

PATENT ASSIGNMENT

Electronic Version v1.1
 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Pooja Mehta	09/29/2010
David Scanlon	08/25/2010
Don Hefner	07/29/2010
James Steeves	06/22/2010
Rogier Receveur	06/15/2010
Koen Michels	06/23/2010
Vincent Larik	09/16/2010
H. Toby Markowitz	04/02/2009
Mustafa Karamanoglu	04/01/2009
Ioana Fleming	04/02/2009
Michael Kryger	04/06/2009
Sean Campbell-Massa	04/02/2009
Chad Giese	03/31/2009
Steven L. Waldhauser	03/31/2009
Shangqian P. Zhang	04/02/2009
Jeff Jannicke	03/31/2009
Phillip Falkner	04/01/2009
Eduardo N. Warman	04/02/2009
Olaf Eick	04/01/2009

RECEIVING PARTY DATA

Name:	Medtronic, Inc.
Street Address:	710 Medtronic Pkwy NE
City:	Minneapolis
State/Country:	MINNESOTA
Postal Code:	55432-5640

PROPERTY NUMBERS Total: 13

Property Type	Number
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501635776

PATENT
REEL: 026796 FRAME: 0954

CH \$520.00 12421364

Application Number:	12421364
Application Number:	12422658
Application Number:	12423499
Application Number:	12422670
Application Number:	12423511
Application Number:	12423521
Application Number:	12422681
Application Number:	12423454
Application Number:	12423466
Application Number:	12422689
Application Number:	12423477
Application Number:	12422708
Application Number:	12423487

CORRESPONDENCE DATA

Fax Number: (248)641-0270
Correspondence will be sent via US Mail when the fax attempt is unsuccessful.
Phone: 248-641-1600
Email: pneal@hdp.com
Correspondent Name: Harness, Dickey, & Pierce, PLC
Address Line 1: P.O. Box 828
Address Line 4: Bloomfield Hills, MICHIGAN 48303

ATTORNEY DOCKET NUMBER:	5074D-4CPA SERIES
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NAME OF SUBMITTER:	Richard W. Warner
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Total Attachments: 23

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ASSIGNMENT OF APPLICATION

Whereas I/we, the below named inventor(s), with residence and citizenship as indicated below, have made an invention in

Method And Apparatus For Mapping A Structure

- for which an application for a United States Patent is being filed contemporaneously herewith;
- for which an application for a United States Patent identified as U.S. Patent Application No. **12/421,364** ; was filed on **April 9, 2009** ;
- for which above application claims priority to U.S. Provisional Patent Application No. _____ ; filed on _____ ;
- which application is identified as PCT International Patent Application No. _____ ; filed _____ ;

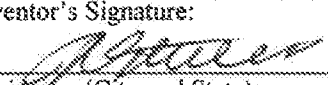
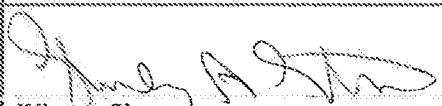
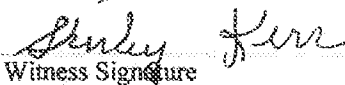
Whereas, Medtronic, Inc., a corporation organized and existing under the laws of the State of Minnesota and having a principle place of business at 710 Medtronic Parkway N.E., Minneapolis, Minnesota 55432-5640, hereinafter referred to as "Corporation," is desirous of acquiring the entire right, title and interest in and to said invention for the United States and for all foreign countries and in and to any and all foreign and domestic Letters Patent which may be granted therefore;

NOW, Therefore, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I/we have sold, assigned, transferred and set over and by these presents do sell, assign, transfer and set over unto Corporation, its successors and assigns, my/our entire right, title and interest in and to said invention and my/our entire right, title and interest in and to any and all Letters Patent of the United States and any foreign countries which may be granted therefore including our rights under the International Convention for the Protection of Industrial Property, and in and to any and all extensions, divisions, continuations, continuations-in-part or reissues of said Letters Patent that may be granted, the same to be held and enjoyed by Corporation for its own use and benefit and use and benefit of its successors and assigns to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held and enjoyed by me/us had this assignment and sale not been made, including the right to enforce such Letters Patent as fully and entirely as the same would have been held and enjoyed by me/us if this assignment had not been made; together with all claims by me/us for damages by reason of past infringement or for provisional rights and including the right to sue for, and collect the same for its own use and benefit, and for the use and benefit of its successors, assigns, and other legal representatives;

AND, for the consideration aforesaid, I/we materially represent to Corporation, its successors and assigns, that at the time of the execution and delivery of these presents, I/we are the sole lawful owners of the entire right, title and interest in and to the invention, application and Letters Patent above mentioned, and that the same are unencumbered, and that I/we have good right and lawful authority to sell and convey the same in the manner herein set forth;

AND, for the consideration aforesaid, I/we hereby individually covenant and agree to and with Corporation, its successors and assigns, that whenever its counsel or the counsel of its successors or assigns, learned in the law, shall advise that an amendment or division of, or continuation or any continuation-in-part thereof, or any other proceeding in connection with the filing or prosecution of said domestic or foreign patent applications, including interference proceedings, is lawful and desirable, or that a reissue or extension of said Letters Patent is lawful and desirable, I/we, or our executors, administrators or assigns will sign all papers and drawings, take all rightful oaths, and do all acts necessary or required to be done for the procurement of valid Letters Patent for said invention, or for the reissue or extension of the same, without charge to Corporation, its successors or assigns, but at Corporation's expense.

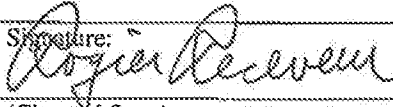
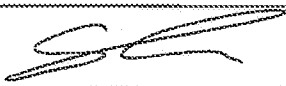

I/We do hereby authorize and request the Commissioner of Patents to issue any and all Letters Patent which may be granted upon any of said applications, to said Medtronic, Inc., as the assignee of my/our entire right, title, and interest therein.

Given Name (first and middle initial [if any]): James		Family Name or Surname (last name): Steeves	
Inventor's Signature: 		Date: 22 JUNE 2010	
Residence (City and State): Milton, Ontario		Country: CANADA	Citizenship: CANADA
Witness Signature 		Witness Signature 	
Witness Printed Name Shirley A. Steeves		Witness Printed Name SHIRLEY KERA	

Given Name (first and middle initial [if any]): Rogier		Family Name or Surname (last name): Receveur	
Inventor's Signature:		Date:	
Residence (City and State): Maastricht, Maastricht		Country: NETHERLANDS	Citizenship: NETHERLANDS
Witness Signature		Witness Signature	
Witness Printed Name		Witness Printed Name	

Given Name (first and middle initial [if any]): Koen		Family Name or Surname (last name): Michels	
Inventor's Signature:		Date:	
Residence (City and State): Maastricht, Maastricht		Country: NETHERLANDS	Citizenship: NETHERLANDS
Witness Signature		Witness Signature	
Witness Printed Name		Witness Printed Name	


Given Name (first and middle initial [if any]): James		Family Name or Surname (last name): Steeves	
Inventor's Signature:		Date:	
Residence (City and State): Milton, Ontario		Country: CANADA	Citizenship: CANADA
Witness Signature		Witness Signature	
Witness Printed Name		Witness Printed Name	

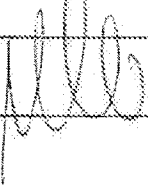

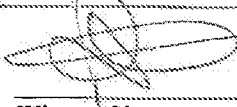
Given Name (first and middle initial [if any]): Rogier		Family Name or Surname (last name): Receveur	
Inventor's Signature: 		Date: June 15 2010	
Residence (City and State): Maastricht, Maastricht		Country: NETHERLANDS	Citizenship: NETHERLANDS
Witness Signature 		Witness Signature 	
Witness Printed Name Raphael Schneider		Witness Printed Name Volker ZEIJLEMAKER	

Given Name (first and middle initial [if any]): Koen		Family Name or Surname (last name): Michels	
Inventor's Signature:		Date:	
Residence (City and State): Maastricht, Maastricht		Country: NETHERLANDS	Citizenship: NETHERLANDS
Witness Signature		Witness Signature	
Witness Printed Name		Witness Printed Name	

Given Name (first and middle initial [if any]): James		Family Name or Surname (last name): Steeves	
Inventor's Signature:		Date:	
Residence (City and State): Milton, Ontario		Country: CANADA	Citizenship: CANADA
_____ Witness Signature		_____ Witness Signature	
_____ Witness Printed Name		_____ Witness Printed Name	

Given Name (first and middle initial [if any]): Rogier		Family Name or Surname (last name): Receveur	
Inventor's Signature:		Date:	
Residence (City and State): Maastricht, Maastricht		Country: NETHERLANDS	Citizenship: NETHERLANDS
_____ Witness Signature		_____ Witness Signature	
_____ Witness Printed Name		_____ Witness Printed Name	

Given Name (first and middle initial [if any]): Koen		Family Name or Surname (last name): Michels	
Inventor's Signature: 		Date: JUNE 23, 2010	
Residence (City and State): Maastricht, Maastricht		Country: NETHERLANDS	Citizenship: NETHERLANDS
_____ Witness Signature		_____ Witness Signature	
E.T.F. Verbeek Witness Printed Name		A. van Hannek Witness Printed Name	

Given Name (first and middle initial [if any]): Vincent		Family Name or Surname (last name): Larik	
Inventor's Signature: 		Date: 16 SEP. 2010	
Residence (City and State): Kerkrade, Kerkrade		Country: NETHERLANDS	Citizenship: NETHERLANDS
Witness Signature  <hr/> Witness Printed Name Ryan Blei		Witness Signature  <hr/> Witness Printed Name Richard Houben	

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ASSIGNMENT BY INVENTORS

THIS ASSIGNMENT, made by H. Toby Markowitz; Mustafa Karamanoglu; Pooja Mehta; Ioana Fleming; David Scanlon; Michael Kryger; Sean Campbell-Massa; Chad Giese; Steven L. Waldhauser; Shangqian P. Zhang; Jeff Jannicke; Phillip Falkner; Don Hefner; Eduardo N. Warman; James Steeves; Rogier Receveur; Koen Michels; Olaf Eick; and Vincent Larik (hereinafter referred to as Assignors), residing at 1670 Ridgewood Lane S, Roseville, Minnesota 55113; 6245 Ben More Drive NE, Fridley, Minnesota 55432; 135 Troutman Dr., Bartlett, Illinois 60103; 1310 Heidi Circle, Anchorage, Alaska 99518; 3721 40th Ave. S, Minneapolis, Minnesota 55406; 600 N. McClurg Ct., Apt 1306, Chicago, Illinois 60611; 930 Stony LN, Gladwyne, Pennsylvania 19035; 1230 Saint Clair Avenue, St. Paul, Minnesota 55015; 4467 Margaret Street, White Bear Township, Minnesota 55110; 905 Hardwood Avenue, Shoreview, Minnesota 55126; 1181 141st Lane NW, Andover, Minnesota 55304; 801 Washington Avenue N, Unit 310, Minneapolis, Minnesota 55401; 2134 Highland Parkway, St. Paul, Minnesota 55116; 10949 Pheasant Ln., N, Maple Grove, Minnesota 55369; 288 Bousfield Crescent, Milton, Ontario L9T 3G7, CANADA; Vlijtingerbank 6, 6213 KB Maastricht, Maastricht, NETHERLANDS; _____ (*Koen Michels*); Kühlkenstrasse 3, 28717 Bremen, Germany; and _____ (*Vincent Larik*); respectively;

WHEREAS, Assignors have invented certain new and useful improvements in Method And Apparatus For Mapping A Structure, set forth in a Patent application for Letters Patent of the United States, executed on even date preparatory to filing (each inventor should sign this Assignment on the same day as he/she signs the Declaration); and

WHEREAS, Medtronic, Inc., a Corporation organized under and pursuant to the laws of Minnesota having its principal place of business at 710 Medtronic Parkway NE, Minneapolis, Minnesota 55432-5604 (hereinafter referred to as Assignee), is desirous of acquiring the entire right, title and interest in and to said inventions and said Application

for Letters Patent of the United States, and in and to any Letters Patent of the United States to be obtained therefore and thereon.

NOW, THEREFORE, for good and sufficient consideration, the receipt of which is hereby acknowledged, Assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto Assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to the above-mentioned inventions and application for Letters Patent, and in and to any and all direct and indirect divisions, continuations and continuations-in-part of said application, and any and all Letters Patent in the United States and all foreign countries which may be granted therefore and thereon, and reissues, reexaminations and extensions of said Letters Patent, and all rights under the International Convention for the Protection of Industrial Property, including the right to recover for past infringements, the same to be held and enjoyed by Assignee, for its own use and benefit and the use and benefit of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent may be granted and/or extended, as fully and entirely as the same would have been held and enjoyed by Assignors, had this sale and assignment not been made.

AND for the same consideration, Assignors hereby represent and warrant to Assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, except for any rights, titles and/or interests that have arisen to Assignee under law or that have already been transferred to Assignee, Assignors are the sole and lawful owners of the entire right, title and interest in and to the said inventions and application for Letters Patent above-mentioned, and that the same are unencumbered and that Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, Assignors hereby covenant and agree to and with Assignee, its successors, legal representatives and assigns, that Assignors will sign all papers and documents, take all lawful oaths and do all acts necessary or required to

be done for the procurement, maintenance, enforcement and defense of any Letters Patent and applications for Letters Patent for said inventions, without charge to Assignee, its successors, legal representatives and assigns, whenever counsel of Assignee, or counsel of its successors, legal representatives and assigns, shall advise: that any proceeding in connection with said inventions, or said Patent application for Letters Patent, or any proceeding in connection with any Letters Patent or applications for Letters Patent for said inventions in any country, including but not limited to interference proceedings, is lawful and desirable; or, that any division, continuation or continuation-in-part of any application for Letters Patent, or any reissue, reexamination or extension of any Letters Patent, to be obtained thereon, is lawful and desirable.

AND Assignors hereby request the Commissioner of Patent and Trademarks to issue said Letters Patent of the United States to Assignee, as Assignee of said inventions and the Letters Patent to be issued thereon, for the sole use and benefit of Assignee, its successors, legal representatives and assigns.

AND Assignors hereby grant the following individuals the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document:

HARNESS, DICKEY & PIERCE, P.L.C.

All practitioners at Customer Number 27572

AND Assignors acknowledge an obligation of assignment of this invention to Assignee at the time the invention was made.

H. Toby Markowitz
H. Toby Markowitz


Date: 2 APRIL 2009

United States of America)
State of Minnesota) ss.:
County of Ramsey)

On this 2nd day of April, 2009, before me personally came H. Toby Markowitz, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

Madelyn E. Thompson
Notary Public



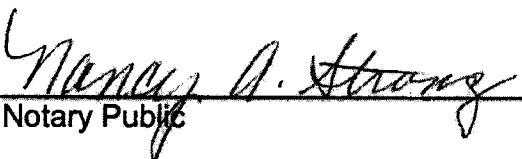


Mustafa Karamanoglu

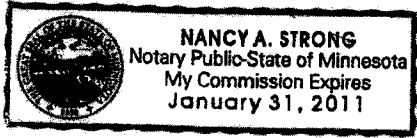
Date: 4/1/2009

United States of America)
State of MINNESOTA) ss.:
County of RAMSEY)

On this 1ST day of APRIL, 2009, before me personally came Mustafa Karamanoglu, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.



Notary Public



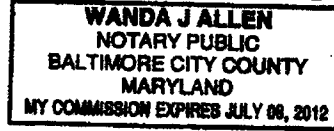
Ioana W Fleming
Ioana Fleming

Date: April 2nd 2009

United States of America)
State of MD) ss.:
County of Baltimore)

On this 2nd day of April, 2009, before me personally came Ioana Fleming, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

Wanda J Allen
Notary Public



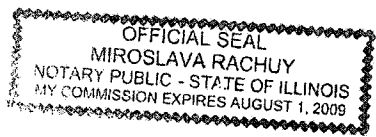
Michael Kryger
Michael Kryger

Date: April 6th, 2009

United States of America)
State of Illinois) ss.: 301 88 8941
County of Cook)

On this 6 day of April, 2009, before me personally came Michael Kryger, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

Miroslava Rachuy
Notary Public



/Sean Campbell-Massa/

Sean Campbell-Massa

Date: 2 April 2009

United States of America)
State of _____) ss.:
County of _____)

On this _____ day of _____, _____, before me personally came Sean Campbell-Massa, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

Notary Public

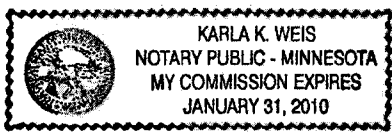
Chad Giese
Chad Giese


Date: 31 March 2009

United States of America)
State of Minnesota) ss.:
County of Anoka)

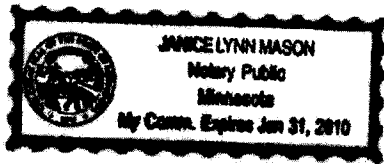
On this 31st day of March, 2009, before me personally came Chad Giese, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

Karla K. Weis
Notary Public



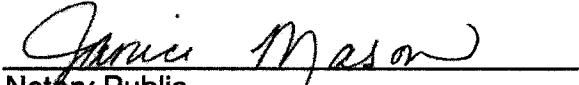

Steven L. Waldhauser

Date: March 31, 2009



United States of America)
State of Minnesota) ss.:
County of Anoka)

On this 31 day of March, 2009, before me personally came Steven L. Waldhauser, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.


Notary Public

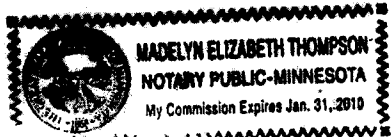
Shangqian P. Zhang
Shangqian P. Zhang

Date: 04/02/2009

United States of America)
State of Minnesota) ss.:
County of Ramsey)

On this 2nd day of April, 2009, before me personally came Shangqian P. Zhang, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

Madelyn E. Thompson
Notary Public



Jeff Jannicke

Jeff Jannicke

Date: March 31, 2009

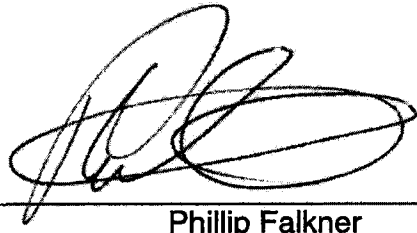


United States of America)
State of Minnesota) ss.:
County of Anoka)

On this 31 day of March, 2009, before me personally came Jeff Jannicke, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

Janice Mason

Notary Public

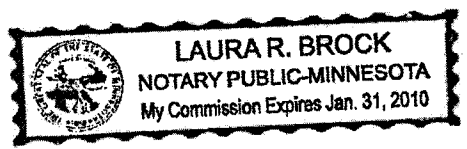

Phillip Falkner

Date: 4/1/09

United States of America)
State of MINNESOTA) ss.:
County of ANOKA)

On this 1st day of APRIL, 2009, before me personally came Phillip Falkner, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.


Notary Public



Eduardo N. Warman
Eduardo N. Warman

Date: 4-2-09

United States of America .)
State of Minnesota) ss.:
County of Ramsey)

On this 2nd day of April, 2009, before me personally came Eduardo N. Warman, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

Molly Chlebeck
Notary Public



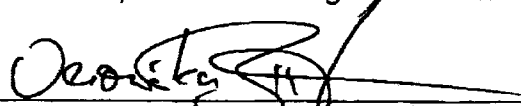


Olaf Eick

Date: _____

United States of America)
State of _____) ss.:
County of _____)

On this _____ day of _____, _____, before me personally came Olaf Eick, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.


Notary Public
Veronika Striken