07-06-2005



103034501 PATEN 1501 U.S. Department of Commerce Patent and Trademark Office

Our Ref.: 2018-983

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Commissioner of Patents

P.O. Box 1450

| Alexandria, VA 22313-1450   |   |  |  |  |  |  |
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| To the Honorable Commissioner of Patents and Trademarks: Ple                | ease record the attached original documents or copy thereof.      |  |  |  |  |  |
| 1. Name of conveying party(ies):  | 2. Name and address of receiving party(ies):                      |  |  |  |  |  |
| Hiroki TANI   |   |  |  |  |  |  |
| Makoto YAMAGUCHI  | Name: DENSO CORPORATION   |  |  |  |  |  |
| Tetsuji KUDO  | Internal Address:   |  |  |  |  |  |
|   | Street Address: 1-1, Showa-cho                                    |  |  |  |  |  |
|   |   |  |  |  |  |  |
| Additional name/s of conveying party/ies attached?                          |   |  |  |  |  |  |
|   |   |  |  |  |  |  |
| 3. Nature of conveyance:  | City: Kariya-city, Aichi-pref.                                    |  |  |  |  |  |
| Assignment  | State/Country: Japan  |  |  |  |  |  |
| (Y) Security Assignment Change of Name                                      | Zip: <u>448-8661</u>  |  |  |  |  |  |
| Other Record to add the third inventor which                                |   |  |  |  |  |  |
| was omitted in the assign. recorded   |   |  |  |  |  |  |
| December 9, 2004, Reel 016070, Frame  |   |  |  |  |  |  |
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|   |   |  |  |  |  |  |
| Execution Date: November 4, November 4, November 8,                         | Additional name/s & address/es attached?  Yes No                  |  |  |  |  |  |
| November 12, 2004 respectively  |   |  |  |  |  |  |
|   |   |  |  |  |  |  |
| 4. Application number(s) or patent number(s):                               |   |  |  |  |  |  |
| If this document is being filed together with a new application, the execut | ion date of the application is:                                   |  |  |  |  |  |
|   |   |  |  |  |  |  |
| A. Patent Application No(s).  | B. Patent No(s).  |  |  |  |  |  |
| (1) 11/007,287  | (1)   |  |  |  |  |  |
| (2)   | (2)   |  |  |  |  |  |
| (3)   |   |  |  |  |  |  |
| Additional numbers a  |   |  |  |  |  |  |
| 5. Name and address of party to whom correspondence                         | 6. Total number of applications & patents involved: 1             |  |  |  |  |  |
| concerning document should be mailed:                                       |   |  |  |  |  |  |
|   | 7. Total fee (37 CFR 3.41) (8021) \$ 40.00                        |  |  |  |  |  |
| Name: Larry S. Nixon  |   |  |  |  |  |  |
| $oldsymbol{b}$  | Authorized to be charged to deposit account #14-1140              |  |  |  |  |  |
| Internal Address:   |   |  |  |  |  |  |
|   | 8. The Commissioner is hereby authorized to charge any            |  |  |  |  |  |
| Street Address: Nixon & Vanderhye P.C.                                      | deficiency in the fee(s) filed, or asserted to be filed, or which |  |  |  |  |  |
| 901 North Glebe Road  | should have been filed herewith (or with any paper thereafter     |  |  |  |  |  |
| 11th Floor  | filed in this application by this firm) to our Account No.        |  |  |  |  |  |
| City: Arlington State: VA Zip: 22203  | 14-1140.  |  |  |  |  |  |
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| To the best of my knowledge and belief, the foregoing inform                | ation is true and correct and any attached copy is a true copy    |  |  |  |  |  |
| of the original document.   |   |  |  |  |  |  |
| $\mathcal{H}$   | · VI ·  |  |  |  |  |  |
| Larry S. Nixon  | June 30, 2005   |  |  |  |  |  |
| Name of Person Signing Sign   | nature Date   |  |  |  |  |  |
| Reg. No. 25,640   |   |  |  |  |  |  |
|   | ginal cover sheet, attachments, and document: [6]                 |  |  |  |  |  |
| 07/05/2005 EC00PER 00000209 11007287  |   |  |  |  |  |  |
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## RECORDA



Our Ref.: 2018-9

| Mail Stop Assignment Recordation Services   |   | _        |  |  |  |  |
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| Commissioner of Patents   | -2300895  | <u>و</u> |  |  |  |  |
| P.O. Box 1450 12-09-04  |   | 00       |  |  |  |  |
| Alexandria, VA 22313-1450  To the Honorable Commissioner of Patents and Trademarks: Plea  | ase record the attached original documents or conv thereof.         | SO T     |  |  |  |  |
| Name of conveying party(ies):     Hiroki TANI   | 2. Name and address of receiving party(ies):                        | 141      |  |  |  |  |
| Makoto YAMAGUCHI  | Name: DENSO CORPORATION   | 122      |  |  |  |  |
| Koji MIZUKUSA   | Internal Address: Street Address: 1-1, Showa-cho                    |          |  |  |  |  |
| Additional name/s of conveying party/ies attached?  |   |          |  |  |  |  |
| 3. Nature of conveyance:  | City: Kariya-city, Aichi-pref.                                      |          |  |  |  |  |
|   | State/Country: Japan  |          |  |  |  |  |
| Security Assignment Change of Name Other  | Zip: <u>448-8661</u>  |          |  |  |  |  |
| Execution Date: November 4, 4, 8, and 12, 2004  | Additional name/s & address/es attached?   Yes   Yes                | No       |  |  |  |  |
| 4. Application number(s) or patent number(s):  If this document is being filed together with a new application, the execution date of the application is:  November 4, 4, 8, and 12, 2004 |   |          |  |  |  |  |
| A. Patent Application No(s).  | B. Patent No(s).  |          |  |  |  |  |
| (1)   | (1)   |          |  |  |  |  |
| (2)   | (2)   | ,        |  |  |  |  |
| (3)   | (3)   |          |  |  |  |  |
| Additional numbers at   |   |          |  |  |  |  |
| 5. Name and address of party to whom correspondence concerning document should be mailed:   | 6. Total number of applications & patents involved:                 |          |  |  |  |  |
| Name: Larry S. Nixon  | 7. Total fee (37 CFR 3.41) \$ 40.00<br>Enclosed                     |          |  |  |  |  |
| Internal Address:   | Authorized to be charged to deposit account #14-                    | 1140     |  |  |  |  |
|   | 8. The Commissioner is hereby authorized to charge any              |          |  |  |  |  |
| Street Address: Nixon & Vanderhye P.C.  | deficiency in the fee(s) filed, or asserted to be filed, or w       |          |  |  |  |  |
| 1100 North Glebe Road  8th Floor  | should have been filed herewith (or with any paper there            | I .      |  |  |  |  |
| City: Arlington State: VA Zip: 22201  | filed in this application by this firm) to our Account No. 14-1140. |          |  |  |  |  |
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| 9. Statements and signature.  |   |          |  |  |  |  |
| To the best of my knowledge and belief, the foregoing information of the original document.   | tion is true and correct and any attached copy is a true copy       |          |  |  |  |  |
| Larry S. Nixon  | December 9, 2004  |          |  |  |  |  |
| Name of Person Signing Reg. No. 25,640  | ture Date   |          |  |  |  |  |
| Total number of pages including original cover sheet, attachments, and document: [3]  |   |          |  |  |  |  |

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## ASSIGNMENT OF U.S. PATENT APPLICATION

| (lı  | nventors)   | Hiroki Ta  | ıni   |               |                                |                          |  |  |
|--|-------------|--|---|---------------|--------------------------------|--------------------------|--|--|
|  |             | Makoto Y   | /amaguchi                                   |               |                                |                          |  |  |
|  |             | Tetsuji K  |   |               |                                |                          |  |  |
|  |             | Koji Mizu  |   |               |                                |                          |  |  |
|  |             |  |   |               | r (\$1.00) and other god       |                          |  |  |
|  |             |  |   |               | the undersigned agree          | e(s) to assign, and      |  |  |
| /^   | .ssignee)   | DENSO COR  | gn, transfer and set ov                     | erto          | a corporation of               | Japan                    |  |  |
|  | .ddress)    |  |   | of 118-       |                                | оаран                    |  |  |
| \_   | uui ess,    | 1-1, Showa-cho, Kariya-city, Aichi-pref., 448-8661 Japan (hereinafter designated as the Assignee) the undersigned's entire right, title and interest for |   |               |                                |                          |  |  |
|  |             | the United States, its territories, dependencies and possessions in the invention, and all   |   |               |                                |                          |  |  |
|  |             | applications for patent and any Letters Patent which may be granted therefore, known as  |   |               |                                |                          |  |  |
| (T   | itle)       |  | <u>-</u>                                    |               | VITH BUBBLE IN FLU             |                          |  |  |
| •  |             |  |   |               | on even date herewith          |                          |  |  |
|  |             | patent in the Unite  |   |               | on even date, then has         |                          |  |  |
|  |             | <del></del>  | or has already                              | filed U.S     | , application Serial No        | ), on                    |  |  |
|  |             | <del></del> .  |   |               |                                |                          |  |  |
|  |             |  | acknowledges an oblighe the invention was r |               | assignment of this inv         | ention to said           |  |  |
|  | The unde    | -  |   |               | ments necessary in co          | praction with the        |  |  |
| applic   |             |  |   |               |                                | pplications thereof and  |  |  |
|  |             |  |   |               | olications as the Assign       |                          |  |  |
|  |             |  |   |               | be necessary in conne          |                          |  |  |
|  |             |  |   |               | ial Property or similar a      |                          |  |  |
|  | The unde    | ersigned agree(s) to   | o perform ail affirmativ                    | ve acts w     | hich may be necessar           | y to obtain a grant of a |  |  |
| valid (  |             | s patent to the Ass  |   |               | •                              | ,                        |  |  |
|  | The unde    | ersigned hereby aut  | thorize(s) and request                      | t(s) the C    | Commissioner of Paten          | its to issue any and all |  |  |
|  | s Patent of | the United States r  | esulting from said app                      | dication      | or any division or divisi      | ions or continuing       |  |  |
|  |             |  |   |               |                                | covenants that he has    |  |  |
| (they have) full right to convey the entire interest herein assigned, and that he has (they have) not executed and                           |             |  |   |               |                                |                          |  |  |
| will not execute, any agreement in conflict herewith.  |             |  |   |               |                                |                          |  |  |
| The undersigned hereby grant(s) the firm of NIXON & VANDERHYE P.C. 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 Office for recordation of this document. It is understood and agreed that ASSIGNEE'S                                    |             |  |   |               |                                |                          |  |  |
| attorneys Nixon & Vanderhye P.C. have represented only ASSIGNEE and will continue to represent only ASSIGNEE with respect to this invention. |             |  |   |               |                                |                          |  |  |
|  |             |  |   |               |                                |                          |  |  |
| In witness whereof, executed by the undersigned on the date(s) opposite the undersigned signature(s).  |             |  |   |               |                                |                          |  |  |
|  |             |  |   |               |                                |                          |  |  |
| _  |             |  |   |               | 11017                          |                          |  |  |
| Date   | 200         | 4.11.04  | Signature of inventor                       | r _           | Hiroki lanı                    |                          |  |  |
|  |             |  |   |               | Hiroki Tani 🕜                  |                          |  |  |
| Date   | 260         | U 11 n(1   | Cimakina of income                          | _             | Makety Ye man                  | 1                        |  |  |
| Date   |             | <u> </u>   | Signature of inventor                       | г<br><u>—</u> | Makuto Yumagu Makoto Yamaguchi | 1chi                     |  |  |
|  |             |  |   |               | wakoto Yamaguchi               | y                        |  |  |
| Date   | 2004        | 11.08  | Signature of inventor                       | r             | Terchio Kil.                   |                          |  |  |
|  |             | ······································   | <b>.</b>                                    | _             | Tetsuji Kudo                   |                          |  |  |
|  | , ,         |  |   |               | ,                              | 1                        |  |  |
| Date   | 2004        | ト、リーノン   | Signature of inventor                       | <b>r</b>      | Koji Mizul                     | ausa -                   |  |  |
|  |             |  |   |               | Koji Mizukusa 📝                |                          |  |  |

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PATENT REEL: 016738 FRAME: 0551