje (36) y a una segunda impedancia (35) - la segunda impedancia (35) conectada al segundo circuito regulador de voltaje (36) y al segundo circuito switch controlado (34) - el segundo circuito regulador de voltaje (36) está conectado a un segundo limitador de corriente (37) - el segundo limitador de corriente (37) está conectado a un segundo capacitor (38), a un segundo banco de condensadores (39) y al sector de salida de fuente (42) donde la unidad de control (1) controla la apertura y cierre del segundo circuito de switch controlado (34) mediante la señal de control de fuente (6) y controla el segundo selector de salida de fuente (42) mediante la señal de control salida (15). 7. el dispositivo de la reivindicación 6, donde el circuito distribuidor de fuente múltiple (3) comprende: - un tercer selector de salida de fuente (63) conectado al primer limitador de corriente (19) y al primer regulador de voltaje (18) - un cuarto selector de salida de fuente (64) conectado al segundo limitador de corriente (37) y al segundo regulador de voltaje (36) el tercer selector de salida de fuente (63) y el cuarto selector de salida de fuente (64) conectados a la unidad de control (1) 8. el dispositivo de la reivindicación 1, donde el circuito distribuidor de fuente múltiple (3) comprende: - un primer circuito de switch controlado (16) conectado a una señal de control de fuente alta (7), a la salida del primer circuito de switch controlado (16) está conectada una primera impedancia de protección de alta (57), una segunda impedancia de protección de alta (58), un circuito regulador de voltaje positivo (18), un circuito limitador de corriente positivo (18) - el circuito limitador de corriente positivo (18) conectado a un primer capacitor (21) - el primer capacitor (21) conectado a un primer selector de salida de fuente (20) y a un primer banco de capacitores (33) - un segundo circuito de switch controlado (34) conectado a una señal de control de fuente baja (8), a la salida del segundo circuito de switch controlado (34) está conectada una primera impedancia de protección de baja (59), una segunda impedancia de protección de baja (60), un circuito regulador de voltaje negativo (36), un circuito limitador de corriente negativo (37) - el circuito limitador de corriente positivo (37) conectado a un segundo capacitor (38) - el segundo capacitor (38) conectado a un segundo selector de salida de fuente (42) y a un segundo banco de capacitores (39) 9. el dispositivo de la reivindicación 5 o la reivindicación 6 o la reivindicación 7 o la reivindicación 8, donde al banco de condensadores, en el extremo donde no se conecta el selector de salida de fuente se conecta un segundo selector de salida de fuente. 10. el dispositivo de la reivindicación 1, donde el circuito de etapa de salida desacoplado (4) comprende una etapa de amplificación (22) conectada a un circuito de etapa de desacople óptico (23) 11. el dispositivo de la reivindicación 3, donde la unidad de control (1) está conectada a una interfaz de i/o (13). 12. el dispositivo de la reivindicación 3, donde la unidad de control (1) está conectada a un generador de señal (27), y el generador de señal (27) se conecta al circuito de etapa de salida desacoplado (4). 13. el dispositivo de la reivindicación 12, caracterizado porque el circuito distribuidor de fuente múltiple (3) es dual. 14. el dispositivo de la reivindicación 3 o la reivindicación 13, donde la unidad de control (1) está conectada a un controlador de salidas (30), el circuito de etapa de salida desacoplado (4) está conectado al controlador de salidas (30), el controlador de salidas (30) está conectado a una interfaz de actuadores (31), la interfaz de actuadores genera las señales pe (43) y out(44). 15. un circuito distribuidor de fuente múltiple que comprende: - una unidad de control (1) conectada a un selector de salida de fuente (20) - un circuito regulador de voltaje (18) está conectado a un limitador de corriente (19) - el limitador de corriente (19) está conectado a un capacitor (21), a un banco de condensadores (33) y al sector de salida de fuente (20) donde la unidad de control (1) controla el selector de salida de fuente (20) mediante un bus de señales de control salida (15), el selector de salida de fuente (20) conecta o desconecta uno o varios condensadores del banco de condensadores (33). 16. el circuito distribuidor de fuente múltiple de la reivindicación 15, donde la unidad de cómputo (1) está conectada a un circuito de switch controlado (16), el circuito de switch controlado (16) está conectado al circuito regulador de voltaje (18) y a una impedancia (17), la impedancia (17) conectada al circuito regulador de voltaje (18) y a el circuito switch controlado (16). donde la unidad de control (1) controla el circuito de switch controlado (16) mediante una señal de control de fuente (6). 17. el circuito distribuidor de fuente múltiple de la reivindicación 16, donde la unidad de cómputo (1) se conecta a un segundo circuito de switch controlado (34) conectado a un segundo circuito regulador de voltaje (36) y a una segunda impedancia (35) - la segunda impedancia (35) conectada al segundo circuito regulador de voltaje (36) y al segundo circuito switch controlado (34) - el segundo circuito regulador de voltaje (36) está conectado a un segundo limitador de corriente (37) - el segundo limitador de corriente (37) está conectado a un segundo capacitor (38), a un segundo banco de condensadores (39) y al sector de salida de fuente (42) donde la unidad de control (1) controla la apertura y cierre del segundo circuito de switch controlado (34) mediante la señal de control de fuente (6) y controla el segundo selector de salida de fuente (42) mediante la señal de control salida (15). 18. el circuito distribuidor de fuente múltiple de la reivindicación 17, donde la unidad de cómputo (1) está conectada a un tercer selector de salida de fuente (63) conectado al primer limitador de corriente (19) y al primer regulador de voltaje (18) un cuarto selector de salida de fuente (64) conectado al segundo limitador de corriente (37) y al segundo regulador de voltaje (36) 19. el dispositivo de la reivindicación 15 o la reivindicación 16 o la reivindicación 17, o la reivindicación 18, donde al banco de condensadores, en el extremo donde no se conecta el selector de salida de fuente se conecta un segundo selector de salida de fuente. claims 1. a device electric and magnetic stimulation of tissues comprising: - a source (3)- a distributor circuit (4) connected to the circuit output stage is decoupled from the source (3) distributor and to a control unit (1) - the control unit (1) connected to the source (3) and the circuit distributor of output stage (4 disengaged) wherein the control unit (1) generates the outlets (12) and out pe (13) to electrically and magnetically stimulate a tissue. 2. the device of claim 1, wherein the output stage of the circuit (4) is connected to a transducer disengaged 3. the device of claim 1, wherein the output stage of the circuit disengaged (4) and the control unit (1) are connected to an adc (5). 4. the de

Results: 5

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Title: FUNCTIONAL ELECTRICAL STIMULATION DEVICE AND SYSTEM, AND USE THEREOF
Priority: US20100351715P 20100604 EP20110789011 20110602 US20110701722 20110602
WO2011CA00637 20110602 US20120701722 20121203 US20140500749 20140929

Family:	Publication number	Publication date	Application number	Application date
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	CA2801333 C	20181120	CA20112801333	20110602
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	EP2575962 B1	20150401	EP20110789011	20110602
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	US2015039051 AA	20150205	US20140500749	20140929
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	US9440077 BB	20160913	US20140500749	20140929

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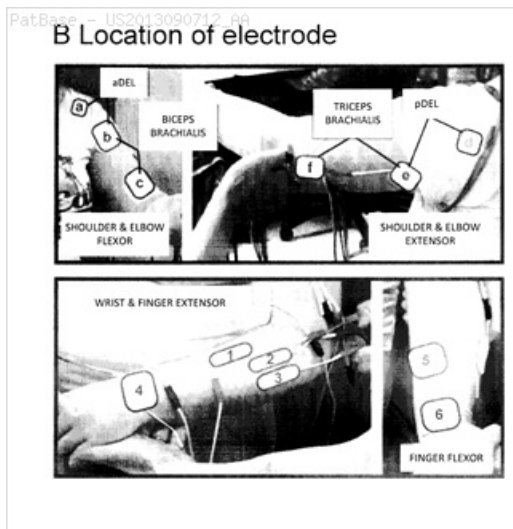
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Abstract:

Disclosed herein is a functional electrical stimulation (FES) device and system. In one embodiment, sequential bipolar pulse stimulation may be provided to an area of a living body via one or more electrode leads applied to the area via a FES device comprising a current pulse generating circuit comprising output nodes for operative coupling to the one or more electrode leads, and configured for operative coupling to a voltage supply. The current pulse generating circuit generally comprises positive and negative stimulation paths drawing from the voltage supply to respectively apply positive and negative currents through the area via the one or more electrode leads. In one example, the stimulation paths comprise respective capacitive elements, a capacitance ratio of which dictating, at least in part, an amplitude ratio of the positive and negative currents, wherein periodic alternative activation of the stimulation paths provides the sequential bipolar pulse stimulation. In another example, each path comprises a respective charging element and a respective activation switch, wherein each respective charging element is charged by the voltage supply and discharged upon activation of the respective activation switch to generate positive and negative current pulses respectively, such that a pulse rise time of the positive and negative current pulses is predominantly dictated by a switching speed of each respective switch. Systems and uses for these devices, and FES in general, are also described.



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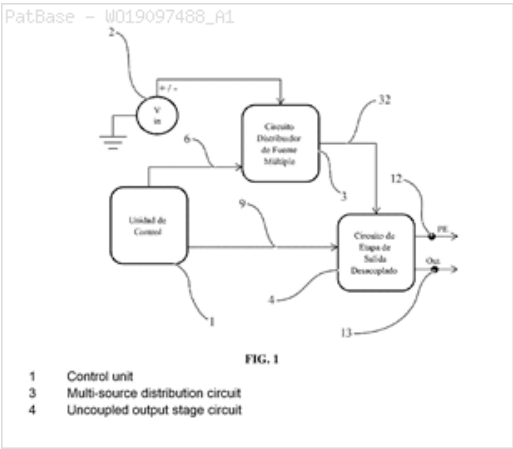
International class (IPC 8-9): A61N1/00 A61N2/00 (Advanced/Invention)

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Classification Explorer

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Abstract: The present invention corresponds to a device for electrical and magnetic tissue stimulation which comprises a multi-source distribution circuit, an uncoupled output stage circuit connected to the multi-source distribution circuit and to a control unit, the control unit being connected to the multi-source distribution circuit and to the uncoupled output stage circuit, wherein the control unit generates the PE and Out outputs for electrical and magnetic tissue stimulation. The invention also has a multi-source distribution circuit which comprises a control unit connected to a source output selector, a voltage regulating circuit is connected to a current limiter, the current limiter is connected to a capacitor, to a capacitor bank and to the source output selector; wherein the control unit controls the source output selector via an output control signal bus, the source output selector connecting or disconnecting one or more capacitors of the capacitor bank.



3) Family number: 63372780 (US2017021171A) © PatBase

Title: SYSTEMS AND METHODS FOR ENABLING APPETITE MODULATION AND/OR IMPROVING DIETARY COMPLIANCE USING AN ELECTRO-DERMAL PATCH

Priority: US20150120067P 20150224 US20150120082P 20150224 US20150133526P 20150316
US20150133530P 20150316 US20150141328P 20150401 US20150141333P 20150401
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CPC: A61N1/36031 A61N1/0496 G09B19/0092 A61B5/681 A61B5/0002 A61B2562/0219 G06Q10/1093 A61F5/0003 G16H80/00 G16H20/30 G16H20/60 G16H40/63 G16H50/30 A61B5/6832 A61B5/0022 A61B5/021 A61B5/04001 A61B5/04087 A61B5/0424 A61B5/0476 A61B5/0488 A61B5/0533 A61B5/0816 A61B5/14542 A61B5/4836 A61B5/4875 A61B5/6802 A61B5/6824 A61B5/6833 A61B2560/0242 A61N1/0452 G06F19/00 G16H40/67 A61B5/0024 A61B5/02055 A61B5/02405 A61B5/0245 A61B5/0537 A61B5/14532 A61B5/42 A61B5/4211 A61B5/68335 A61B5/7475 A61N1/0476 A61N1/36128 A61N1/37211 A61N1/37235 A61N1/04 A61N1/0484 A61N1/36007 A61N1/36021 A61B5/04 A61B5/053 A61B5/1118 A61B5/4848 A61B5/4866 A61F5/0026 A61N1/0502 A61N1/36017 A61N1/36034 A61N1/36085 A61N1/0456 A61N1/0492 A61N1/36025 A61N1/37247 A61N1/37258 A61N1/00 A61N1/06 A61N1/08 A61N1/10 A61N1/36 A61N2001/083 A61N1/3603 A61N1/36014

US class: 1/1 607/115 607/40 607/46 607/59

[Classification Explorer](#)

Cited documents: WO9938563 A1, WO9903532 A2, WO9741921 A1, WO1999038563 A1, WO1999003532 A2, WO1997041921 A1, WO19041921, WO19038563, WO19003532, WO18081423 A1, WO17205047 A2, WO17075359 A2, WO17002104 A1, WO16138357 A1, WO16138176 A1, WO15033152 A2, WO14194200 A1, WO14153228 A1, WO14153223 A1, WO14153219 A1, WO14089299 A2, WO14022215 A1, WO12138782 A1, WO12103519 A2, WO12040243 A1, WO10144982 A1, WO06118792 A1, WO06118790 A2, WO05102448 A2, WO05041749 A2, WO04011085 A1, WO0243467 A2, WO0232499 A1, WO0209808 A1, WO02043467 A2, WO02032499 A1, WO02009808 A1, WO0158520 A1, WO0152932 A1, WO01058520 A1, WO01052932 A1, WO0061224 A1, WO0061223 A1, WO00061223 A1, USRE43399 E, USRE43039 E, USD357069 S1, US9956393 BB, US9466919 BB, US9421373 BB, US9415222 BB, US9409030 BB, US9403001 BB, US9375573 BB, US9345880 BA, US9339647 BB, US9320900 BB, US9233244 BB, US9168375 BB, US9113801 BB, US9044199 BB, US9042988 BB, US9014811 BB, US9002458 BB, US8977353 BB, US8968177 BB, US8958872 BB, US8938303 BA, US8934976 BB, US8929968 BB, US8911393 BB, US8911369 BB, US8909355 BB, US8905999 BB, US8903601 BB, US8903502 BB, US8903494 BB, US8897878 BB, US8888797 BB, US8880175 BB, US8874218 BB, US8874205 BB, US8868172 BB, US8862238 BB, US8862233 BB, US8850688 BB, US8850687 BB, US8838231 BB, US8831729 BB, US8828201 BB, US8825164 BB, US8821584 BB, US8821521 BB, US8808532 BB, US8805507 BB, US8798753 BB, US8795301 BB, US8792986 BB, US8792953 BB, US8781597 BB, US8762065 BB, US8761903 BB, US8755893 BB, US8755888 BB, US8738137 BB, US8738126 BB, US8725271 BB, US8725243 BB, US8718791 BB, US8715181 BB, US8712530 BB, US8712529 BB, US8702642 BB, US8702641 BB, US8700177 BB, US8694118 BB, US8685724 BB, US8682408 BB, US8676288 BB, US8663338 BB, US8660666 BB, US8660647 BB, US8660628 BB, US8657885 BB, US8655444 BB, US8649840 BB, US8615309 BB, US8615294 BB, US8612016 BB, US8609082 BB, US8594811 BB, US8591598 BB, US8588918 BB, US8585733 BB, US8579988 BB, US8574164 BB, US8571653 BB, US8571651 BB, US8565896 BB, US8565867 BB, US8560039 BB, US8556925 BB, US8551120 BB, US8548594 BB, US8543210 BB, US8543184 BB, US8541232 BB, US8538542 BB, US8538534 BB, US8538533 BB, US8538532 BB, US8537682 BB, US8527026 BB, US8527025 BA, US8524736 BB, US8523773 BB, US8515519 BB, US8512731 BB, US8494655 BB, US8494637 BB, US8483793 BB, US8467884 BB, US8467880 BB, US8467874 BB, US8463404 BB, US8463385 BB, US8463383 BB, US8460321 BB, US8457747 BB, US8447404 BB, US8447403 BB, US8442841 BB, US8428731 BB, US8427953 BB, US8423130 BB, US8423114 BB, US8417352 BB, US8417329 BB, US8414559 BB, US8398668 BB, US8396557 BB, US8394463 BA, US8388632 BB, US8386056 BB, US8382775 BA, US8372158 BB, US8369952 BB, US8369943 BB, US8364269 BB, US8364229 BB, US8360069 BB, US8356605 BB, US8353925 BB, US8342183 BB, US8340772 BB, US8340760 BB, US8326438 BB, US8321030 BB, US8306627 BB, US8301256 BB, US8295932 BB, US8295926 BB, US8282598 BB, US8280505 BB, US8265758 BB, US8260439 BB, US8260426 BB, US8239027 BB, US8229534 BB, US8219201 BB, US8219188 BB, US8211186 BB, US8204603 BB, US8204591 BB, US8192455 BB, US8190261 BB, US8187297 BB, US8185206 BB, US8172857 BB, US8160709 BB, US8150508 BB, US8145318 BB, US8145299 BB, US8138204 BB, US8126538 BB, US8116881 BB, US8103349 BB,

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DE102006053427 A1

CN204147427 U, CA2885175 AA, CA2764610 AA,

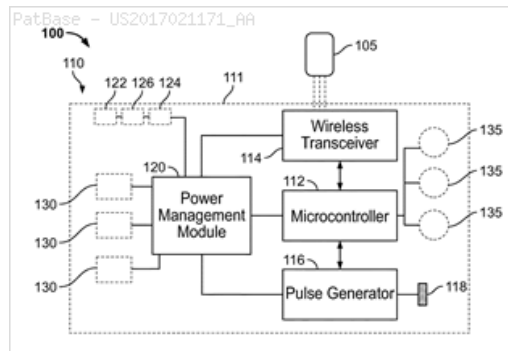
Forward Citations:

WO19204198, WO19195320, WO19169240, WO19142196, WO19097488, WO19089652, WO19040472, WO19018206, WO18118866, WO18118861, WO17146658, USD821593, US9931511, US9905063, US2018047235, US2017312506, US2017293740, US2014344733, US10593231, US10593137, US10589089, US10561839, US10549093, US10531833, US10531832, US10497191, US10463854, US10424407, US10376145, US10335302, US10307586, US10226213, US10201706, US10179238, US10173060, US10143840, US10118035, US10073953, US10037641, US10032109, US10019859, US10013832, EP3434323, EP3316775, CN108156732,

Abstract:

A wearable device for suppressing appetite or hunger in a patient includes a microprocessor, electrical stimulator and at least one

electrode configured to deliver electrical stimulation to the epidermis, through a range of 0.1 mm to 10 mm or a range of 0.1 mm to 20 mm of the dermis, of a T2 frontal thoracic dermatome to a T12 frontal thoracic dermatome or meridian of the patient and/or front or back, C5-T1 dermatome across the hand and/or arm, and/or the upper chest regions. The device includes a pad, in which the electrode is disposed, for secure placement of the device on a skin surface of a patient. The device is adapted to provide electrical stimulation as per stimulation protocols and to communicate wirelessly with a companion control device configured to monitor and record appetite patterns of the patient. The control device is also configured to monitor, record, and modify stimulation parameters of the stimulation protocols.



4) Family number: 30685814 (US2006265027A)

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Title: EFFICIENT DYNAMIC STIMULATION IN AN IMPLANTED DEVICE

Priority: US20020432932P 20021212 EP20030780564 20031211 US20030538521 20031211
WO2003IL01062 20031211 WO2003IL01062 20031211 WO2013IL01062 20031211
US20040628391P 20041115 IL20050169129 20050612 US20050280884 20051115
US20060538521 20060111 EP20110002403 20061114 US20090589132 20091019
US20120437114 20120402 US20120661512 20121026 US20130804825 20130314
IL20140233322 20140623 US20140528665 20141030

Family:	Publication number	Publication date	Application number	Application date
	AU2003288489 AA	20040630	AU20030288489	20031211
	AU2003288489 AH	20040630	AU20030288489	20031211
	DE602006034196 D1	20130314	DE200660034196T	20061114
	DE60347578 D1	20150603	DE20036047578	20031211
	EP1578266 A2	20050928	EP20030780564	20031211
	EP1578266 A4	20110511	EP20030780564	20031211
	EP1578266 B1	20150429	EP20030780564	20031211
	IL169129 A0	20070704	IL20030169129	20031211
	IL169129 A1	20140731	IL20030169129	20031211
	IL233322 A0	20140831	IL20030233322	20031211
	US2006265027 AA	20061123	US20030538521	20031211
	US2013211480 AA	20130815	US20130804825	20130314
	US2015057728 AA	20150226	US20140528665	20141030
	US8423132 BB	20130416	US20030538521	20031211
	WO04052444 A2	20040624	WO2003IL01062	20031211
	WO04052444 A3	20041229	WO2003IL01062	20031211

Probable Assignee: MEDTRONIC INC

Assignee(s):(std): BIO CONTROL MEDICAL B C M LTD ; BIOCONTROL MEDICAL B C M LTD ; BIOCONTROL MEDICAL LTD ; VAINGAST SHAI ; COHEN EHUD

Assignee(s): MEDTRONIC INC ; BIOCONTROL MEDICAL BCM LTD ; BIO CONTROL MEDICAL BCM LTD ; BIO CONTROL MEDICAL LTD ; BIO CONTROL MEDICAL (BCM) LTD

Inventor(s):(std): VAINGAST SHAI ; COHEN EHUD ; EHUD COHEN ; SHAI VAINGAST ; AYAL SHAI

Agent(s): VOSSIUS AND PARTNER PATENTANWALTE RECHTSANWALTE MBB; SANFORD TCOLB AND CO; COOPER AND DUNHAM LLP; SUGHRUE MION PLLC

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

International class (IPC 8-9): A61B A61B5/05 A61N A61N1/00 A61N1/05 A61N1/08 A61N1/18 A61N1/36 A61N1/365 A61N1/37 A61N1/375 (Advanced/Invention); A61B A61N (Subclass/Invention)

International class (IPC 1-7): A61B5/05 A61N

CPC: A61N1/0551 A61N1/36142 A61N1/14 A61N1/36521 A61N1/37 A61N1/3716

European class: A61N1/365B2 A61N1/37 K61N1/37D4

US class: 607/116 607/2 607/62 607/62P 607/74 607/74S 607/8 607/8S

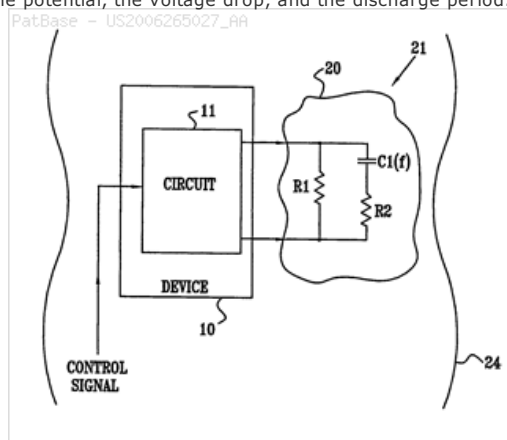
[Classification Explorer](#)

Cited documents: US7450987 BB, US7359751 BA, US6600956 BB, US5843136 A, US5807397 A, US5800464 A, US5735880 A, US5722997 A, US5562717 A, US5531772 A, US5486201 A, US5431686 A, US5411548 A, US5391191 A, US5314458 A, US5300093 A, US5235980 A, US5233982 A, US5201865 A, US5186170 A, US5144948 A, US5103835 A, US4998531 A, US4543956 A, US4498478 A, US4343312 A, US4222385 A, US3662758 A, US3628538 A, US2003236558 AA, US2003153957 AA,

Forward Citations: WO19164952, WO19097488, WO17095566, WO13012487, US9950170, US9855438, US9849285, US9814882, US9731112, US9393433, US9345883, US9238138, US8909355, US8880192, US8788032, US8725271, US8718791, US8615294, US8571653, US8571651, US8565896, US8494655, US8380312, US8326438, US2012004707, US2010198102, US2007126367, US10589099, US10369367, US10128546,

Abstract:

A method for measuring impedance of a tissue (20), consisting of charging a capacitor (C 15) to a potential, and discharging the capacitor for a discharge period through the tissue. The method further consists of measuring a voltage drop on the capacitor over the discharge period and determining the impedance of the tissue responsive to the potential, the voltage drop, and the discharge period.

**5) Family number: 30685815** (US2004147978A)

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Title: ELECTRO STIMULATION TREATMENT APPARATUS AND METHOD

Priority: AU20020953278 20021212 AU20030294151 20031212 JP20040558301 20031212
 JP20040558301T 20031212 US20030734925 20031212 WO20031B05894 20031212
 US20120565849 20120803

Family:	Publication number	Publication date	Application number	Application date
	AU2002953278 A0	20030102	AU20020953278	20021212
	AU2003294151 AA	20040630	AU20030294151	20031212
	AU2003294151 BB	20090723	AU20030294151	20031212
	CA2549407 AA	20060612	CA20032549407	20031212
	CN1738661 A	20060222	CN200380108985	20031212
	CN1738661 B	20130109	CN200380108985	20031212
	EP1575660 A1	20050921	EP20030789571	20031212
	HK1083470 A1	20060707	HK20060103514	20060320
	HK1083470 A3	20060707	HK20060103514	20060320
	IN03074DN2005 A	20061229	IN2005DN03074	20050711
	IN03730DN2008 A	20080815	IN2008DN03730	20080501
	IN219616 B	20080627	IN2005DN03074	20050711
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	JP2011183230 A2	20110922	JP20110147303	20110701
	SG166000 A1	20101129	SG20070041593	20031212
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	US2013066388 AA	20130314	US20120565849	20120803
	US9572978 BB	20170221	US20120565849	20120803
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Probable Assignee: SKOP GMBH LTD**Assignee(s):(std):** BERNHARD AXEL L ; COOK ALAN ; SKOP AUSTRALIA PTY LTD ; SKOP GMBH LTD**Assignee(s):** SKOP GMBH**Inventor(s):(std):** BERNHARD AXEL L ; COOK ALAN ; COOK ALAN BERNHARD AXEL L**Inventor(s):** ALAN COOK ; AXEL L BERNHARD**Agent(s):** SKOP GMBH LTD; OGILVY RENAULT LLP SENCRL SRL; CHINA PATENT AGENT HK LTD; PETER B; MOORE AND VAN ALLEN PLLC

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8-9): A61N A61N1/00 A61N1/08 A61N1/32 A61N1/36 (Advanced/Invention);
 A61N1/36 (Advanced/Non-invention);
 A61N1/00 A61N1/08 A61N1/32 (Core/Invention);
 A61N1/36 (Core/Non-invention)

International class (IPC 1-7): A61N1/00 A61N1/08 A61N1/18

CPC: A61N1/08 A61N1/326 A61N1/36014 A61N1/36034**European class:** A61N1/08 A61N1/32 K61N1/36 K61N1/36E**US class:** 1/1 607/2 607/50 607/50P**JP class F-Term:** 4C053 4C053/FF04 4C053/JJ01 4C053/JJ22 4C053/JJ24 4C053/JJ27 4C053/JJ40**JP class F-Index:** A61N1/08 A61N1/32

Cited documents: WO9731679 A2, WO9731679, WO0236002 A1, WO0061220 A1, WO0053113 A1, US6944503 BB, US6631296 BA, US6597947 BA, US6516227 BA, US5922012 A, US5895416 A, US5527357 A, US5514165 A, US5063929 A, US5052391 A, US4996987 A, US4969468 A, US4632117 A, US4390023 A, US3610250 A, US3279468 A, US2002103513 AA, JP2002537939 T2, JP2000237331 A2, JP11169381, JP11099190, JP11099190,

Forward Citations: WO19097488, WO09134477, WO08134059, WO06110690, WO06110206, US9937342, US9802041, US9452287, US9259587, US8751007, US8738145, US8700176, US8554331, US7974703, US7957814, US7519431, US2011230940, US2011046697, US2009234422, US2008183251, US2006229687, US10561839, US10549093, US10179238, US10173060, JP2015527176, EP2039391, EP1871463, AU2007278023,

Abstract:

An electro stimulation system for providing signals to a subject including: at least one electrical power supply; a first switching device for intermittently connecting the output of an electrical power supply to one or more connection probes electrically connected to the subject; a second switching device for intermittently connecting one or more connection probes electrically connected to the subject to form an electrical current return path for current supplied by the electrical power supply; and switching control devices connected to the first and second switching devices; wherein the intermittent connection of the output of an electrical power supply or the intermittent formation of electrical current return paths vary during a treatment and wherein the switching of the first and second devices occurs independently of each other.

