

PATENT ASSIGNMENT

Electronic Version v1.1
Stylesheet Version v1.1

| SUBMISSION TYPE: | NEW ASSIGNMENT | | | | | | | | | | | | | | |
|--|--|----------------|---------------------------|------------|-----------------------|------------|--------------------|------------|------------|------------|--------------|------------|-------------------|------------|--|
| NATURE OF CONVEYANCE: | ASSIGNMENT | | | | | | | | | | | | | | |
| CONVEYING PARTY DATA | | | | | | | | | | | | | | | |
| <table border="1"><thead><tr><th>Name</th><th>Execution Date</th></tr></thead><tbody><tr><td>Patrick Mesquita Braganca</td><td>11/14/2011</td></tr><tr><td>Richard Leo Galbraith</td><td>11/10/2011</td></tr><tr><td>Bruce Alvin Gurney</td><td>11/11/2011</td></tr><tr><td>Neil Smith</td><td>11/15/2011</td></tr><tr><td>Bruce Wilson</td><td>12/06/2011</td></tr><tr><td>Rehan Ahmed Zakai</td><td>11/14/2011</td></tr></tbody></table> | Name | Execution Date | Patrick Mesquita Braganca | 11/14/2011 | Richard Leo Galbraith | 11/10/2011 | Bruce Alvin Gurney | 11/11/2011 | Neil Smith | 11/15/2011 | Bruce Wilson | 12/06/2011 | Rehan Ahmed Zakai | 11/14/2011 | |
| Name | Execution Date | | | | | | | | | | | | | | |
| Patrick Mesquita Braganca | 11/14/2011 | | | | | | | | | | | | | | |
| Richard Leo Galbraith | 11/10/2011 | | | | | | | | | | | | | | |
| Bruce Alvin Gurney | 11/11/2011 | | | | | | | | | | | | | | |
| Neil Smith | 11/15/2011 | | | | | | | | | | | | | | |
| Bruce Wilson | 12/06/2011 | | | | | | | | | | | | | | |
| Rehan Ahmed Zakai | 11/14/2011 | | | | | | | | | | | | | | |
| RECEIVING PARTY DATA | | | | | | | | | | | | | | | |
| Name: | Hitachi Global Storage Technologies Netherlands B.V. | | | | | | | | | | | | | | |
| Street Address: | Locatellikade 1, Parnassustoren | | | | | | | | | | | | | | |
| City: | 1076 AZ Amsterdam, The Netherlands | | | | | | | | | | | | | | |
| State/Country: | NETHERLANDS | | | | | | | | | | | | | | |
| PROPERTY NUMBERS Total: 1 | | | | | | | | | | | | | | | |
| <table border="1"><thead><tr><th>Property Type</th><th>Number</th></tr></thead><tbody><tr><td>Application Number:</td><td>13316407</td></tr></tbody></table> | Property Type | Number | Application Number: | 13316407 | | | | | | | | | | | |
| Property Type | Number | | | | | | | | | | | | | | |
| Application Number: | 13316407 | | | | | | | | | | | | | | |
| CORRESPONDENCE DATA | | | | | | | | | | | | | | | |
| Fax Number: (312)670-7864 | | | | | | | | | | | | | | | |
| Phone: 312-670-0736 | | | | | | | | | | | | | | | |
| Email: jpenningtonatty@cs.com | | | | | | | | | | | | | | | |
| <i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i> | | | | | | | | | | | | | | | |
| Correspondent Name: Joan Pennington | | | | | | | | | | | | | | | |
| Address Line 1: 535 N. Michigan Avenue | | | | | | | | | | | | | | | |
| Address Line 2: Unit 1804 | | | | | | | | | | | | | | | |
| Address Line 4: Chicago, ILLINOIS 60611 | | | | | | | | | | | | | | | |
| ATTORNEY DOCKET NUMBER: | HSJ920110034US1 | | | | | | | | | | | | | | |
| NAME OF SUBMITTER: | Joan Pennington | | | | | | | | | | | | | | |
| Total Attachments: 3 source=HSJ920110034US1_Assignment#page1.tif source=HSJ920110034US1_Assignment#page2.tif source=HSJ920110034US1_Assignment#page3.tif | | | | | | | | | | | | | | | |

CH \$40.00 13316407

PATENT

501751151

REEL: 027369 FRAME: 0413

ASSIGNMENT FOR PATENT APPLICATION

Whereas, I/we the undersigned inventor(s) have invented certain improvements as set forth in the patent application entitled:

IMPLEMENTING SPIN-TORQUE OSCILLATOR SENSING WITH ENHANCED DELAY CONTROL FEEDBACK CIRCUIT FOR HARD DISK DRIVES

Whereas, **Hitachi Global Storage Technologies Netherlands B.V.**, having a place of business at Locatellikade 1, Parnassustoren, 1076 AZ Amsterdam, The Netherlands (hereinafter referred to as "HITACHI"), desires to acquire the entire right, title and interest in the said application and invention, and to any United States and foreign patents to be obtained therefore;

Now therefore, for a valuable consideration, receipt whereof is hereby acknowledged, I/we, the above named, hereby sell, assign, and transfer to HITACHI, its successors and assigns, the entire right, title and interest in the said application and invention therein disclosed for the United States and foreign countries, and all rights of priority resulting from the filing of said United States application, and we request the Commissioner of Patents to issue any Letters Patent granted upon the inventions set forth in said application to HITACHI, its successors and assigns; and we hereby agree that HITACHI may apply for foreign Letters Patent on said invention and we will execute all papers necessary in connection with the United States and foreign applications when called upon to do so by HITACHI.

Signed on the date(s) indicated beside my (our) signature(s).

- 1) Signature: Patrick M. Braganca Date: 11/14/11
Typed Name: Patrick Mesquita Braganca
- 2) Signature: _____ Date: _____
Typed Name: Richard Leo Galbraith
- 3) Signature: Bruce Alvin Gurney Date: 11/11/11
Typed Name: Bruce Alvin Gurney
- 4) Signature: Neil Smith Date: 11/15/11
Typed Name: Neil Smith
- 5) Signature: _____ Date: _____
Typed Name: Bruce Wilson
- 6) Signature: Rehan A. Zakai Date: 11/14/2011
Typed Name: Rehan Ahmed Zakai

ASSIGNMENT FOR PATENT APPLICATION

Whereas, I/we the undersigned inventor(s) have invented certain improvements as set forth in the patent application entitled:

IMPLEMENTING SPIN-TORQUE OSCILLATOR SENSING WITH ENHANCED DELAY CONTROL FEEDBACK CIRCUIT FOR HARD DISK DRIVES

Whereas, Hitachi Global Storage Technologies Netherlands B.V., having a place of business at Locatellikade 1, Parnassustoren, 1076 AZ Amsterdam, The Netherlands (hereinafter referred to as "HITACHI"), desires to acquire the entire right, title and interest in the said application and invention, and to any United States and foreign patents to be obtained therefore;

Now therefore, for a valuable consideration, receipt whereof is hereby acknowledged, I/we, the above named, hereby sell, assign, and transfer to HITACHI, its successors and assigns, the entire right, title and interest in the said application and invention therein disclosed for the United States and foreign countries, and all rights of priority resulting from the filing of said United States application, and we request the Commissioner of Patents to issue any Letters Patent granted upon the inventions set forth in said application to HITACHI, its successors and assigns; and we hereby agree that HITACHI may apply for foreign Letters Patent on said invention and we will execute all papers necessary in connection with the United States and foreign applications when called upon to do so by HITACHI.

Signed on the date(s) indicated beside my (our) signature(s).

- | | | |
|----|---|----------------------------------|
| 1) | Signature: _____ Typed Name: Patrick Mesquita Braganca | Date: _____ |
| 2) | Signature: <u><i>Richard Leo Galbraith</i></u> Typed Name: Richard Leo Galbraith | Date: <u><i>Nov 10, 2011</i></u> |
| 3) | Signature: _____ Typed Name: Bruce Alvin Gurney | Date: _____ |
| 4) | Signature: _____ Typed Name: Neil Smith | Date: _____ |
| 5) | Signature: _____ Typed Name: Bruce Wilson | Date: _____ |
| 6) | Signature: _____ Typed Name: Rehan Ahmed Zakai | Date: _____ |

ASSIGNMENT FOR PATENT APPLICATION

Whereas, I/we the undersigned inventor(s) have invented certain improvements as set forth in the patent application entitled:

IMPLEMENTING SPIN-TORQUE OSCILLATOR SENSING WITH ENHANCED DELAY CONTROL FEEDBACK CIRCUIT FOR HARD DISK DRIVES

Whereas, **Hitachi Global Storage Technologies Netherlands B.V.**, having a place of business at Locatellikade 1, Parnassustoren, 1076 AZ Amsterdam, The Netherlands (hereinafter referred to as "HITACHI"), desires to acquire the entire right, title and interest in the said application and invention, and to any United States and foreign patents to be obtained therefore;

Now therefore, for a valuable consideration, receipt whereof is hereby acknowledged, I/we, the above named, hereby sell, assign, and transfer to HITACHI, its successors and assigns, the entire right, title and interest in the said application and invention therein disclosed for the United States and foreign countries, and all rights of priority resulting from the filing of said United States application, and we request the Commissioner of Patents to issue any Letters Patent granted upon the inventions set forth in said application to HITACHI, its successors and assigns; and we hereby agree that HITACHI may apply for foreign Letters Patent on said invention and we will execute all papers necessary in connection with the United States and foreign applications when called upon to do so by HITACHI.

Signed on the date(s) indicated beside my (our) signature(s).

- 1) Signature: _____ Date: _____
Typed Name: Patrick Mesquita Braganca
- 2) Signature: _____ Date: _____
Typed Name: Richard Leo Galbraith
- 3) Signature: _____ Date: _____
Typed Name: Bruce Alvin Gurney
- 4) Signature: _____ Date: _____
Typed Name: Neil Smith
- 5) Signature: Bruce Wilson Date: 6 DEC 2011
Typed Name: Bruce Wilson
- 6) Signature: _____ Date: _____
Typed Name: Rehan Ahmed Zakai