

1) Family number: 46627015 (US2010217349A)

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Title: SYSTEMS AND METHODS OF POWERED MUSCLE STIMULATION USING AN ENERGY GUIDANCE FIELD

Abstract: NMES systems and methods for stimulating muscle tissue, and in some embodiments deep muscle tissue. The impedance near the surface of the skin is controllably increased to increase the percentage of energy delivered to a subject that stimulates muscle tissue.

Classifications:

International (IPC 8-9): A61B5/01 A61F7/00 A61F7/02 A61F7/03 A61F7/08 A61F7/10 A61N1/00 A61N1/04 A61N1/28

A61N1/36 (Advanced/Invention);

A61B5/00 A61B5/01 A61B5/04 A61F7/00 A61F7/02 A61F7/03

A61F7/08 A61N1/04 A61N1/28 (Advanced/Non-invention);

A61N1/04 A61N1/36 (Core/Invention)

CPC: A61N1/0476 A61F7/03 A61F7/10 A61F2007/0056

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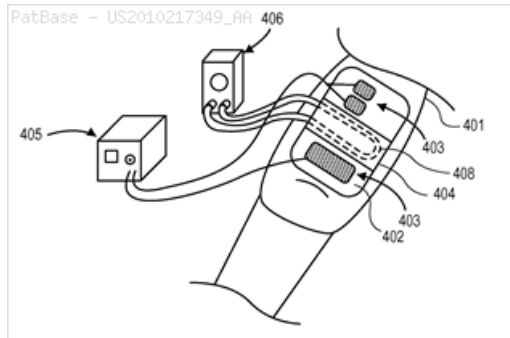
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F04C2270/041 A61N1/3603

European: A61N1/36A

US: 1/1 607/114 607/3 607/48 607/48P 607/99



Family:

Publication number	Publication date	Application number	Application date
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Probable Assignee: SAGE PRODUCTS LLC

Assignee(s): (std): FAHEY BRIAN ; FAHEY BRIAN J ; MACHOLD TIMOTHY ; MALCHANO ZACHARY J ; NIVEUS MEDICAL INC ; SAGE PRODUCTS LLC ; TOM CURTIS

Assignee(s): NIVEUS MEDICAL INC REDWOOD CITY ; NIVEUS MEDICAL INCSUITE C - 849 INDEPENDENCE AVE.MOUNTAIN VIEWCA94043US

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Inventor(s): MACHOLD TIMOTHYUS ; TOM CURTISUS ; FAHEY BRIAN JUS ; MALCHANO ZACHARY JUS ; FAHEY BRIAN J MOUNTAIN VIEW ; MALCHANO ZACHARY J MOUNTAIN VIEW ; MACHOLD TIMOTHY MOUNTAIN VIEW ; TOM CURTIS MOUNTAIN VIEW

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; FETHERSTONHAUGH AND CO;
PATENTANWALTSKANZLEI MEYER; PRICE NIGEL JOHN KING; J A KEMP; SHAY GLENN LLP; ZLOGAR
THOMAS M ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR
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SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

2) Family number: 32879017 (US2006095088A) © PatBase

Title: NEW STIMULATION DESIGN FOR NEUROMODULATION

Abstract: The present application relates to a new stimulation design which can be utilized to treat neurological conditions. The stimulation system produces a burst mode stimulation which alters the neuronal activity of the predetermined site, thereby treating the neurological condition or disorder.

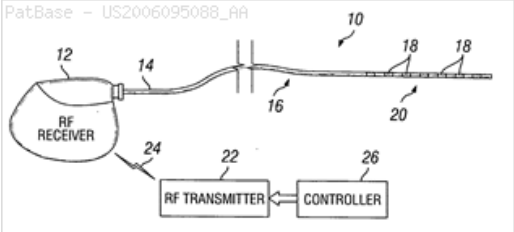
Classifications:

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B01D53/00 C07C29/74 (Advanced/Invention);
A61M5/142 A61N2/00 (Advanced/Non-invention);
A61M5/142 A61N1/05 A61N1/08 A61N1/18 A61N1/32
A61N1/36 (Core/Invention)

CPC: A61N1/0531 A61N1/36017 A61N1/36071 A61N2/006
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A61N1/0541 A61N1/0553 A61N1/36021 A61N1/361 A61N1/37211

European: A61N1/05K1 A61N1/05K1C A61N1/05L2 A61N1/36 A61N1/36E A61N1/36E2 A61N1/36E4 A61N1/36F
A61N1/36Z3C A61N2/00T2 K61M5/142P10 K61N1/36E K61N1/36E2 K61N1/36F K61N2/00T2

US: 1/1 607/116 607/17 607/17P 607/2 607/42 607/42S 607/44 607/44S 607/45 607/45P 607/45S 607/46 607/46S 607/48
607/48P 607/55 607/55P 607/55S 607/56 607/57 607/57P 607/62 607/62S 607/72 607/72S 607/9 607/9P



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Priority:

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Probable Assignee: ADVANCED NEUROMODULATION SYSTEMS INC

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NEUROMODULATION SYSTEMS INC ADVANCED ; INC ADVANCED NEUROMODULATION SYSTEMS ;
UHDE GMBH

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RBEL ; KOLBE BAERBEL

Inventor(s): RIDDER DIRK ; RIDDER DIRK D

Agent(s): FULBRIGHT AND JAWORSKI LLP ANS; ST JUDE MEDICAL NEUROMODULATION DIVISION; PETER;
MELISSA; CHRISTOPHER S L; CRAIG; PETER R

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
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KG KM KP KR KZ LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL
NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG
US UZ VC VN YU ZA ZM ZW

3) Family number: 53811064 (US2013158627A)

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Title: APPARATUS AND METHOD FOR RELIEVING PAIN USING TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION

Abstract: Apparatus for transcutaneous electrical nerve stimulation in humans, comprising a housing; stimulation means mounted within the housing for electrically stimulating nerves; an electrode array releasably mounted to the housing, connectable to the stimulation means, and comprising electrodes for electrical stimulation of nerves; control means mounted to the housing and electrically connected to the stimulation means for controlling the stimulation means; monitoring means mounted to the housing and electrically connected to the stimulation means for monitoring the stimulation means; user interface means mounted to the housing and electrically connected to the control means for controlling the stimulation means; display means mounted to the housing and electrically connected to the control means and the monitoring means for displaying the status of the stimulations means; and a strap attached to the housing and configured to hold the housing, stimulation means and electrode array at a specific anatomical location to treat pain.

Classifications:

International (IPC 8-9): A61B5/00 A61B5/04 A61B5/05 A61B5/053
A61B5/107 A61B5/11 A61N1/00 A61N1/04 A61N1/08 A61N1/26

A61N1/32 A61N1/34 A61N1/36 A61N1/372

G06F3/01 (Advanced/Invention);

A61B5/11 A61N1/04 A61N1/08 A61N1/36 (Advanced/Non-invention)

CPC: A61N1/0484 A61B5/1114 A61B5/0531 A61B5/486 A61B5/1123

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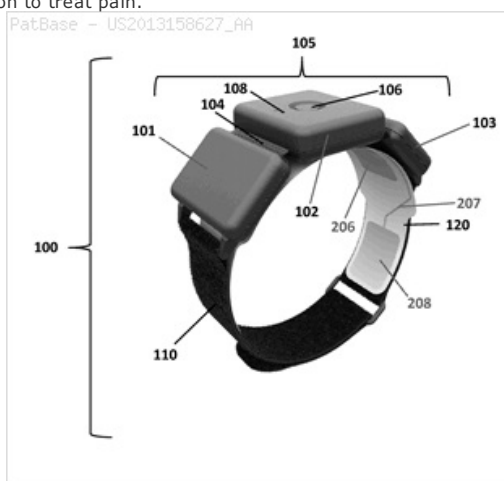
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US: 1/1 600/595 607/115 607/46 607/62



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Probable Assignee: NEUROMETRIX INC

Assignee(s): (std): NEUROMETRIX INC ; NOVARTIS CONSUMER HEALTH SA ; GSK CONSUMER HEALTHCARE SA ; GSK CONSUMER HEALTHCARE S A ; NOVARTIS AG

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Inventor(s): (std): TOM FERREE ; SHAI GOZANI ; GOZANI SHAI NACHUM ; XUAN KONG ; HERB GLENN ; GOZANI SHAI N ; KONG XUAN ; AGUIRRE ANDRES ; WILLIAMS MICHAEL ; CRYAN MARC ; MICHAEL WILLIAMS ; MARC CRYAN ; GLENN HERB ; ANDRES AGUIRRE ; SHAI N GOZANI ; FERREE TOM ; GOZANI SHAI ; FERREE THOMAS ; FERREE THOMAS C

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WESTON ; CRYAN MARC MAYNARD ; WILLIAMS MICHAEL MELROSE ; CRYAN MARCUS ; AGUIRRE ANDRESUS ; GOZANI SHAI NUS ; KONG XUANUS ; HERB GLENNUS ; WILLIAMS MICHAELUS

Agent(s):

PIZZEYS PATENT AND TRADE MARK ATTORNEYS ; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD ; PHILLIPS ORMONDE FITZPATRICK ; DONNELLY VICTORIA ; NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL ; KUECHLER STEFAN T DIPL ING UNIV ; KUECHLER STEFAN ; MUELLER AND SCHUBERT ; GUNDEL ISABELLE ; ELZABURU SLP ELZABURU SLP ; NABILA AM BADAR SH LLM ; YAMAMOTO OSAMU ; TAKEUCHI SHIGEO ; ONO SHINJIRO ; KOBAYASHI YASUSHI ; SAKUMA SHIGERU ; NAKAMURA SHOGO ; HIRAKI AND ASSOCIATES ; NAKANISHI MOTOHARU ; MIYAMAE TORU ; PANDISCIO AND PANDISCIO ; PANDISCIO MARK J ; CARLEY MARGARET M ET AL ; RICE JASON NEALE ET AL

Designated states:

AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

4) Family number: 33545085 (US2010042180A)

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Title: ELECTRICAL STIMULATION DEVICE AND METHOD FOR THERAPEUTIC TREATMENT AND PAIN MANAGEMENT

Abstract: A disposable electrical stimulation device and method for providing therapeutic treatment and pain management in a convenient, compact configuration. Electrode size and shape and relative configuration can be varied according to an intended application and use, or a universal configuration can be provided for use on almost any area of the body. The common structure of communicatively coupled dual electrodes including control circuitry and a power source accommodates a range of different sizes, configurations, stimulation treatment intensities, and other physical and electrical characteristics that can be pre-customized and packaged for specific, limited time use. The device can therefore be used in methods of providing therapy, managing pain, and achieving other treatment goals by electrical stimulation.

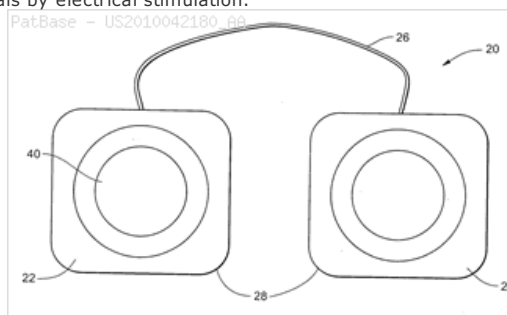
Classifications:

International (IPC 8-9): A61N1/00 A61N1/04 A61N1/32 A61N1/34 A61N1/36 A61N1/372 A61N1/375 A61N1/39 (Advanced/Invention); A61N1/375 (Advanced/Non-invention); A61N1/00 A61N1/04 A61N1/32 A61N1/39 (Core/Invention)

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European: A61N1/36 A61N1/36E2 A61N1/36E4 K61N1/36E

US: 1/1 607/46 607/46P 607/48 607/48S 607/50 607/50S 607/51



Family:

Publication number	Publication date	Application number	Application date
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Priority:

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Probable Assignee: DJO LLC

Assignee(s): (std): BUHLMANN FELIX ; COMPEX MEDICAL S A ; COMPEX TECHNOLOGIES INC ; COMPEX MEDICAL SA ; LAVALLEY PATRICK ; MUELLER PIERRE YVES ; MOORE GARY ; LAMPO PIERRE YVES ; SCHONENBERGER KLAUS ; MASKO MARSHALL ; GUEX STEVE ; DJO LLC ; COMPEX TECH INC ; MOORE GARY L

Assignee(s): WELLS FARGO BANK NATIONAL ASSOCIATION COLLATERAL AGENT AS ; MACQUARIE US TRADING LLC COLLATERAL AGENT AS ; RIKCO INT LLC ; ENCORE MEDICAL LP ; COMPEX TECHNOLOGIES INC NEW BRIGHTON ; EMPI INC ; ENCORE MEDICAL ASSET CORP ; REABLE THERAPEUTICS FINANCE LLC ; REABLE THERAPEUTICS HOLDINGS LLC ; CREDIT SUISSE AG ; CREDIT SUISSE CAYMAN ISLANDS BRANCH COLLATERAL AGE ; CREDIT SUISSE CAYMAN ISLANDS BRANCH COLLATERAL AGENT AG AS ; BANK OF AMERICA NA COLLATERAL AGENT AS ; BANK OF NEW YORK MELLON COLLATERAL AGENT AS ; BANK OF NEW YORK MELLON SECOND LIEN AGENT AS ; BANK OF NEW YORK MELLON THIRD LIEN AGENT AS

Inventor(s): (std): LAVALLEY PATRICK ; MUELLER PIERRE YVES ; MOORE GARY ; LAMPO PIERRE YVES ; BUHLMANN FELIX ; SCHONENBERGER KLAUS ; MASKO MARSHALL ; GUEX STEVE ; MOORE GARY L

Inventor(s): LAVALLEY PATRICK ST PAUL ; MOORE GARY C O COMPEX TECHNOLOGIES INC NEW BRIGHTON ; MASKO MARSHALL ST PAUL ; BUHLMANN FELIX 1024 ; MOORE GARY NEW BRIGHTON ; GUEX STEVE 1024 ; MUELLER PIERRE YVES C O COMPEX MEDICAL SA ; BUHLMANN FELIX C O COMPEX MEDICAL SA ; MOORE GARY C O COMPEX TECHNOLOGIES INC ; LAMPO PIERRE YVES C O COMPEX MEDICAL SA ;

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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 KM KN KP KR KZ LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

5) Family number: 56546126 (US2014148872A)

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Title: WEARABLE TRANSDERMAL ELECTRICAL STIMULATION DEVICES AND METHODS OF USING THEM

Abstract: Described herein are devices, systems, and methods for transdermal electrical stimulation. Devices described herein can include self-contained, lightweight, and wearable components. The devices include a primary unit including a first transdermal electrode and a secondary unit including a second transdermal electrode. The device can be capable of wireless communication. The primary unit and secondary unit are placed at two locations on the skin of a user, for example on the head or neck of a user. The first and second transdermal electrodes are electrically connected. Electrical stimulation is driven between the two electrodes. The electrical stimulation induces a cognitive effect in a user of the device.

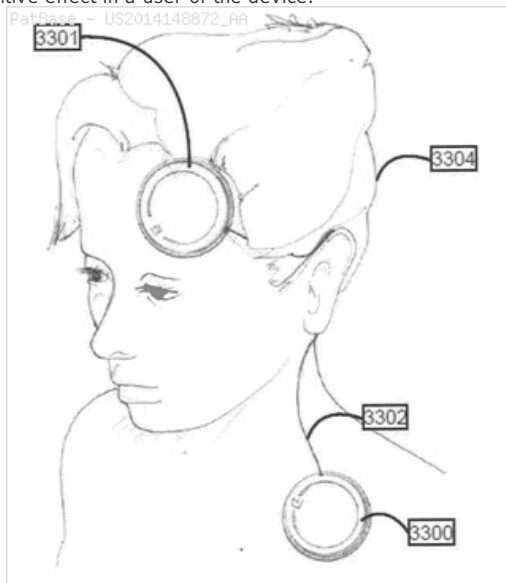
Classifications:

International (IPC 8-9): A61B5/00 A61M A61M21/00 A61M21/02 A61N A61N1/00 A61N1/02 A61N1/04 A61N1/05 A61N1/08 A61N1/18 A61N1/32 A61N1/36 A61N1/37 A61N1/372 A61N7/00 H04L H04L29/12 (Advanced/Invention); A61M16/06 A61M21/00 A61N1/04 (Advanced/Non-invention); A61N H04L (Subclass/Invention)

CPC: A61N1/36017 A61N1/0551 A61N1/36021 A61N1/328 A61N1/0408 A61N1/025 A61N1/04 A61N1/36 A61N1/18 A61N1/3603 A61N1/37217 A61N1/3727 A61M2205/505 A61B5/4058 A61N7/00 A61N2007/0026 A61N2007/0078 H04L61/2015 H04L61/6022 A61B5/0402 A61B5/0476 A61B5/0488 A61N1/37247 A61N2/006 A61N2/02 A61N1/37252 A61B5/024 A61B5/02405 A61B5/0533 A61B5/11 A61B5/4809 A61B5/4812 A61B5/4815 A61B5/6891 A61B5/6892 A61N1/36031 A61N1/36034 A61N1/36082 A61N1/048 A61M16/0688 A61M2205/3306 A61M2205/3324 A61M2205/3375 A61M2210/0687 A61N1/0488 A61N1/0526 A61N1/0404 A61B5/4806 A61B5/4836 A61M21/02 A61M2021/0016 A61M2021/0027 A61M2021/0072 A61M2021/0083 A61M2205/18 A61M2205/3553 A61M2205/3561 A61M2205/3569 A61M2205/3584 A61M2205/3592 A61M2205/502 A61M2205/70 A61M2205/8206 A61M2209/01 A61M2210/06 A61M2230/06 A61M2230/10 A61M2230/14 A61M2230/42 A61M2230/60 A61M2230/63 A61M2230/65 A61B5/0006 A61N1/0456 A61N1/0476 A61N1/0484 A61N1/0492 A61N1/36025 A61N1/36014

US: 1/1 600/26 601/2 607/139 607/2 607/3 607/45 607/72 D24/187

Locarno class: 24/01



Family:

Publication number	Publication date	Application number	Application date
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Probable Assignee: THYNC GLOBAL INC

Assignee(s): (std): AVEN LINH M ; BOASSO ALYSSA M ; CEREVAST MEDICAL INC ; GOLDWASSER ISY ; GRADWOHL RAYMOND L ; COOK STEVEN ; CHARLESWORTH JONATHAN ; DEMERS REMI ; EGAL JASON ; HAIYIN EQUITY INVEST FUND L P ; CHARLESWORTH JONATHAN D ; SATO TOMOKAZU ; LAMB PHILIP ; OPITZ ALEXANDER ; PAL SUMON K ; NEUROTREK INC ; LAW WING ; JEFFERY DOUGLAS ; THAKUR ANIL ; HAMLIN JAY FREDERICK ; SILVA RHONDA S ; MORTIMORE HAILEY M ; PIERIAK RAFAL ; WETMORE DANIEL Z ; VOSS CHRISTOPHER ; TYLER WILLIAM J ; THYNC INC ; THYNC GLOBAL INC ; THYNE GLOBAL INC

Assignee(s): NOOSPHERE VENTURE PARTNERS LP ; ABC THY LLC ; HAIYIN EQUITY INVESTMENT FUND LP ; MORENSTEIN CRONAN LLC D B A BRANCH

Inventor(s): (std): LAW WING ; JEFFERY DOUGLAS ; EGAL JASON ; THAKUR ANIL ; HAMLIN JAY FREDERICK ; HAMLIN JAY ; CHARLESWORTH JONATHAN ; JEFFREY DOUGLAS ; DANIEL Z WETMORE Z ; WILLIAM J TYLER J ; SUMON K PAL K ; HIBMACRONAN CHRISTOPHER N ; ALEXANDRE FLORENT OLIVIER ; MALONE MATTHEW ; MORENSTEIN JOSHUA ; AVEN LINH M ; SILVA RHONDA S ; MORTIMORE HAILEY M ; BOASSO ALYSSA M ; PIERIAK RAFAL ; K PAL SUMON ; RAFAL PIERIAK ; GOLDWASSER LSY ; PAL SUMON ; GRADWOHL RAYMOND ; TYLER WILLIAM ; WETMORE DANIEL ; CHARLESWORTH JONATHAN D ; TYLER WILLIAM J J ; PAL SUMON K K ; WETMORE DANIEL Z Z ; JAY HAMLIN ; TOMOKAZU SATO ; JONATHAN CHARLESWORTH ; STEVEN COOK ; ISY GOLDWASSER ; PHILIP LAMB ; DANIEL Z WETMORE ; WILLIAM J TYLER ; CHRISTOPHER VOSS ; SUMON K PAL ; RAYMOND L GRADWOHL ; ALEXANDER OPITZ ; REMI DEMERS ; PAL SUMON K ; DEMERS REMI ; CHARLESWORTH JONATHAN ; TYLER WILLIAM J ; VOSS CHRISTOPHER ; COOK STEVEN ; OPITZ ALEXANDER ; WETMORE DANIEL Z ; GRADWOHL RAYMOND L ; LAMB PHILIP ; SATO TOMOKAZU ; GOLDWASSER ISY ; DOUGLAS JEFFERY ; JAY FREDERICK HAMLIN ; WING LAW

Agent(s): PIZZEYS PATENT AND TRADE MARK ATTORNEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; FETHERSTONHAUGH AND CO; PRICE NIGEL JOHN KING; J A KEMP; JOESTINGMEIER MARTIN; LOHR JOESTINGMEIER AND PARTNER; PONS ANGEL; IT AND T INTELLECTUAL PROPERTY; IT AND T INT PATENT AND TRADEMARK AGENT LTD; HONG KONG INTELLECTUAL PROPERTY AGENT; HONG KONG INTELLECTUAL PROPERTY AGENT LTD; CLT PATENT AND TRADEMARK HK LTD; KAWAMOTO KAZUYA; SHIMIZU HATSUSHI; OSAKABE SUGURU; SHAY GLENN LLP; SHOOP RICHARD D ET AL; SHOOP RICHARD D; SIDORIN YAKOV S; SIDORIN YAKOV

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG ML MN MR MT MW MX MY MZ NM NI NG NR NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

6) Family number: 28224139 (US2002077572A)

© PatBase

Title: PERCUTANEOUS INTRAMUSCULAR STIMULATION SYSTEM

Abstract: A percutaneous, intramuscular stimulation system for therapeutic electrical stimulation of select muscles of a patient includes a plurality of intramuscular stimulation electrodes (50) for implantation directly into select muscles of a patient and an external battery-operated, microprocessor-based stimulation pulse train generator (10) for generating select electrical stimulation pulse train signals (T). A plurality of insulated electrode leads (40) percutaneously, electrically interconnect the plurality of intramuscular stimulation electrodes (50) to the external stimulation pulse train generator (10), respectively. The external pulse train generator (10) includes a plurality of electrical stimulation pulse train output channels (E) connected respectively to the plurality of percutaneous electrode leads (40) and input means (24, 26, 28) for operator selection of stimulation pulse train parameters (PA, PD, PF) for each of the stimulation pulse train output channels (E) independently of the other channels. Visual output means (20) provides visual output data to an operator of the pulse train generator (10). Non-volatile memory means (66,68) stores the stimulation pulse train parameters for each of the plurality of stimulation pulse train output channels (E). The generator (10) includes means for generating stimulation pulse train signals (100,102) with the selected pulse train parameters on each of the plurality of stimulation pulse train output channels (E) so that stimulus pulses of the pulse train signals having the select stimulation pulse train parameters pass between the intramuscular electrodes (50) respectively connected to the stimulation pulse train output channels (E) and a reference electrode (52).

Classifications:

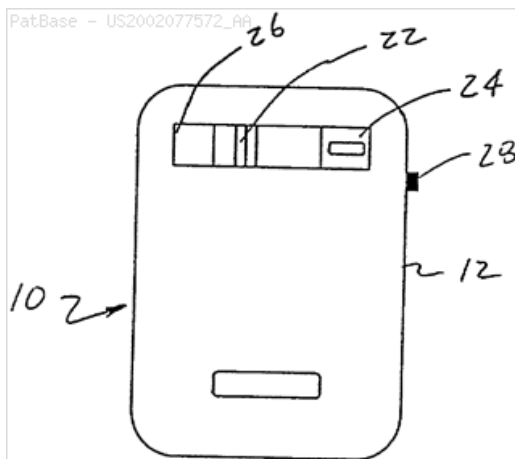
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International (IPC 1-7): A61H1/00 A61H1/02 A61H5/00 A61N1/18 A61N1/26 A61N1/32 A61N1/36 A61N1/372 H03K3/78

CPC: A61N1/05 A61B5/061 A61N1/0456 A61N1/0492 A61N1/0502 A61N1/36017 A61N1/36021 Y10T29/49117 A61N1/0504 H01R43/00 A61N1/0551 A61N1/36003 A61N1/0496 A61N1/0558 A61N1/36071

European: A61N1/04E2P A61N1/05L A61N1/36A A61N1/36E A61N1/36E2 A61N1/36E4 A61N1/36Z A61N1/36Z3C K61N1/00 K61N1/05A K61N1/05L8 K61N1/36A K61N1/36E K61N1/36E2 K61N1/36E4 K61N1/36Z K61N1/36Z3C

US: 1/1 29/825 601/15 601/15P 607/116 607/116S 607/118 607/149 607/152 607/2 607/2P 607/34 607/37 607/46 607/46P 607/48 607/48P 607/48S 607/50 607/74



Family:

Publication number	Publication date	Application number	Application date
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Priority:

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US20180898889	20180219	US20190251482	20190118	US20190587527	20190930

Probable Assignee: SPR THERAPEUTICS INC

Assignee(s): (std): BENNETT MARIA E ; BOGGS II JOSEPH W ; BOGGS JOSEPH W II ; BOGGS JOSEPH W ; CHAE JOHN ; BOGGS III JOSEPH W ; FANG ZI PING ; MARKS MICHAEL ; GALECKI STEVEN M ; GALECKI STEVEN ; MRVA JOSEPH ; NEUROCONTROL CORP ; INMANN ANDREAS ; NEUROCONTROL CORP ; NDI MEDICAL LLC ; NDI MEDICAL INC ; MRVA JOSEPH J ; SPR THERAPEUTICS LLC ; RUNDLE KENNETH P ; THROPE GEOFFREY B ; RUBIN STUART F ; STROTHER ROBERT B ; SAKAI JONATHAN L ; STAGER KATHRYN W ; RUBIN STUART ; SAKAI JONATHAN L ; ZANG ROSEMARY H ; WALKER MARIA E ; SAKAI JONATHAN ; RUNDLE KENNETH ; SPR THERAPEUTICS INC

Assignee(s): SPR THERAPEUTICS INC A DELAWARE CORP ; SPR THERAPEUTICE LLC ; OHIO DEVELOPMENT SERVICES AGENCY ; NDI MEDICAL LLC CLEVELAND ; NATIONAL INSTITUTES OF HEALTH NIH US DEPT OF HEALTH AND HUMAN SERVICES DHHS US GOVERNMENT ; POURMEHDI SOHEYL ; NATIONAL INSTITUTES OF HEALTH (NIH) US DEPT OF HEALTH AND HUMAN SERVICES (DHHS) US GOVERNMENT ; NATIONAL INSTITUTES OF HEALTH NIH US DEPT OF HEA ; PENN STATE RESEARCH FOUNDATION ; NATIONAL INSTITUTES OF HEALTH NIH US DEPT OF HEALT ; NEUROCONTROL CORP VALLEY VIEW ; DIRECTOR OF OHIO DEVELOPMENT SERVICES AGENCY ; NEUROCONTROL CORP VALLEY VIEW ; MCFARRON GARY W

Inventor(s): (std): WALKER MARIA E ; BOGGS III JOSEPH W ; BENNETT MARIA E ; THROPE GEOFFREY B ; INMANN ANDREAS ; BOGGS II JOSEPH W ; RUNDLE KENNETH P ; STROTHER ROBERT B ; RUBIN STUART F ; SAKAI JONATHAN L ; GALECKI STEVEN M ; MRVA JOSEPH J ; MARKS MICHAEL ; RUBIN STUART ; STAGER KATHRYN W ; Z P FANG ; SOHEYL POURMEHDI ; S POURMEHDI ; ZI PING FANG ; WALKER MARIA ; SAKAI JONATHAN ; RUNDLE KENNETH ; MRVA JOSEPH ; GALECKI STEVEN ; CHAE JOHN ; ZANG ROSEMARY H ; POURMEHDI SOHEYL ; FANG ZI PING ; POURMEHDI S ; FANG Z P ; SAKAI JONATHAN L ; BOGGS JOSEPH W II ; BOGGS JOSEPH W

Inventor(s): BENNETT MARIA E BEACHWOOD ; MARIA E WALKER ; ANDREAS INMANN ; KENNETH P RUNDLE ; MARIA E BENNETT ; JONATHAN L SAKAI ; ROBERT B STROTHER ; GEOFFREY B THROPE ; JOSEPH W BOGGS II ; STUART F RUBIN

Agent(s): FISHER ADAMS KELLY ; FISHER ADAMS KELLY PTY LTD ; FISHER ADAMS KELLY CALLINANS ; SPRUSON AND FERGUSON ; GRIFFITH HACK ; PETER MAXWELL AND ASSOCIATES ; MAXWELLS PATENT AND TRADE MARK ATTORNEYS PTY LTD ; RIDOUT AND MAYBEE LLP ; SMART AND BIGGAR ; BRION RAFFOUL ; DEE IAN MARK ; MUELLER BORE AND PARTNER PATENTANWALTE PARTG MBB ; TACHIBANA KENJI ; TANAKA JUNYA ; RYAN KROMHOLZ AND MANION SC ; DANIEL D RYAN RYAN KROMHOLZ AND MANION SC ; RYAN KROMHOLZ AND MANION SC ; MCDONALD HOPKINS LLC ; RYAN DANIEL D ET AL ; RYAN KROMHOLZ AND MANION S C ET AL ; RYAN KROMHOLZ AND MANION S C ; GALSTER GARET K ET AL

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

7) Family number: 8482217 (US5487759A)

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Title: NERVE STIMULATING DEVICE AND ASSOCIATED SUPPORT DEVICE

Abstract: An electrical nerve and an electrical muscle stimulation device used in association with a support unit. The stimulation device is adaptable to be selectively engageable with a plurality of different body braces such that output connectors associated with the stimulation device electrically contact keyed connectors associated with a mounting carrier secured to the particular support unit. The support means includes at least two electrode pads which are selectively positionable at different locations on the support means. The connection between the output connectors of the stimulation device and the keyed connectors applies a stimulation signal to the electrode pads the size of which determines the carrier frequency of the stimulation signal which is impedance matched to the electrode size.

Classifications:

International (IPC 8-9): A61F5/01 A61N1/04 A61N1/32 A61N1/36

A61N1/375 (Advanced/Invention);

A61N1/32 (Advanced/Non-invention);

A61N1/32 A61N1/36 A61N1/372 (Core/Invention)

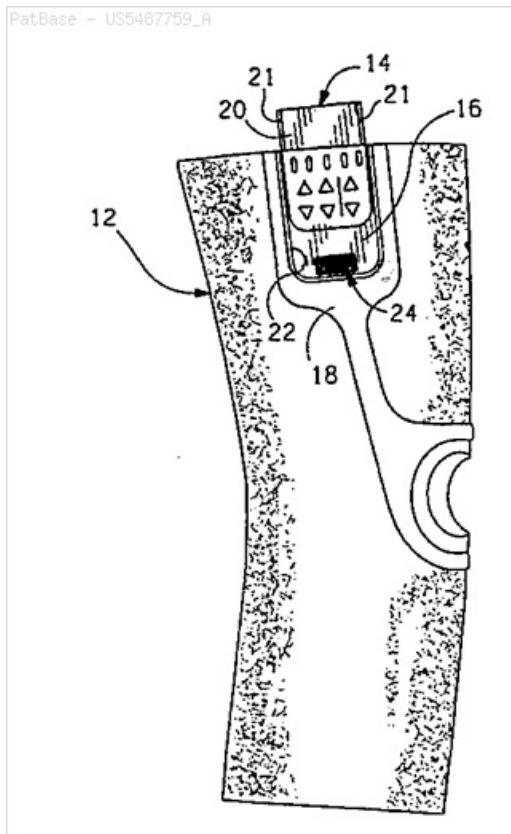
International (IPC 1-7): A61F5/01 A61N1/04 A61N1/18 A61N1/32

A61N1/36

CPC: A61N1/36021 A61N1/0452 A61N1/0456

European: A61N1/36 A61N1/36E2 A61N1/375

US: 607/115 607/149 607/46 607/48 607/74 607/78

**Family:**

Publication number	Publication date	Application number	Application date
AU199470475 A1	19950103	AU19940070475	19940527
AU686180 B2	19980205	AU19940070475	19940527
CA2165064 AA	19951212	CA19942165064	19940527
EP0705117 A1	19960410	EP19940919277	19940527
EP0705117 A4	19980225	EP19940919277	19940527
JP8511445 T2	19961203	JP19950501873T	19940527
US5487759 A	19960130	US19930077349	19930614
WO9428966 A1	19941222	WO1994US06026	19940527

Priority:

US19930077349 19930614 WO1994US06026 19940527

Probable Assignee: DJO LLC

Assignee(s): (std): ELECTRO SCIENCE TECHNOLOGIES I ; ELECTRO SCIENCE TECH INC ; SMITH AND NEPHEW DONJOY INC ; SMITH AND NEPHEW INC ; KOLEN PAUL T ; BASTYR CHARLES A

Assignee(s): CREDIT SUISSE AS COLLATERAL AGENT ; CREDIT SUISSE COLLATERAL AGENT AS ; BANK OF NEW YORK MELLON SECOND LIEN AGENT AS ; WACHOVIA BANK NATIONAL ASSOCIATION ; WACHOVIA BANK NA ; SMITH AND NEPHEW DONJOY ; RIKCO INT LLC ; ELECTRO SCIENCE TECHNOLOGIES INC 624 SOUTH 9TH STR ; DJ ORTHOPEDICS DEVELOPMENT CORP ; ELECTRO SCIENCE TECHNOLOGIES INC ; DJO LLC ; EMPI INC ; ENCORE MEDICAL ASSET CORP

Inventor(s): (std): BASTYR CHARLES A ; KOLEN PAUL T

Inventor(s): CHARLES A BASTYR ; PAUL T KOLEN

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; BORDEN LADNER GERVAIS LLP

Designated states: AT AU BB BE BF BG BJ BR BY CA CF CG CH CI CM CZ DE DK ES FI FR GA GB GN GR HU IE IT JP KP KR KZ LI LK LU MC MG ML MN MR MW NE NL NO NZ PL PT RO RU SD SE SK SN TD TG UA VN

8) Family number: 43457229 (US2009131993A)

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Title: NON-IMMEDIATE EFFECTS OF THERAPY

Abstract: A method of treating a metabolic condition in a patient, comprising: determining a target non-immediate effect of a therapy relating to treatment of a metabolic condition; and applying an electric field to an abdominal cavity of the patient in a manner designed to at least approach said target.

Classifications:

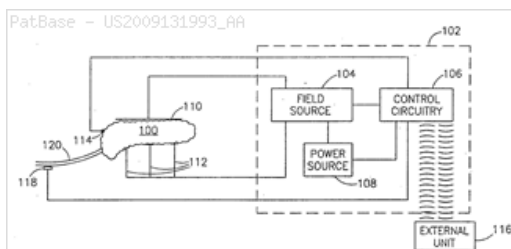
International (IPC 8-9): A61B5/145 A61N1/00 A61N1/05 A61N1/36 G06F9/06 (Advanced/Invention); A61N1/372 (Advanced/Non-invention); A61N1/00 (Core/Invention)

CPC: A61B5/14503 A61B5/14532 A61B5/14546 A61B5/4519 A61N1/36007 A61N1/36017 A61N1/36085 A61N1/37205 A61N1/37288

European: A61B5/145G A61B5/145P A61N1/36 A61N1/36B A61N1/36E A61N1/36E2 K61B5/145B K61B5/45F K61N1/372A K61N1/372D8S

US: 1/1 607/2 607/2P

PatBase - US2009131993_AA

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Publication number	Publication date	Application number	Application date
EP1868679 A2	20071226	EP20060711186	20060216
EP1868679 A4	20121024	EP20060711186	20060216
EP1868679 B1	20170503	EP20060711186	20060216
US2009131993 AA	20090521	US20060884389	20060216
US9101765 BB	20150811	US20060884389	20060216
WO06087717 A2	20060824	WO20061L00204	20060216
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Priority:

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WO2005US44557 20051209	WO2006IL00204 20060216	US20060884389 20060216

Probable Assignee: METACURE LTD

Assignee(s): (std): METACURE LTD ; ROUSSO BENNY ; METACURE N V ; HAREL TAMAR

Assignee(s): MEDINVEST CAPITAL RL SA ; MEDINVEST CAPITAL SA RL ; METACURE LIMITED ; MORGAN STANLEY BANK INT ; MORGAN STANLEY BANK INT LTD ; METACURE NV ; SANDLEFORD PARK SECURITY AGENT AS LTD ; TYLERTON INT INC

Inventor(s): (std): HAREL TAMAR ; ROUSSO BENNY

Agent(s): DENNEMEYER AND ASSOCIATES SA; MARTIN D MOYNIHAN PRSTI

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 KM KN KP KR KZ LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

9) Family number: 8595350 (US5562718A)

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Title: ELECTRONIC NEUROMUSCULAR STIMULATION DEVICE

Abstract: An electronic neuromuscular stimulation device (10) that is operated by a computerized electronic control unit (20). The unit (20) includes at least two and preferably four output channels to which are connected a corresponding set of electrode output cables (12). Each cable has attached a positive electrode (12D) and a negative electrode (12E) that are attached to selected areas of a patient's anatomy. The unit (20) also includes controls, indicators, and circuitry that produce nerve stimulation pulses that are applied to the patient through the electrodes (12D,12E). The nerve stimulation pulses consist of individual pulses that are arranged into pulse trains and pulse train patterns. The pulse train patterns, whose selection depends on the type of ailment being treated, includes sequential patterns, delayed overlapping patterns, triple-phase overlapping patterns, reciprocal pulse trains, and delayed sequenced "sprint interval" patterns. The overlapping patterns are particularly timed to take advantage of neurological enhancement.

Classifications:

International (IPC 8-9): A61N1/18 A61N1/34

A61N1/36 (Advanced/Invention);

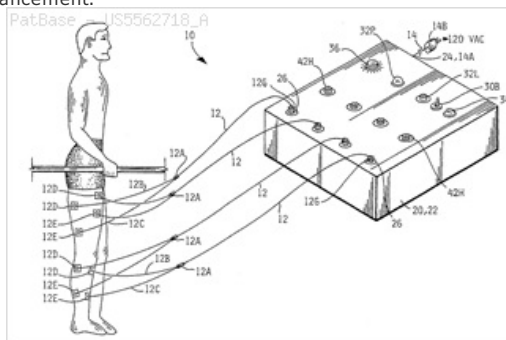
A61N1/32 A61N1/36 (Core/Invention)

International (IPC 1-7): A61N1/18 A61N1/36

CPC: A61N1/36021 A61N1/0452 A61N1/36003

European: A61N1/36A A61N1/36E4 K61N1/36E K61N1/36E2

US: 607/46 607/72



Family:

Publication number	Publication date	Application number	Application date
AU199526915 A1	19960104	AU19950026915	19950531
CA2191986 AA	19961203	CA19952191986	19950531
EP0774993 A1	19970528	EP19950922115	19950531
JP10501157 T2	19980203	JP19950501050T	19950531
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Priority:

US19940253415 19940603	WO1995US06665 19950531
------------------------	------------------------

Probable Assignee: ACCELERATED CARE PLUS CORP

Assignee(s): (std): FRANCIS X PALERMO ; PALERMO FRANCIS X

Assignee(s): HANGER ORTHOPEDIC GROUP INC ; HANGER PROSTHETICS AND ORTHOTICS EAST INC ; HANGER INC ; HANGER PROSTHETICS AND ORTHOTICS INC ; ACCELERATED CARE PLUS CORP ; ACP MEDICAL SUPPLY CORP ; BANK OF AMERICA NA ; BANK OF AMERICA NA ADMINISTRATIVE AGENT AS

Inventor(s): (std): PALERMO FRANCIS X

Inventor(s): FRANCIS X PALERMO

Agent(s): MACRAE AND CO

Designated states: AT AU BE CA CH DE DK ES FR GB GR IE IT JP KR LU MC NL PL PT SE SI

Title: SYSTEM AND METHOD FOR MANAGING PAIN

Abstract: A system and method for managing pain, configured to be worn by a patient, comprising an electrode array comprising a first electrode and a second electrode for providing a TENS treatment to the patient; a connector configured to couple at least one of the first electrode and the second electrode to an electronics subsystem; a muscle twitch sensor subsystem configured to detect a muscle twitch profile induced by the electrode array at the patient; and an electronics subsystem comprising a power module configured to power the system, a pulse generator coupled to the electrode array and configured to transmit the TENS treatment, and a control module configured to receive an input, from the muscle twitch sensor subsystem, characterizing the muscle twitch profile, wherein the electronics subsystem is configured to modulate a parameter of the TENS treatment based upon the input, until a threshold is satisfied.

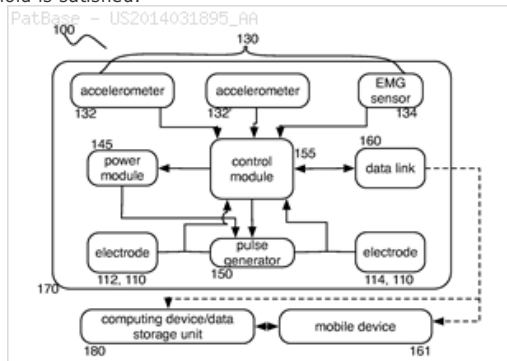
Classifications:

International (IPC 8-9): A61N1/00 A61N1/04

A61N1/36 (Advanced/Invention)

CPC: A61N1/36 A61N1/0476 A61N1/36021

US: 1/1 607/46



Family:

Publication number	Publication date	Application number	Application date
AU2013296823 AA	20140206	AU20130296823	20130726
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CN104684611 A	20150603	CN201380049833	20130726
EP2879755 A1	20150610	EP20130826377	20130726
EP2879755 A4	20160406	EP20130826377	20130726
US2014031895 AA	20140130	US20130951764	20130726
US2014379045 AA	20141225	US20140480382	20140908
US8862238 BB	20141014	US20130951764	20130726
US9168375 BB	20151027	US20140480382	20140908
WO14022215 A1	20140206	WO2013US52225	20130726

Priority:

US20120676908P 20120728 US20130951764 20130726 WO2013US52225 20130726
 US20140480382 20140908

Probable Assignee: THIMBLE BIOELECTRONICS INC

Assignee(s): (std): THIMBLE BIOELECTRONICS INC

Assignee(s): VICKERS EARL CORBAN ; RAHIMI SHAUN RAMIN

Inventor(s): (std): VICKERS EARL CORBAN ; RAHIMI SHAUN RAMIN

Agent(s): SHELSTON IP; SHELSTON IP PTY LTD; BORDEN LADNER GERVAIS LLP; HART DEBORAH MARY; IVAN; JEFFREY; SAWYER LAW GROUP PC; SCHOX JEFFREY

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

Title: THERAPY CONTROL BASED ON A PATIENT MOVEMENT STATE

Abstract: A movement state of a patient is detected based on brain signals, such as an electroencephalogram (EEG) signal. In some examples, a brain signal within a dorsal-lateral prefrontal cortex of a brain of the patient indicative of prospective movement of the patient may be sensed in order to detect the movement state. The movement state may include the brain state that indicates the patient is intending on initiating movement, initiating movement, attempting to initiate movement or is actually moving. In some examples, upon detecting the movement state, a movement disorder therapy is delivered to the patient. In some examples, the therapy delivery is deactivated upon detecting the patient is no longer in a movement state or that the patient has successfully initiated movement. In addition, in some examples, the movement state detected based on the brain signals may be confirmed based on a signal from a motion sensor.

Classifications:

International (IPC 8-9): A61B5/04 A61B5/0476 A61B5/048

A61B5/0482 A61M37/00 A61N1/18 A61N1/36

G06F3/01 (Advanced/Invention);

A61B5/04 A61B5/0476 A61M37/00 A61N1/36

G06F3/01 (Core/Invention)

CPC: A61N1/36067 A61B5/4082 A61N1/36031 A61B5/0006

A61B5/04014 A61B5/6814 A61N1/36003 A61N1/36025 A61N1/36082

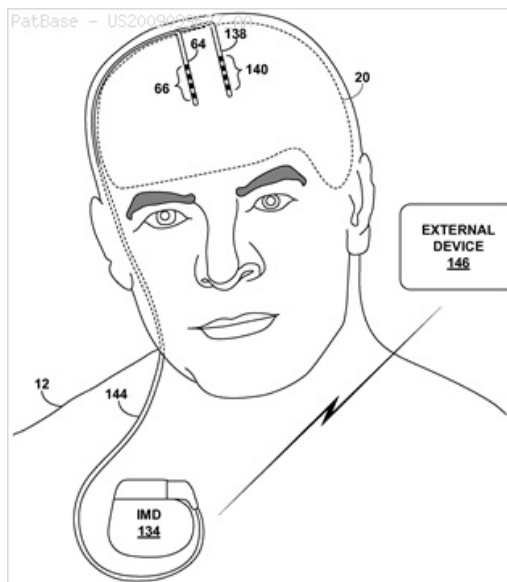
European: A61B5/04R2 A61B5/68B2B A61N1/36 A61N1/36E

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K61N1/36Z K61N1/36Z3E

US: 600/544 600/544S 600/545 600/545P 604/66 604/66S 607/2

607/2S 607/45 607/62 607/62P



Family:

Publication number	Publication date	Application number	Application date
DE602008028898 D1	20140116	DE200860028898T	20080925
EP2211986 A1	20100804	EP20080838892	20080925
EP2211986 B1	20131120	EP20080838892	20080925
US2009099627 AA	20090416	US20080237799	20080925
US2012108998 AA	20120503	US20120345397	20120106
US8121694 BB	20120221	US20080237799	20080925
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WO09051638 A1	20090423	WO2008US11109	20080925

Priority:

US20070999096P 20071016 US20070999097P 20071016 EP20080838892 20080925
US20080237799 20080925 WO2008US11109 20080925 US20120345397 20120106

Probable Assignee: MEDTRONIC INC

Assignee(s): (std): DENISON TIMOTHY J ; GILL STEVEN S ; LENT MARK S ; MEDTRONIC INC ; MIESEL KEITH A ; MOLNAR GREGORY F ; WAHLSTRAND CARL D ; PANKEN ERIC J ; WERDER JONATHAN C

Assignee(s): MEDTRONIC INC MINNEAPOLIS

Inventor(s): (std): DENISON TIMOTHY J ; GILL STEVEN S ; MIESEL KEITH A ; LENT MARK S ; MOLNAR GREGORY F ; WAHLSTRAND CARL D ; PANKEN ERIC J ; WERDER JONATHAN C

Inventor(s): LENT MARK S ANOKA

Agent(s): HUGHES ANDREA MICHELLE; SHUMAKER AND SIEFFERT PA; KWAK JESSICA H

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

12) Family number: 11685383 (US5350414A)

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Title: LOCAL APPLICATION MICROPROCESSOR BASED NERVE AND MUSCLE STIMULATOR

Abstract: A transcutaneous electroneural stimulation (TENS) device employing microprocessor control of carrier pulse frequency, modulation pulse frequency, intensity, and frequency/amplitude modulation factors has been developed. The microprocessor monitors battery status and keypad-entered commands that select the various TENS modalities, and generates the driver signals to produce the output waveform provided to a utilization device via a transformer arrangement. The microprocessor is programmed to calculate all stimulation parameters which are stored in nonvolatile memory to provide concise and predictable programmed functions which can be updated as required. By selecting a program, the system may be programmed to relieve pain or reduce edema in the application area. Thus, a variety of therapeutic applications may be realized. The output pulse train employs a unique pulse modulation scheme which matches the carrier frequency to the electrode-tissue load for location-specific applications. By pulse modulating the high frequency carrier and matching the carrier frequency to the electrode-tissue load, a more efficient energy transfer is realized. This matching significantly reduces the required amplitude of the electrode voltage pulse and reduces the overall power requirements for the system. In addition to enhanced power efficiency, the unpleasant burning sensation associated with most TENS stimulation units is virtually eliminated. The unit can be integrated into a hermetically sealed miniaturized composite package which allows the unit to be worn in a non-interfering manner at the treatment location.

Classifications:

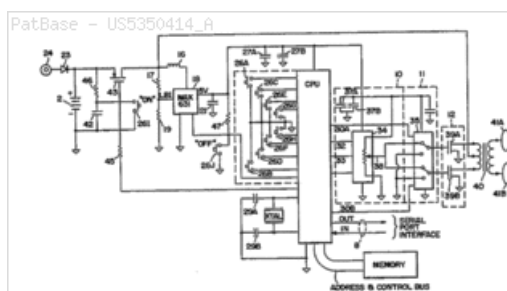
International (IPC 8-9): A61N1/34 A61N1/36 (Advanced/Invention); A61N1/32 A61N1/36 (Core/Invention)

International (IPC 1-7): A61N1/36

CPC: A61N1/025 A61N1/36021

European: A61N1/36 A61N1/36E2 A61N1/36E4 K61N1/36E

US: 607/46 607/59 607/62 607/63



Family:

Publication number	Publication date	Application number	Application date
US5350414 A	19940927	US19930139872	19931022

Priority:

US19910804455 19911210 US19930139872 19931022

Probable Assignee: ELECTRO SCIENCE TECH INC

Assignee(s): (std): ELECTRO SCIENCE TECH INC ; ELECTRO SCIENCE TECHNOLOGIES I

Assignee(s): ELECTRO SCIENCE TECHNOLOGIES INC

Inventor(s): (std): KOLEN PAUL T

13) Family number: 43059395 (US2009082691A)

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Title: FREQUENCY SELECTIVE MONITORING OF PHYSIOLOGICAL SIGNALS

Abstract: In general, the disclosure is directed to a frequency selective monitor and methods for monitoring physiological signals in one or more selected frequency bands. A frequency selective monitor may utilize a heterodyning, chopper-stabilized amplifier architecture to convert a selected frequency band to a baseband for analysis. The frequency selective monitor may be useful in a variety of therapeutic and/or diagnostic applications. As examples, a frequency selective signal monitor may be provided within a medical device or within a sensor coupled to a medical device. The physiological signal may be analyzed in one or more selected frequency bands to trigger delivery of patient therapy and/or recording of diagnostic information.

Classifications:

International (IPC 8-9): A61B5/00 A61B5/0205 A61B5/021 A61B5/04 A61B5/0402 A61B5/0452 A61B5/0476 A61B5/0478 A61B5/048 A61B5/0488 A61B5/11 A61M21/00 A61M21/02 A61M31/00 A61M5/142 A61M5/172 A61N1/00 A61N1/02 A61N1/08 A61N1/18 A61N1/36 A61N1/372 G06F3/01 G08B21/00 G10L15/00 (Advanced/Invention); A61B5/01 A61B5/024 A61B5/048 A61M21/00 A61N1/34 G06F19/00 G16H40/63 (Advanced/Non-invention); A61B5/00 A61B5/021 A61B5/04 A61B5/0452 A61B5/0476 A61B5/0488 A61B5/11 A61M21/00 A61M31/00 A61M5/168 A61N1/00 A61N1/02 A61N1/08 A61N1/36 A61N1/372 G06F3/01 G08B21/00 G10L15/00 (Core/Invention); A61N1/32 (Core/Non-invention)

CPC: A61N1/36585 A61B5/0031 A61B5/04015 A61B5/4839

A61M2021/0072 A61M2205/3523 A61M2205/3553 A61M2205/3584

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A61M2230/10 A61M2230/205 A61M2230/30 A61M2230/42

A61M2230/50 A61M2230/60 A61M2230/63 A61M2230/65

A61M2230/005 A61B5/0478 A61B5/04014 A61B5/1118 A61B5/02055

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G16H40/63 G16H20/17 A61N1/36031 A61N1/36034 A61B5/048 A61B5/4082 A61B5/7475 A61M5/14276 A61M5/1723

A61M2210/0693 A61N1/36017 A61N1/36021 A61N1/36025 A61N1/3605 A61N1/36071 A61N1/36082 A61N1/37252 G06F3/015

A61N1/36014 A61N1/3606

European: A61B5/00B8 A61B5/00B9 A61B5/048 A61B5/04J A61B5/04R2B A61B5/04R4B A61B5/48C4 A61B5/48J2

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A61N1/36Z5F A61N1/36Z5G A61N1/372D8 G06F19/34N G06F3/01B8 K61M205/35E2 K61M205/35R1 K61M205/35T1

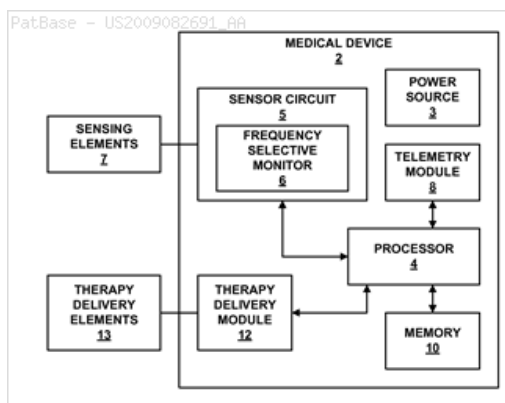
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US: 1/1 340/573.1 340/573.100S 600/301 600/301S 600/544 600/544P 600/544S 600/545 600/546 600/546S 600/595

600/595S 604/503 604/66 604/66S 607/2 607/2S 607/3 607/3P 607/45 607/45P 607/48 607/48P 704/271 704/271S

704/E15.001 704/E15.001S

**Family:**

Publication number	Publication date	Application number	Application date
CN101848677 A	20100929	CN200880109413	20080925
CN101848677 B	20140917	CN200880109413	20080925
CN101925377 A	20101222	CN200880125611	20080925
DE602008029686 D1	20140220	DE200860029686T	20080925
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EP2207590 A1	20100721	EP20080834458	20080925
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US2009082829 AA	20090326	US20070974931	20071016
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US2009192556 AA	20090730	US20080238105	20080925
US2009264789 AA	20091022	US20090431167	20090428
US2013131755 AA	20130523	US20130740860	20130114
US2015265207 AA	20150924	US20150733349	20150608
US2016158553 AA	20160609	US20160012646	20160201
US2017311878 AA	20171102	US20170651850	20170717
US2019240491 AA	20190808	US20190384405	20190415
US8290596 BB	20121016	US20080238025	20080925
US8380314 BB	20130219	US20070974931	20071016
US9072870 BB	20150707	US20080238105	20080925
US9248288 BB	20160202	US20130740860	20130114
US9706957 BB	20170718	US20150733349	20150608
US10165977 BB	20190101	US20170651850	20170717
US10258798 BB	20190416	US20160012646	20160201
WO09042170 A1	20090402	WO2008US11107	20080925

WO09042172 A2	20090402	WO2008US11110	20080925
WO09042172 A3	20090702	WO2008US11110	20080925
WO09042379 A1	20090402	WO2008US75660	20080909
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Priority:

US20070975372P	20070926	US20070974931	20071016	US20080023522P	20080125
US20080023522	20080125	US20080025503	20080201	US20080025503P	20080201
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US20080083381	20080724	EP20080871446	20080925	US20080237868	20080925
US20080238025	20080925	US20080238105	20080925	WO2008US11110	20080925
WO2008US11107	20080925	WO2008US77720	20080925	US20090431167	20090428
US20130740860	20130114	US20150733349	20150608	US20160012646	20160201
US20170651850	20170717	US20190384405	20190415		

Probable Assignee: MEDTRONIC INC

Assignee(s): (std): MIYAZAWA GABRIELA C ; MOLNAR GREGORY F ; PANKEN ERIC J ; SANTA WESLEY A ; STONE RICHARD T ; WEI KELLY ; WU JIANPING ; WEI XUAN ; DENISON TIMOTHY J ; JENSEN RANDY M ; MEDTRONIC INC

Assignee(s): MEDTRONIC INC MINNEAPOLIS

Inventor(s): (std): SANTA WESLEY A ; JENSEN RANDY M ; DENISON TIMOTHY J ; PANKEN ERIC J ; MOLNAR GREGORY F ; WEI KELLY ; STONE RICHARD T ; WEI XUAN ; MIYAZAWA GABRIELA C ; WU JIANPING ; JIANPING WU ; MOLNAR GABRIELA C

Inventor(s): WU JIANPING SHOREVIEW

Agent(s): HUGHES ANDREA MICHELLE; SHUMAKER AND SIEFFERT PA; KWAK JESSICA H; SHUMAKER STEVEN J; ALBRECHT JOHN W ET AL

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

14) Family number: 49578397 (US2011224665A)

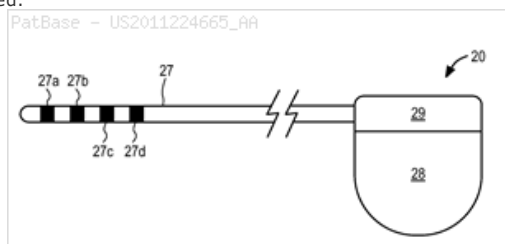
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Title: MODULAR STIMULATOR FOR TREATMENT OF BACK PAIN, IMPLANTABLE RF ABLATION SYSTEM AND METHODS OF USE

Abstract: Apparatus and methods for treating back pain are provided, in which an implantable stimulator is configured to communicate with an external control system, the implantable stimulator providing a neuromuscular electrical stimulation therapy designed to cause muscle contraction to rehabilitate the muscle, restore neural drive and restore spinal stability; the implantable stimulator further including one or more of a number of additional therapeutic modalities, including a module that provides analgesic stimulation; a module that monitors muscle performance and adjusts the muscle stimulation regime; and/or a module that provides longer term pain relief by selectively and repeatedly ablating nerve fibers. In an alternative embodiment, a standalone implantable RF ablation system is described.

Classifications:

International (IPC 8-9): A61B17/00 A61B18/00 A61B18/12 A61B18/14 A61B18/18 A61B34/20 A61N1/05 A61N1/06 A61N1/34 A61N1/36 A61N1/372 (Advanced/Invention); A61B17/00 A61B18/00 A61B18/12 A61B19/00 A61B34/20 A61N1/36 (Advanced/Non-invention)
CPC: A61N1/37211 A61B18/1492 A61B2017/00221 A61B2018/00339 A61B2018/00577 A61B2018/124 A61B2018/1467 A61B2034/2048 A61N1/0551 A61N1/06 A61N1/36042 A61N1/36071
European: A61B18/14V A61N1/05L A61N1/06 A61N1/36Z A61N1/36Z3C K61B17/00C10 K61B18/00F4 K61B18/00G1 K61B18/12G7 K61B18/14H K61B19/52H12B2 K61N1/36T
US: 1/1 606/33 606/33P 607/46 607/46S



Family:

Publication number	Publication date	Application number	Application date
AU2011224323 AA	20110915	AU20110224323	20110310
AU2011224323 BB	20160623	AU20110224323	20110310
CA2792529 AA	20110915	CA20112792529	20110310
CA2792529 C	20180605	CA20112792529	20110310
CN103079633 A	20130501	CN201180022070	20110310
CN103079633 B	20160504	CN201180022070	20110310
DE602011038314 D1	20170713	DE201160038314T	20110310
EP2544759 A2	20130116	EP20110710600	20110310
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US2015374992 AA	20151231	US20150849478	20150909
US2018133461 AA	20180517	US20170853543	20171222
US9248278 BB	20160202	US20110045421	20110310
US9861811 BB	20180109	US20150849478	20150909
WO11112773 A2	20110915	WO2011US27834	20110310
WO11112773 A3	20111222	WO2011US27834	20110310

Priority:

US20100339957P	20100311	EP20110710600	20110310	US20110045421	20110310
WO2011US27834	20110310	US20150849478	20150909	US20170853543	20171222

Probable Assignee: MAINSTAY MEDICAL LTD

Assignee(s): (std): CROSBY PETER ANDREW ; HEEMELS JOHANNES PETRUS ; MAINSTAY MEDICAL INC ; MAINSTAY MEDICAL LTD ; RAWAT PRASHANT BRIJMOHANSINGH ; SHIROFF JASON ALAN ; SACHS DAN

Inventor(s): (std): SHIROFF JASON ALAN ; SACHS DAN ; RAWAT PRASHANT BRIJMOHANSINGH ; HEEMELS JOHANNES PETRUS ; CROSBY PETER ANDREW

Agent(s): HENRY HUGHES LTD; HENRY HUGHES IP LTD; OSLER HOSKIN AND HARCOURT LLP; VOSSIUS AND PARTNER PATENTANWAELE RECHTSANWAELE MBB; Zeller Andreas; FOLEY AND LARDNER LLP;

Abstract: A TENS apparatus includes a portable TENS device having a housing with a lower surface, a pair of integral electrodes that are incorporated in the lower surface of the housing, and a pulse driver that is located within the housing and adapted to generate a program of pulse waveforms, each of which is an asymmetrical biphasic square waveform.

US: 1/1 607/1 607/2 607/45 607/46



Priority:

Probable Assignee: MODULAR THERAPEUTX LLC

Assignee(s): (std): MODULAR THERAPEUTX LLC

Inventor(s): (std): NYSSSEN TROY CHRISTIAAN ; THOMAS CHARLES M ; RODEZNO LEE ANTHONY ; POLLOCK NATHAN ANDERSON ; RYAN BRAD PETER ; RIKER DONALD KAY ; HAGY D KEITH

Agent(s): CHAMBLISS BAHNER AND STOPHEL PC

Abstract: A non-invasive method of treating, controlling or preventing medical, psychiatric or neurological disorders is provided using transcutaneous electrical stimulation. A plurality of stimulation frequency parameters are used ranging from a relatively high frequency, for example about 40,000 Hertz, to a relatively low frequency, for example about 250 Hertz. The entirety of frequency parameters may be administered at each of a plurality of stimulation intensity levels. In particular, stimulating may begin at a first highest frequency parameter and a first lowest intensity parameter with the stimulation frequency parameter incrementally decreasing to the lowest frequency parameter. Then the frequency parameter is returned to the highest frequency parameter, and the intensity parameter increased to a next higher intensity parameter, and again stimulating through the plurality of frequency parameters from the highest frequency to the lowest frequency. The method described herein is useful in treating, controlling and/or preventing various disease states and disorders, and has been found to be particularly effective in administering nerve block electroanesthesia.

US: 607/45 607/45P 607/46

PatBase PDF Export - Page: 17 03/04/2020

US6161044 A	20001212	US19980199073	19981123
US6351674 BB	20020226	US20010778244	20010206

Priority:

US19980199073 19981123 CA19992290058 19991117 US20000691626 20001018
US20010778244 20010206

Probable Assignee: SYNAPTIC CORP

Assignee(s): (std): SYNAPTIC CORP

Assignee(s): SYNAPTICS INC ; SILICON VALLEY BANK ; SILVERSTONE LEON M

Inventor(s): (std): SILVERSTONE LEON M

Inventor(s): LEON M SILVERSTONE

Agent(s): MACRAE AND CO; FITCH EVEN TABIN FLANNERY

17) Family number: 63726609 (US2011276107A)

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Title: ELECTRICAL AND MAGNETIC STIMULATORS USED TO TREAT MIGRAINE/SINUS HEADACHE, RHINITIS, SINUSITIS, RHINOSINUSITIS, AND COMORBID DISORDERS

Abstract: Transcutaneous electrical nerve stimulation devices and magnetic stimulation devices are disclosed, along with methods of treating medical disorders using energy that is delivered noninvasively by such devices. The disorders comprise migraine and other primary headaches such as cluster headaches, including nasal or paranasal sinus symptoms that resemble an immune-mediated response ("sinus" headaches). The devices and methods may also be used to treat rhinitis, sinusitis, or rhinosinusitis, irrespective of whether those disorders are co-morbid with a headache. They may also be used to treat other disorders that may be co-morbid with migraine or cluster headaches, such as anxiety disorders. In preferred embodiments of the disclosed methods, one or both of the patient's vagus nerves are stimulated non-invasively. In other embodiments, parts of the sympathetic nervous system and/or the adrenal glands are stimulated.

Classifications:

International (IPC 8-9): A61N1/40 (Advanced/Invention)

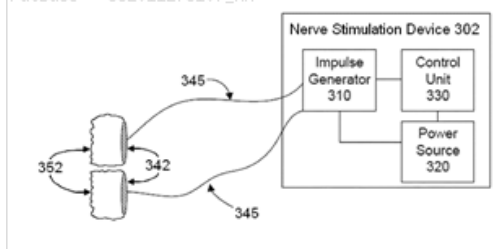
CPC: A61N2/006 A61N1/36021 A61N1/40 A61N2/008 A61N2/02

European: A61N1/36E A61N1/36E4 A61N1/40 A61N2/00T2

A61N2/02 K61N2/00T4

US: 607/1 607/115 607/139 607/2 607/42 607/46

PatBase - US2011276107_AA



Family:

Publication number	Publication date	Application number	Application date
US2011276107 AA	20111110	US20110183721	20110715
US8676324 BB	20140318	US20110183721	20110715

Priority:

US20050736001P 20051110 US20050736002P 20051110 US20060772361P 20060210
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Probable Assignee: ELECTROCORE LLC

Assignee(s): (std): ELECTROCORE LLC ; ERRICO JOSEPH P ; RAFFLE JOHN T ; SIMON BRUCE J

Inventor(s): (std): SIMON BRUCE J ; ERRICO JOSEPH P ; RAFFLE JOHN T ; SIMON BRUCE

Agent(s): DENTONS US LLP

18) Family number: 40972621 (US2007293905A)

© PatBase

Title: SYSTEMS AND METHODS FOR IMPLANTABLE LEADLESS GASTROINTESTINAL TISSUE STIMULATION

Abstract: Systems and methods are disclosed to stimulate gastrointestinal tissue to treat medical conditions such as eating disorders, gastroparesis, and gastric reflux. The invention uses electrical stimulation of the nerve, where vibrational energy from a source is received by an implanted device and converted to electrical energy and the converted electrical energy is used by implanted electrodes to stimulate the pre-determined gastrointestinal tissue site. The vibrational energy is generated by a controller-transmitter, which could be implanted or located externally. The vibrational energy is received by a receiver-stimulator, which could be located in the various regions on or around the gastrointestinal tissue that needs to be stimulated. The implantable receiver-stimulator stimulates different gastrointestinal tissue to provide the desired therapeutic benefit.

Classifications:

International (IPC 8-9): A61F11/04 A61N1/00 A61N1/08 A61N1/18

A61N1/32 A61N1/36 A61N1/37 A61N1/372 A61N1/375

A61N1/378 (Advanced/Invention);

A61N1/375 (Advanced/Non-invention);

A61N1/00 A61N1/18 A61N1/36 (Core/Invention)

CPC: A61N1/36003 A61N1/05 A61N1/326 A61N1/3604 A61N1/37288

A61N1/36036 A61N1/36 A61N1/36007 A61N1/36021 A61N1/3787

A61N1/0531 A61N1/0534 A61N1/36038 A61N1/36071 A61N1/37217

A61N1/0541 A61N1/3756

European: A61N1/05 A61N1/05K1C A61N1/05K1D A61N1/08

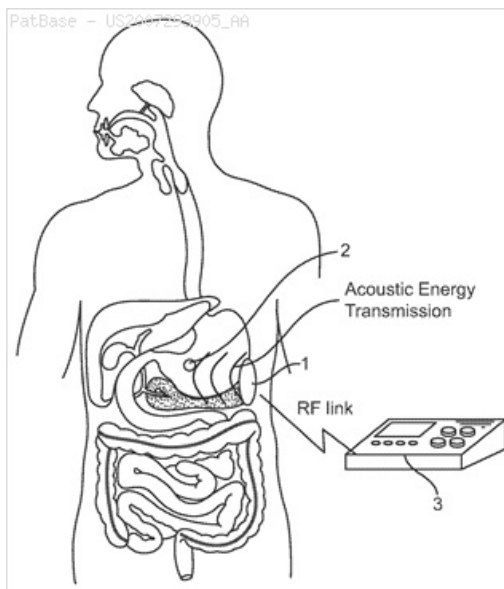
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K61N1/372D2 K61N1/372D8S K61N1/375E

US: 1/1 607/3 607/33 607/40 607/40P 607/41 607/41P 607/45

**Family:**

Publication number	Publication date	Application number	Application date
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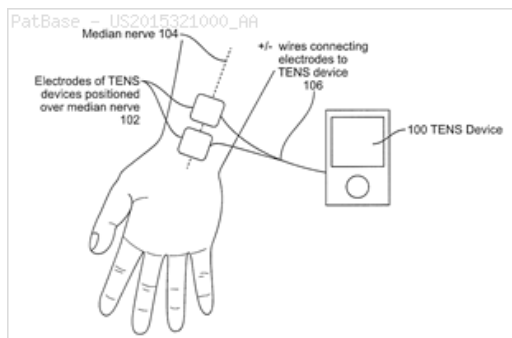
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Probable Assignee: EBR SYSTEMS INC**Assignee(s):** (std): BRISKEN AXEL F ; COWAN MARK W ; EBR SYSTEMS INC ; ECHT DEBRA S ; RILEY RICHARD E**Inventor(s):** (std): BRISKEN AXEL F ; RILEY RICHARD E ; ECHT DEBRA S ; COWAN MARK W**Agent(s):** TOWNSEND AND TOWNSEND AND CREW LLP; KILPATRICK TOWNSEND AND STOCKTON LLP; WILSON SONSINI GOODRICH AND ROSATI**Designated states:** AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Abstract: A peripheral nerve stimulator can be used to stimulate a peripheral nerve to treat essential tremor, Parkinson tremor, and other forms of tremor. The peripheral nerve stimulator can be either a noninvasive surface stimulator or an implanted stimulator. Stimulation can be electrical, mechanical, or chemical. Stimulation can be delivered using either an open loop system or a closed loop system with feedback.

Classifications:

International (IPC 8-9): A61B5/00 A61B5/02 A61B5/11 A61N1/00 A61N1/02 A61N1/04 A61N1/06 A61N1/08 A61N1/18 A61N1/32 A61N1/36 (Advanced/Invention)
CPC: A61N1/0456 A61N1/0476 A61N1/0492 A61N1/18 A61N1/36014 A61N1/36067 A61N1/025 A61N1/08 A61B5/01 A61B5/02405 A61B5/02416 A61B5/0476 A61B5/0488 A61B5/0533 A61B5/4064 A61B5/4812 A61B5/6891 A61B5/7207 A61B2562/0219 A61B2562/0247 A61N1/0484 A61N1/0551 A61N1/36178 A61H23/00 A61N5/0622 A61N2007/0026 A61N1/36031 A61N1/36034 A61N2/002 A61N2/006 A61N2/02 A61N5/022 A61N2005/0645
US: 1/1 607/48



Family:

Publication number	Publication date	Application number	Application date
AU2014207265 AA	20150716	AU20140207265	20140121
AU2014207265 BB	20170420	AU20140207265	20140121
AU2017204831 AA	20170803	AU20170204831	20170713
AU2017204831 BB	20190718	AU20170204831	20170713
AU2019250222 AA	20191107	AU20190250222	20191017
BR112015017042 A2	20170711	BR20151117042	20140121
CA2896800 AA	20150626	CA20142896800	20140121
CN105142714 A	20151209	CN201480005343	20140121
CN105142714 B	20180216	CN201480005343	20140121
CN108211110 A	20180629	CN201810061000	20140121
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EP2945691 A4	20160824	EP20140740684	20140121
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EP3498332 A1	20190619	EP20190150254	20140121
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US2019001129 AA	20190103	US20180020876	20180627
US9452287 BB	20160927	US20150805385	20150721
WO14113813 A1	20140724	WO2014US12388	20140121
WO20006048 A1	20200102	WO2019US39193	20190626

Priority:

US20130754945P 20130121	US20130786549P 20130315	US20130815919P 20130425
US20130822215P 20130510	US20130857248P 20130723	AU20140207265 20140121
CN201480005343 20140121	JP20150553901T 20140121	EP20140740684 20140121
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JP20190069965 20190401	AU20190250222 20191017	

Probable Assignee: CALA HEALTH INC

Assignee(s): (std): ALTMAN TAHEL ; CALA HEALTH INC ; ROSENBLUTH KATHRYN H ; RAJASEKHAR VIJAY ; PADERI JOHN ; DELP SCOTT LEE ; RAJASEKHAR VIJAYKUMAR VIJAY ; RAJASEKHAR VIJAYKUMAR

Assignee(s): CALA HEALTH INC BURLINGAME ; DELP SCOTT

Inventor(s): (std): RAJASEKHAR VIJAY ; ALTMAN TAHEL ; DELP SCOTT ; PADERI JOHN ; ROSENBLUTH KATHRYN H ; DELP SCOTT LEE ; RAJASEKHAR VIJAYKUMAR VIJAY ; KATHRYN H ROSENBLUTH ; SCOTT DELP ; JOHN PADERI ; ROSS ERIKA ; HAMNER SAMUEL ; TAHEL ALTMAN ; VIJAY RAJASEKHAR ; SCOTT LEE DELP ; ROSENBLUTH KATHRYN ; ROSS ERIKA KRISTINE ; HAMNER SAMUEL RICHARD ; DELP SCOTT L ; RAJASEKHAR VIJAYKUMAR

Inventor(s): ALTMAN TAHEL BURLINGAME ; RAJASEKHAR VIJAY BURLINGAME ; PADERI JOHN BURLINGAME ; DELP SCOTT BURLINGAME ; ROSENBLUTH KATHRYN H BURLINGAME

Agent(s): PIZZEYS PATENT AND TRADE MARK ATTORNEYS ; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD ; FETHERSTONHAUGH AND CO; PRICE NIGEL JOHN KING; J A KEMP; PONS ANGEL; SHAY GLENN LLP; CHU WINSTON S ET AL; ALTMAN DANIEL E

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

20) Family number: 30106654 (US6662051B)

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Title: PROGRAMMABLE PAIN REDUCTION DEVICE

Abstract: A remotely programmable medical device having a memory for storing a program, a patient interface (electrodes,

syringe, etc.), and a microprocessor for operating the patient interface under the control of the program. The program is constructed by a remote knowledge based analysis tool (database with fuzzy logic), accessible by the medical device over a network such as the Internet. The program, responsive to patient data entered into a client computer on the network, is then transmitted to the medical device as through the client computer to which the medical device is coupled via an interface docking terminal. The remotely programmed medical device is then used on the patient. Transcutaneous electrical nerve stimulation (TENS) devices are preferably programmed to output electrical stimulus signals of alternating high (80-100 Hz) and low frequency (2-5 Hz) with symmetric increase and decrease in waveform amplitude.

Classifications:

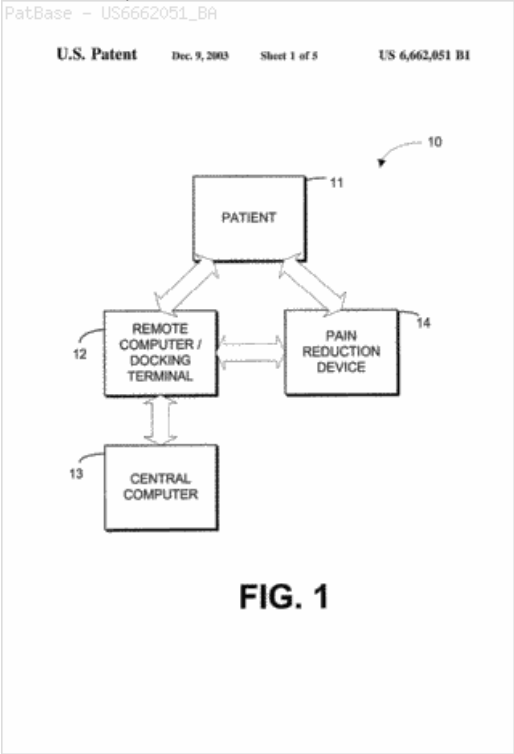
International (IPC 8-9): A61N1/34 (Advanced/Invention);
A61N1/372 (Advanced/Non-invention);
A61N1/32 (Core/Invention);
A61N1/372 (Core/Non-invention)

International (IPC 1-7): A61N1/362

CPC: A61N1/36021 A61N1/37282

European: A61N1/36E4 K61N1/36E

US: 607/59



Family:

Publication number	Publication date	Application number	Application date
US6662051 BA	20031209	US20010824766	20010402

Priority:

US20000193675P 20000331 US20010824766 20010402

Probable Assignee: ERAKER DAVID B

Assignee(s): ERAKER DAVID B ; ERAKER SARAH J ; ERAKER STEPHEN A

Inventor(s): (std): ERAKER STEPHEN A ; ERAKER SARAH J ; ERAKER DAVID B

21) Family number: 30573815 (US2004098065A) © PatBase

Title: TRANSCUTANEOUS NERVE AND MUSCLE STIMULATOR AND METHOD OF USING THE SAME

Abstract: A transcutaneous electrical stimulator system includes a small, lightweight, portable, external, programmable transcutaneous electrical stimulator that provides multiple electrical stimulation therapies to a patient through the patient's skin. The stimulator includes persistent, modifiable memory programmable by a practitioner for prescribing multiple electrical stimulation therapies for the patient. A programming pod is configured to interface with the stimulator and a computer to program multiple stimulation therapies into the persistent, modifiable memory of the stimulator.

Classifications:

International (IPC 8-9): A61N1/08 A61N1/34

A61N1/36 (Advanced/Invention);

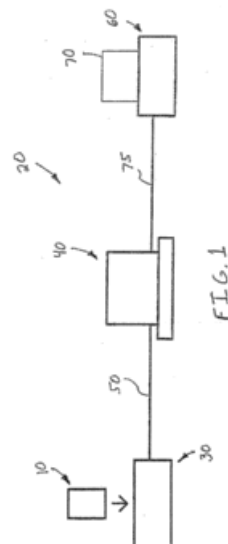
A61N1/08 A61N1/32 A61N1/36 (Core/Invention)

International (IPC 1-7): A61N1/18

CPC: A61N1/37247 A61N1/36021 A61N1/3603

European: A61N1/08 A61N1/36E2 A61N1/36E4 K61N1/36E

US: 607/48 607/48P

**Family:**

Publication number	Publication date	Application number	Application date
US2004098065 AA	20040520	US20030337572	20030107
US2006089683 AA	20060427	US20050296981	20051207

Priority:

US20020427866P 20021119 US20020432180P 20021210 US20030337572 20030107
 US20050296981 20051207

Probable Assignee: ALLIANCE HEALTH PRODUCTS LLC

Assignee(s): (std): ABERCROMBIE CHAD E ; ALLIANCE HEALTH PRODUCTS LLC ; HAGGLOF JAMES T ; ROSENQUIST SCOTT D

Inventor(s): (std): HAGGLOF JAMES T ; ABERCROMBIE CHAD E ; ROSENQUIST SCOTT D

Inventor(s): ABERCROMBIE CHAD ; ROSENQUIST SCOTT ; HAGGLOF JAMES

Agent(s): PROCOPIO CORY HARGREAVES AND SAVITCH LLP

22) Family number: 63726845 (US2014336730A)

© PatBase

Title: DEVICES AND METHODS FOR NON-INVASIVE ELECTRICAL STIMULATION AND THEIR USE FOR VAGAL NERVE STIMULATION ON THE NECK OF A PATIENT

Abstract: A non-invasive electrical stimulation device shapes an elongated electric field of effect that can be oriented parallel to a long nerve, such as a vagus nerve in a patient's neck, producing a desired physiological response in the patient. The stimulator comprises a source of electrical power, at least one electrode and a continuous electrically conducting medium in which the electrode(s) are in contact. The stimulation device is configured to produce a peak pulse voltage that is sufficient to produce a physiologically effective electric field in the vicinity of a target nerve, but not to substantially stimulate other nerves and muscles that lie between the vicinity of the target nerve and patient's skin. Current is passed through the electrodes in bursts of preferably five sinusoidal pulses, wherein each pulse within a burst has a duration of preferably 200 microseconds, and bursts repeat at preferably at 15-50 bursts per second.

Classifications:

International (IPC 8-9): A61N1/04 A61N1/36

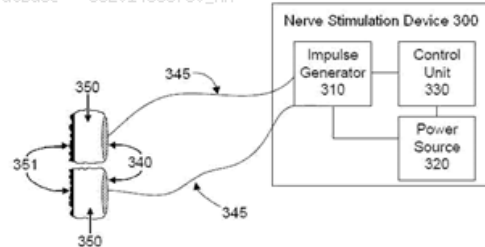
A61N1/375 (Advanced/Invention);

A61N1/40 A61N2/00 (Advanced/Non-invention)

CPC: A61N1/3758 A61N1/0456 A61N1/0472 A61N1/36014

A61N1/36053 A61N1/40 A61N2/006 A61N1/36034

US: 1/1 607/72

**Family:**

Publication number	Publication date	Application number	Application date
US2014336730 AA	20141113	US20140337930	20140722
US9333347 BB	20160510	US20140337930	20140722

Priority:

US20100859568 20100819 US20100415469P 20101119 US20100964050 20101209
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Probable Assignee: ELECTROCORE LLC

Assignee(s): (std): ELECTROCORE LLC
Inventor(s): (std): RAFFLE JOHN T ; SIMON BRUCE J ; ERRICO JOSEPH P
Agent(s): DENTONS US LLP

23) Family number: 29580847 (US2004073271A) © PatBase

Title: METHOD AND APPARATUS FOR NEUROPHYSIOLOGIC PERFORMANCE

Abstract: The invention features methods and apparatus for enhancing neurophysiologic performance, such as sensorimotor control and neuroplasticity. A preferred method involves inputting bias signals to sensory cells of a subject, thereby improving sensory cell function, while the subject is performing a predefined physical activity. A system used to practice the method of the invention includes a wearable device to which is secured at least one repositionable signal input device and a signal generator that is communicatively coupled to the signal input devices.

Classifications:

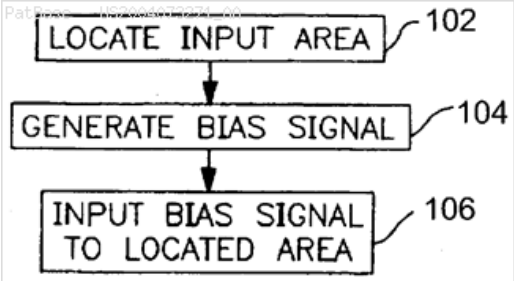
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International (IPC 1-7): A61N1/00 A61N1/04 A61N1/08 A61N1/18

CPC: A61N1/3601 A61N1/36007 A61N1/36071 A61F5/0026 A61N1/0556 A61N2/006 A61N1/36021 A61N1/37247 A61H23/02 A61H23/004 A61H2201/1207 A61N1/00 A61N1/36031 A61N1/0551 A61N1/32 A61N1/3603 A61N1/36034 A61H23/0263 A61H2201/165 A61H2201/5007 A61H2201/5023 A61H2201/5043 A61H2201/5058 A61N1/0452 A61N1/0456 A61N1/0464 A61N1/0472 A61N1/0476 A61N1/0484 A61N1/0492 A61N1/321 A61N1/36003 A61N1/36017 A61N1/3627 A61N1/36014 A61N1/36164

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US: 1/1 42/84 42/84S 600/12 601/46 607/2 607/40 607/41 607/42 607/46 607/48 607/48P 607/49



Family:

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WO08088985 A2	20080724	WO2008US50562	20080109
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Priority:

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WO2003US13854	20030505	KR20047017671	20041102	US20070880026P	20070112
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Probable Assignee: TRUSTEES OF BOSTON UNIV

Assignee(s): (std): AFFERENT CORP ; NIEMI JAMES B ; HARRY JASON D ; KELLOGG SCOTT ; D ANDREA SUSAN ; UNIV BOSTON

Assignee(s): DRAUDT GREGG R ; TRUSTEES OF BOSTON UNIV ; STRYKER DEVELOPMENT LLC ; HOWMEDICA OSTEONICS CORP ; KLESHINSKI STEPHEN J ; AHLGRIM DIRK ; ASSET CORP ; COLLINS JAMES J

Inventor(s): (std): HARRY JASON D ; KLESHINSKI STEPHEN J ; NIEMI JAMES B ; DRAUDT GREGG R ; AHLGRIM DIRK ; COLLINS JAMES J ; DIRK AHLGRIM ; KELLOGG SCOTT ; D ANDREA SUSAN

Inventor(s): COLLINS JAMES ; DRAUDT GREGG ; KLESHINSKI STEPHEN ; HARRY JASON ; NIEMI JAMES ; GREGG R DRAUDT ; JASON D HARRY ; STEPHEN J KLESHINSKI ; JAMES B NIEMI

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; MOFFAT AND CO; SHANGHAI PATENT AND TRADEMARK OFFICE; NIXON PEABODY LLP; STUDEBAKER DONALD R; DONALD R; MAY DAVID L

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

24) Family number: 40844895 (US2007276449A) © PatBase

Title: INTERACTIVE TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION DEVICE

Abstract: A wireless, handheld electrical therapy device delivers electrical pulses to a treatment area of a patient. In one embodiment, the device comprises a microcontroller-based pulse generator circuit selectively operable in a plurality of therapeutic modes. The device comprises an ergonomic housing adapted to be comfortably grasped by a user. A plurality of electrodes are disposed on a surface of the housing. In operation, a user brings the electrodes into contact with a patient's skin at a location on the patient to be treated. Electrical pulses are delivered between the electrodes, thereby electrically stimulating neural tissue at the treatment location. In one embodiment, the device is operable in a manual mode wherein the user selects from among a plurality of therapeutic regimens each corresponding to a set of predetermined operational parameters. Among the variable operational parameters are pulse amplitude, frequency, duration, damping, and shape. In another embodiment of the invention, the device is operable in an automatic mode wherein electrical conditions at the skin surface are periodically sensed and the operational parameters automatically adjusted to achieve optimal therapeutic effectiveness.

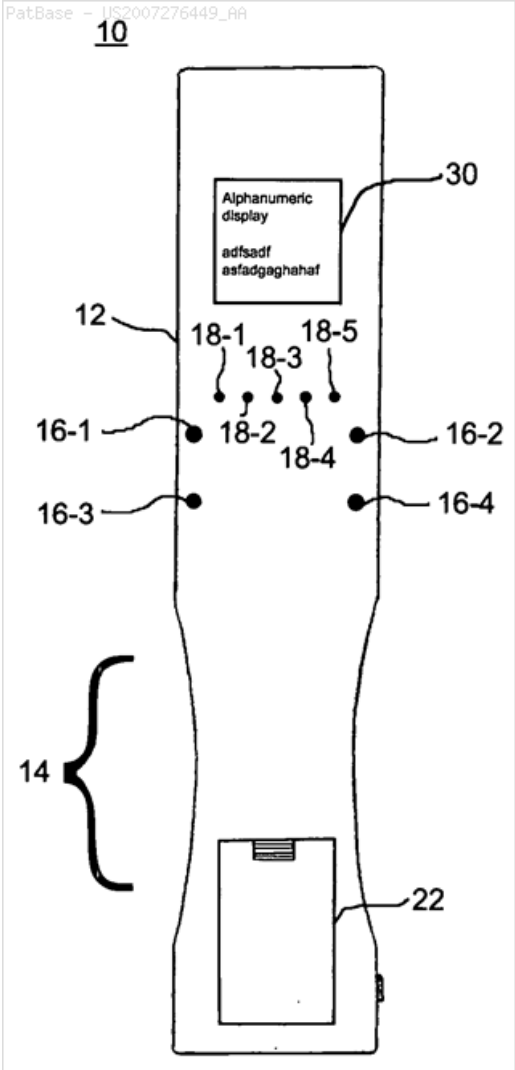
Classifications:

International (IPC 8-9): A61N1/04 (Advanced/Invention); A61N1/04 (Core/Invention)

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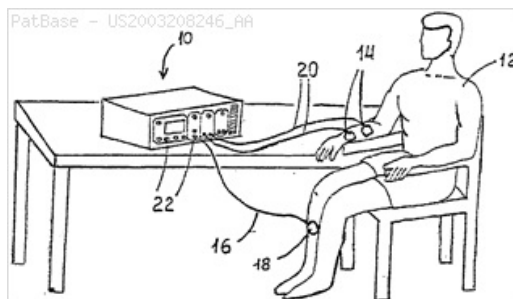
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Title: ELECTROSTIMULATION SYSTEM WITH ELECTROMYOGRAPHIC AND VISUAL BIOFEEDBACK

Abstract: The device of the present invention provided an electrostimulation system with electromyographic and visual biofeed-back for sensing electromyographic impulses and facilitating muscular activity. The electrostimulation system comprises stimulator that is adapted to generate an electric impulse and at least one pair of electrodes adapted to transmit the electric impulse or to receive electromyographic impulses. The system further comprises an amplifier electrically communicating with the pair of electrodes, the amplifier is adapted to amplify the received electromyographic impulses and a filtering unit electrically communicating with the amplifier and is adapted to remove artifacts from the received electromyographic impulse. A commutation block is electrically communicating with the pair of electrodes and is adapted to alternately transfer the electromyographic impulses to the amplifier or to transfer the generated electric impulse from the stimulator. A display for displaying the received electromyographic impulses and a predetermined threshold value is also provided as well as a control unit that is adapted to receive the electromyographic impulses from the amplifier and to activate the stimulator in a predetermined manner. The stimulator incorporated in the present invention is triggered to transmit impulses to the rehabilitated muscle when the electromyographic impulse substantially equals or exceeds the predetermined threshold value.

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AU2001280070 AA	20020225	AU20010280070	20010814
AU200180070 A1	20020225	AU20010080070	20010814
AU200180070 A5	20020225	AU20010080070	20010814
EP1311320 A2	20030521	EP20010958352	20010814
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WO0213673 A2	20020221	WO20011L00752	20010814
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