



03-03-2009



HEET

Our Ref.: MJS-117-449

103550614

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| To the Director of the U.S. Patent and Trademark Office: Please record the attached original documents or copy thereof. | |
| 1. Name of conveying party(ies): 1 Siemens Molecular Imaging 5 Limited 6 2 7 3 8 4 Additional name/s of conveying party/ies attached? <input type="checkbox"/> 3. Nature of conveyance: <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Security Assignment <input type="checkbox"/> Change of Name <input type="checkbox"/> Other _____ Execution Date: December 1, 2006 | 2. Name and address of receiving party(ies): 1) Name: Siemens Medical Solutions USA, Inc. Street Address: 51 Valley Stream Parkway City: Malvern State/Country: PA Zip: 19355 2) Name Street Address: City: State: Zip: Additional name/s & address/es attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| 4. Application number(s) or patent number(s): <input type="checkbox"/> This assignment is being filed together with a new application. A. Patent Application No(s). (1) 10/432,376 (2) 10/221,778 (3) Additional numbers attached <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No B. Patent No(s). (1) 7,120,276 (2) 7,043,063 (3) 7,315,640 | 5. Name and address of party to whom correspondence concerning document should be mailed: Name: Michael J. Shea Internal Address: _____ Street Address: Nixon & Vanderhye P.C. 901 North Glebe Road 11th Floor City: Arlington State: VA Zip: 22203 |
| 6. Total number of applications & patents involved: 5 7. Total fee (37 CFR 3.41) \$ 200.00 <input checked="" type="checkbox"/> Enclosed <input type="checkbox"/> Authorized to be charged to deposit account #14-1140 8. The Commissioner is hereby authorized to charge any deficiency in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper thereafter filed in this application by this firm) to our Account No. 14-1140. | |
| DO NOT USE THIS SPACE | |
| 9. Statements and signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Michael J. Shea Name of Person Signing Reg. No. 34,725 Signature February 26, 2009 Date Total number of pages including original cover sheet, attachments, and document: [15] | |

Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to:
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O. Box 1450, Alexandria, VA 22313-1450.

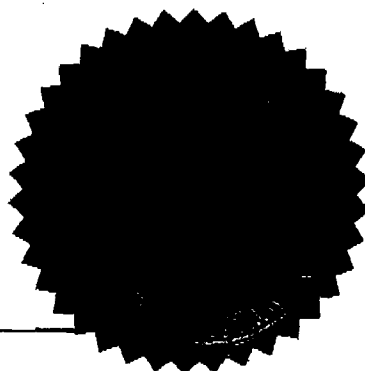
02/27/2009 AWONDAF1 00000042 10432376
01 FC:0021 200.00 00

DATED 1 December 2006

SIEMENS MOLECULAR IMAGING LIMITED
(Company No. 03417726)

and

SIEMENS MEDICAL SOLUTIONS USA, INC.



INTELLECTUAL PROPERTY RIGHTS ASSIGNMENT

Legal Services
Siemens plc
Siemens House
Bracknell
Berkshire
RG12 8FZ

Tel: 01344 398000

13th August 2008
I, David Jack SAVAGE
A NOTARY PUBLIC of
Thornborough, Hampshire
UK hereby certify
this to be a true copy of
the original which I
have seen

[Signature]
DAVID J. SAVAGE
NOTARY PUBLIC

THIS ASSIGNMENT is made the 1st day of December 2006

BETWEEN:

- (1) **SIEMENS MOLECULAR IMAGING LIMITED** (Registered number 03417726) a company incorporated and registered in England whose registered office is at Siemens House, Oldbury, Bracknell, Berkshire RG12 8FZ (the "Assignor").
- (2) **SIEMENS MEDICAL SOLUTIONS USA, INC.**, a company incorporated and registered in the State of Delaware, USA whose registered office is at 51 Valley Stream Parkway, Malvern, Pennsylvania 19355 USA (the "Assignee").

BACKGROUND

- (A) The Assignor owns and operates a worldwide business in the development and exploitation of medical imaging software, in particular molecular imaging (the "Business").
- (B) The Assignor now wishes to assign and the Assignee wishes to receive the Intellectual property assets and the sales and other exploitation contracts of the Business.
- (C) By a Research and Development Agreement of the same date, the Assignee wishes to receive and the Assignor wishes to provide research and development services to support the further development by the Assignee of the Intellectual property assets of the Business.

AGREED TERMS

1. Interpretation

The definition in this clause applies in this Assignment.

"Business Information"

all information, know-how and techniques (whether or not confidential and in whatever form held) held by the Assignor including without limitation the information, know-how and techniques listed in Schedule 1 and those which in any way (wholly or partially) relate to: (a) all or any part of the Business; or (b) any products manufactured or sold or services rendered by the Assignor; or (c) any documentation, formulae, designs, specifications, drawings, data, manuals or instructions relating to (a) or (b); or (d) the operations, management, administration or financial affairs of the Assignor (including any business plans or forecasts, information relating to future business development or planning and information relating to litigation or legal advice); or (e) the sale or marketing of any of the products manufactured or sold or services rendered by the Assignor, including all customer names and lists, sales and marketing information (including targets, sales and market share statistics, market surveys

and reports on research).

| | |
|--------------------------------|--|
| "Business IPR" | all Intellectual Property Rights owned, used or held for use by the Assignor. |
| "Effective Date" | 1 October 2006. |
| "Intellectual Property Rights" | patents, rights to inventions, utility models, copyright and related rights, trade marks, service marks, trade names and domain names, rights in get-up, rights in goodwill or to sue for passing off, unfair competition rights, rights in designs, rights in computer software, database rights, topography rights, moral rights, rights in confidential information (including know-how and trade secrets) and any other intellectual property rights, in each case whether registered or unregistered and including all applications (and rights to apply) for, and renewals or extensions of, such rights and all similar or equivalent rights or forms of protection in any part of the world. |
| "IP Licences" | licences, agreements, authorisations and permissions (in whatever form, and whether express or implied) under which the Assignor uses or exploits or has rights in relation to any Business IPR or Business Information owned by any third party and any agreements granting the Assignor a right to acquire a licence to or an interest in any Intellectual Property Rights (including those specified in Schedule 5). |
| "OEM Contracts" | all contracts granting a licence to or otherwise exploiting any Business IPR or Business Information, including without limitation, the contracts listed in Schedule 6. |
| "Registered IPR" | the applications for, and registrations of, the intellectual property rights set out in Schedule 3. |
| "Work" | the materials listed in Schedule 2. |

2. Assignment

2.1 In consideration of the sum of £9,622, 000 exclusive of value added tax, the Assignor assigns (with effect from the Effective Date) to the Assignee with full title the following rights:

2.1.1 all right and title of the Assignor in and to the Business Information and the full unfettered and exclusive right throughout the world to use the Business Information for any purpose whatsoever;

2.1.2 all Intellectual Property Rights in the Work;

2.1.3 the Registered IPRs;

- 2.1.4 the Business IPR;
- 2.1.5 all goodwill attaching to the registered trade marks listed in Part 1 of Schedule 3 (Registered Trade Marks) and the marks listed in Schedule 4 (Unregistered Marks);
- 2.1.6 the exclusive right for the Assignee and its successors and assignees to carry on the Assignor's business under the Unregistered Marks and to represent itself as carrying on such business in succession to the Assignor;
- 2.1.7 the right to sue for damages and other remedies for any infringement of any of the rights listed in this clause 2.1.1 to 2.1.6 which occurred prior to the Effective Date;
- 2.1.8 the IP Licences; and
- 2.1.9 the OEM Contracts.

3. Business Information

- 3.1 The Assignor hereby agrees not to communicate or otherwise make available the Business Information to any third party without the prior written consent of the Assignee, nor use the Business Information for any purpose except, in either case, to the extent that the Assignor can show that the Business Information:
 - 3.1.1 has become public knowledge other than through any breach of this Assignment; or
 - 3.1.2 is received after the date of this Assignment by the Assignor from a third party who did not acquire it in confidence from the Assignor or the Assignee, or from someone owing a duty of confidence to the Assignor or the Assignee.
- 3.2 The Assignor shall, for a period of four weeks after the date of this Assignment, provide the Assignee with such explanations concerning the Business Information as the Assignee reasonably requires.

4. Further assurance

- 4.1 The Assignee shall be responsible for updating the relevant registers for all Registered IPRs.
- 4.2 The Assignor shall at the cost and expense of the Assignee do or procure to be done all such further acts and things, and execute or procure the execution of all such other documents, as the Assignee may from time to time reasonably require in order to give the Assignee the full benefit of this Assignment, whether in connection with any registration of title or other similar right or otherwise.
- 4.3 The Assignor agrees and undertakes to provide to the Assignee (at its request) all reasonable assistance with any proceedings which may be brought by or against the Assignee against or by any third party relating to the rights assigned by this Assignment.

5. Contracts

5.1 Insofar as the benefit or burden of the IP Licences and OEM Contracts cannot effectively be novated, transferred or assigned by the Assignor to the Assignee without the agreement of a third party or parties:

5.1.1 the Assignor and the Assignee shall use their respective reasonable endeavours to procure that such IP Licences or OEM Contracts are novated, transferred or assigned (or the consents are obtained) as soon as reasonably practicable after the Effective Date;

5.1.2 until any such IP Licences or OEM Contracts shall have been novated, transferred or assigned the Assignee shall perform all the obligations and liabilities of the Assignor thereunder and shall indemnify the Assignor against all costs, proceedings, claims, demands and expenses which may be incurred by the Assignor to the extent that the same arises as a result of any failure by the Assignee of its obligations under this Clause 7; and

5.1.3 until any such contract shall be novated, transferred or assigned the full benefit of all contractual rights, benefits and claims thereunder, whether arising before or after the Effective Date shall vest in and be held on trust by the Assignor for the Assignee and its successors in title absolutely; and

5.1.4 unless and until any such IP Licences or OEM Contracts shall be novated, transferred or assigned the Assignor shall act in connection with such contract in all respects as the Assignee may from time to time reasonably direct and shall give to the Assignee all reasonable assistance within its power to enforce the contract against the contracting parties and the Assignee shall reimburse to the Assignor costs which the Assignor properly incurs in giving such assistance.

5.2 Without prejudice to Clause 2, to the extent that any payment is made to the Assignor in respect of the IP Licences and OEM Contracts after the Effective Date (other than a payment of value added tax attributable to a supply made before the Effective Date), the Assignor shall receive the same as trustee for the Assignee absolutely, shall record such payments separately in its books and shall as soon as reasonably practicable account to the Assignee for the same.

6. Waiver of moral rights

The Assignor shall provide to the Assignee, on or before the date of this Assignment, written absolute waivers from all authors of the Work in relation to all moral rights which subsist in the Work by virtue of Chapter 4 of the Copyright, Designs and Patents Act 1988 and, so far as is legally possible, any broadly equivalent rights such authors may have in any territory of the world.

7. Restrictive Covenants

7.1 The Assignor shall not, during the period of two years beginning with the Effective Date, in any geographic areas in which the Business was carried on at the Effective Date, carry on or be employed, engaged or

interested in any business which would be in competition with any part of the Business as the Business was carried on at the Effective Date.

- 7.2 The Assignor shall not, during the period of two years beginning with the Effective Date, deal with or seek the custom of any person that is at the Effective Date, or that has been at any time during the period of 12 months immediately preceding that date, a client or customer of the Business.
- 7.3 The Assignor shall not, at any time after the Effective Date, use in the course of any business, any trade or service mark, business or domain name, design or logo which, at the Effective Date, was or had been used by the Business, or anything which is, in the reasonable opinion of the Assignee, capable of confusion with such words, mark, name, design or logo.
- 7.4 The undertakings in this Clause 8 are intended for the benefit of the Assignee and apply to actions carried out by the Assignor in any capacity, and whether directly or indirectly, on behalf of the Assignor, or on behalf of any other person or jointly with any other person.
- 7.5 Each of the covenants in this Clause 8 is:
- 7.5.1 a separate undertaking by the Assignor and shall be enforceable by the Assignee separately and independently of its right to enforce any one or more of the covenants in this Clause 8; and
- 7.5.2 considered fair and reasonable by the parties, but if any restriction is found to be unenforceable but would be valid if any part of it were deleted, or the period or area of application reduced, the restriction shall apply with such modification as may be necessary to make it valid and effective.
- 7.6 The consideration for the undertakings contained in this Clause 8 is included in Clause 2.

8. Entire Agreement

- 8.1 This Assignment constitutes the entire and only agreement between the parties in respect of its subject matter and extinguishes all prior agreements arrangements or statements (in whatsoever form) with respect to such subject matter.
- 8.2 Without prejudice to any liability for fraudulent misrepresentation and save as specifically provided for in this Assignment, the Assignor excludes any representation, warranty, condition or undertaking implied at law or equity or by custom whether in contract, tort or by statute or otherwise in respect of the Business or any other matter to which this Assignment relates and the Assignee confirms that it has not relied on any representation, warranty, condition or undertaking in entering into this Assignment and irrevocably and unconditionally waives any right it may have to claim damages for any misrepresentation or for breach of warranty implied at law, equity or by custom whether in contract, tort, by statute or otherwise.

9. Notices

- 9.1 Any notice required or permitted to be given by or under this Assignment may be given by delivering it to the party in question at its registered office for the time being or by sending it in a pre-paid envelope by first-class mail to the party concerned at its registered office shown in the Assignment or to such other address as the party concerned may have notified to the other and any such notice shall be deemed to be served in the case of personal service at the time of delivery to the party concerned and in any other case 24 hours after the time at which it is put in the post and in proving such service it shall be sufficient to prove that the notice was properly addressed and posted.

10. VAT

- 10.1 The purchase price is exclusive of VAT and the parties intend that the transfer of the Business shall be treated as a transfer of a business as a going concern. Each party shall use its best endeavours to ensure that the conditions laid down in VAT (Special Provisions) Order 1995 (SI 1995/1268) Article 5 are satisfied. However, in the event that HM Revenue and Customs at a later date rule that the transfer should not have been treated as a going concern and that VAT is due, the Assignee undertakes to pay any VAT due upon receipt of the valid tax invoice from the Assignor.

11. Transfer of Undertakings

- 11.1 The Assignor and the Assignee agree that the Transfer of Undertakings (Protection of Employment) Regulations 2006 ("Transfer Regulations") shall not apply to this Assignment. If the Transfer Regulations are deemed to apply to this Assignment, the Assignor shall indemnify the Assignee against all employment and other costs incurred by the Assignee as a consequence of the Transfer Regulations.

12. Waiver

- 12.1 No waiver by either party of any requirements of this Assignment or any of its rights will release the other party from the full performance of its remaining obligations.

13. Contracts (Rights of Third Parties)

- 13.1 Except as expressly provided in this Assignment, a person who is not party to this Assignment shall have no rights under the Contracts (Rights of Third Parties) Act 1999 to rely upon or enforce any term of this Assignment provided that this does not affect any right or remedy of the third party which exists or is available apart from that Act.

14. Counterparts

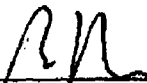
- 14.1 This Assignment may be executed in any number of counterparts and by each of the parties on separate counterparts each of which when executed and delivered shall be deemed to be an original, but all the counterparts together shall constitute one and the same agreement.

15. Governing Law

15.1 This Assignment shall be governed by and construed in accordance with the law of England and Wales.

This Assignment has been entered into on the date stated at the beginning of it.

Signed for and on behalf of
Siemens Molecular Imaging Limited



Name: Mark Evans
Title: Managing Director

Signed for and on behalf of
Siemens Medical Solutions USA, Inc.



Name: Michael Reitermann
Title: President
Molecular Imaging



Name: Dr. Georg Klein
Title: Vice President & Chief Financial Officer
Molecular Imaging

Schedule 3. Registered IPRs**Part 1. Registered trade marks**

- 1) VirtualMammo
- 2) Fusion7D (EU: 3535366, US 2760344, worldwide via Madrid protocol)
- 3) RTist (UK: 3597358, EU: 3597358)
- 4) Mirada (UK: 228500, EU: 4005146, US: 2783756)5) Oxdva
- 6) Oxford Medical Image Analysis
- 7) Scenium
- 8) Miraview (EU)
- 9) SMF

Part 2. Trade mark applications

- 1) FusionXD

Part 3. Registered patents

Please refer to the IP Summary Sheet below

Part 4. Patent applications

Please refer to the IP Summary Sheet below

Part 5. Registered designs

Nil

Part 6. Design applications

Nil

Patent Summary P001

| | | | | |
|---|------------------------------|---|------------------------------|----------------------|
| Title | X-ray Image Processing | | | |
| Inventors | Mike Brady and Ralph Highnam | | | |
| Abstract: | | | | |
| A method of enhancing and normalising X-ray images, particularly mammograms, by correcting the image for digitizer blur, glare from the intensifying screen and the anode-heel effect. The method also allows the calculation of the compressed thickness of the imaged breast and calculation of the contribution to the mammograms of the extra-focal radiation. The correction of the image for intensifying screen allows the detection of noise, such as film shot noise, in the image, and in particular the differentiation between such noise and micro-calcifications. | | | | |
| Mirada Ref: | P001 | Ownership/use | Assigned to Mirada from ISIS | |
| Country of first Application | UK | Application No. | GB9904692.2 | Date 01.03.99 |
| PCT | Date | 21.02.00 | Reference | WO0052641 |
| European Patent Office | Date | 18.06.03 | Reference | EP1163641 |
| US Patent Office | Date | 10.11.01 | Reference | 09/914,460 |
| Japanese Patent Office | Date | 12.11.02 | Reference | JP2002538704 |
| Status of Application: | | Date: 9 th March 2005 | | |
| Granted In the EPO (FR, DE, UK). Published in Japan. Under examination in US and Japan. | | | | |

Patent Summary P002

| | | | | |
|---|--|--|-----------------------------------|---------------------|
| Title | Method and Apparatus for Image Processing | | | |
| Inventors | John Michael Brady and Paul Hayton | | | |
| Abstract: | | | | |
| <p>A method of detecting and correcting non-rigid body motion in a sequence of images, for instance MRI images of the human breast. The method uses a similarity measure, such as mutual information, to estimate the probabilities of a plurality of candidate movements for each of a plurality of sampling points in the image. The probabilities of the candidate movements are refined in an iterative process by multiplying them with weighted probabilities of the most probably motions for the neighbouring sampling points. After iteration the motion field is generated by taking the movement of the sampling point the candidate movement with the highest probability after the iteration process. The sequence of images can be corrected by the motion field and then the process repeated using different, for instance more closely spaced, sampling points for further refinement. The process is particularly advantageous for detecting and correcting for non-rigid movements in images which do not contain recognisable geometric features and in images which are non-conservative ie the total amount of brightness in the image changes with time, for instance as a results of the introduction of contrast agent and its dynamic take-up by the tissue being imaged.</p> | | | | |
| Mirada Ref: | P 002 | Ownership/use | Assigned to Mirada by ISIS | |
| Country of first Application | UK | Application No. | GB9906420.6 | Date 19.3.99 |
| PCT | Date | 28.09.00 | Reference | WO0057361 |
| European Patent Office | Date | 29.09.04 | Reference | EP1163644 |
| US Patent Office | Date | 19.09.01 | Reference | 09/936,998 |
| Japanese Patent Office | Date | 18.09.01 | Reference | 2000-607163 |
| Status of Application: | | Date: 9th March 2005 | | |
| Granted in the EPO (FR, DE, UK). Waiting for examination in the US and Japan. | | | | |

Patent Summary P003

| | | | | |
|---|---------------------------------|----------------------------------|------------------------------|----------------------|
| Title | Non Rigid Motion Image Analysis | | | |
| Inventors | Alison Noble and Gary Jacob | | | |
| Abstract: | | | | |
| <p>A method of automatically detecting and tracking the endocardial and epicardial boundaries of the left ventricle in an echocardiographic image sequence. The endocardial boundary is manually located in some frames of the image sequence, a B-spline curve is fitted to the manually located boundary and a shape-space for the deformation of the boundary through the sequence is calculated by a principal component analysis (PCA) of the motion. The location of the endocardial boundary for all frames in the sequence is then predicted using the shape-space and this prediction is adjusted by searching for image features such as sharp changes in intensity, in the vicinity of the prediction. The amount of movement of the endocardial boundary in each clinically significant segment of the ventricular wall is obtained by measuring the degree of movement of the control points for the spline in that segment, and also monitoring the variation in the amount of movement between the control points for each spline. The epicardial wall is located by combining a prediction of its position based on the endocardium and a search for variations in image intensity consistent with the epicardial wall. The prediction of its position is based on construction of a PCA model of the distance between the two walls. The search can involve plotting of the image intensity along a search line and decomposing the intensity profile using a wavelet based ridge detector. The myocardial thickening during the heart cycle can be deduced from the tracked positions of the endocardial and epicardial walls and quantitative measurements of the thickening and of the variation within each segment can be obtained.</p> | | | | |
| Mirada Ref: | P 003 | Ownership/use | Assigned to Mirada from ISIS | |
| Country of first Application | UK | Application No. | GB9920401.8 | Date 27.08.99 |
| PCT | Date | 08.03.01 | Reference | WO0116886 |
| European Patent Office | Date | 12.06.02 | Reference | EP1212729 |
| US Patent Office | Date | 25.2.02 | Reference | 10/069291 |
| Japanese Patent Office | Date | 04.03.03 | Reference | JP2003508139 |
| Status of Application: | | Date: 9 th March 2005 | | |
| Examined in EPO. Waiting for examination in US and Japan. | | | | |

Patent Summary P004

| | | | | |
|---|---|---|------------------------------|----------------------|
| Title | Three-Dimensional Reconstructions of a Breast from Two X-Ray Mammograms | | | |
| Inventors | John Michael Brady, Ralph Highnam and Margaret Yam | | | |
| Abstract: | | | | |
| <p>Methods are described for the production of a three-dimensional reconstruction of an undeformed object from two different views of the object under deformation using a volume constraint and also by matching corresponding features in the two images. The volume constraint involves assuming that the deformed volume is the same as the undeformed volume, and calculating the undeformed volume from one of the images. Further, the deformation of the object can be parameterised by finding corresponding image entities in each of the images. The method is particularly applicable to breast mammograms in which case the two images are the cranio-caudal (CC) image and the medio-lateral oblique (MLO) image whose angular separation varies from 35 to 60 degrees. The image entities which are detected in the two images are microcalcifications, and these are matched by detecting a value representing their volume and looking for matches in this value between the two images.</p> | | | | |
| Mirada Ref: | P 004 | Ownership/use | Assigned to Mirada from ISIS | |
| Country of first Application | UK | Application No. | GB0006598.7 | Date 17.03.00 |
| PCT | Date | 20.09.01 | Reference | WO0169533 |
| European Patent Office | Date | 11.12.02 | Reference | EP1264277 |
| US Patent Office | Date | 20.05.04 | Reference | US20040094167 |
| Japanese Patent Office | Date | 16.09.03 | Reference | JP2003527700 |
| Status of Application: | | Date: 9 th March 2005 | | |
| International search report published. Waiting for examination in all regions. | | | | |

Patent Summary P006

| | | | | |
|---|--------------------------------------|----------------------------------|----------------------------|---------------|
| Title | Detection of Features in Images | | | |
| Inventors | Alison Noble and Miguel Mulet-Parada | | | |
| Abstract: | | | | |
| <p>An image processing technique which identifies pixels in images which are associated with features having a selected shape, such as but not exclusively step edge, roof, ridge or valley. The shape of the intensity profile in the image is compared in an intensity independent way with a shape model to select those pixels which satisfy the shape model and are thus associated with the feature of interest. This comparison is achieved by examining the phase and amplitude of a spectral decomposition of parts of the image profile in the spatial or spatio temporal frequency domain. This decomposition can be achieved using quadrature wavelet pairs such as log Gabor wavelets. The difference between the odd and even components, known as the feature asymmetry, gives an indication of the velocity of a moving feature. Pixels identified a belonging to a feature of the right shape are labelled with the value of feature asymmetry, the local amplitude, feature orientation and feature velocity, and this information can be used to improve the tracking of detected features through a sequence of images.</p> | | | | |
| Mirada Ref: | P 006 | Ownership/use | Assigned to Mirada by ISIS | |
| Country of first Application | UK | Application No. | GB0028491.9 | Date 22.11.00 |
| PCT | Date | 24.07.03 | Reference | WO0243004 |
| European Patent Office | Date | 08.10.03 | Reference | EP1350223 |
| US Patent Office | Date | 11.03.04 | Reference | US2004047498 |
| Japanese Patent Office | Date | N/A | | |
| Status of Application: | | Date: 9 th March 2005 | | |
| To be granted by the EPO. Awaiting examination in the US. | | | | |