504039846 10/06/2016

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4086507

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|-------------------|----------------|
| HIROKI GOTO | 07/12/2016 |
| TSUYOSHI YOSHIDA | 07/13/2016 |
| KIYOSHI ONOHARA | 07/12/2016 |
| TAKASHI SUGIHARA | 07/12/2016 |
| KAZUO KUBO | 07/12/2016 |
| TATSUYA KOBAYASHI | 07/12/2016 |
| KEISUKE MATSUDA | 07/21/2016 |
| MASASHI BINKAI | 07/13/2016 |

RECEIVING PARTY DATA

| Name: | MITSUBISHI ELECTRIC CORPORATION |
|-----------------|-------------------------------------|
| Street Address: | 7-3, Marunouchi 2-chome, Chiyoda-ku |
| City: | Tokyo |
| State/Country: | Japan |
| Postal Code: | 100-8310 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 15302382 |

CORRESPONDENCE DATA

Fax Number: (703)413-2220

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: (703) 413-3000

Email: rsheldon@oblon.com

Correspondent Name: OBLON, ET AL.

Address Line 1: 1940 DUKE STREET

Address Line 4: ALEXANDRIA, VIRGINIA 22314

| ATTORNEY DOCKET NUMBER: | 473410US20PCT |
|-------------------------|----------------|
| NAME OF SUBMITTER: | RYAN SHELDON |
| SIGNATURE: | /Ryan Sheldon/ |

PATENT 89846 REEL: 039959 FRAME: 0805

504039846

| DATE SIGNED: | 10/06/2016 |
|----------------------------------------------------|----------------|
| Total Attachments: 8 | |
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| source=Declaration and Assignment-08 | 1416#page7.tif |
| source=Declaration and Assignment-08 | 1416#page8.tif |

| OPTICAL TRANSMISSION METHOD AND OPTICAL TRANSMISSION SYSTEM | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| s the below named inventor, I hereby declare that: | |
| his declaration The attached application, or | |
| directed to: United States application or PCT international application number PCT/JP2015/061669 filed on April 16, 2015 | |
| he above-identified application was made or authorized to be made by me. | |
| believe that I am the original inventor or an original joint inventor of a claimed invention in the application. | |
| WHEREAS, Mitsubishi Electric Corporation mereinafter referred to as "ASSIGNEE") having places of business at: 7-3, Marunouchi 2-chome, Chiyoda-ku, OKYO 100-8310 JAPAN, is desirous of acquiring the entire right, title and interest in and to said invention and in any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any all foreign countries; | |
| NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby eknowledged, and for other good and valuable consideration, I, by these presents do sell, assign and transfer unto aid ASSIGNEE, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries (including the right to claim priority under the terms of the International Convention and ther relevant International Treaties and Arrangements from the aforesaid application) and the entire right, title and atterest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial ossessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, abstitutions and renewals thereof. | |
| I hereby authorize and request the Patent Office Officials in the United States and its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my entire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its (his) 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 by me had this Assignment and sale not been made. | |
| Further, I agree that I will communicate to said ASSIGNEE or its (his) representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries. | |
| I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 y fine or imprisonment of not more than five (5) years, or both. | |
| EGAL NAME OF INVENTOR | |
| nventor: Hiroki GOTO Date: July /2, 20/6 | |
| ignature: Hiroki Goto | |

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P.

ATTORNEYS AT LAW 1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314

| Title of Invention | OPTICAL TRANSMISSION METHOD AND OPTICAL TRANSMISSION SYSTEM |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| As the below name | d inventor, I hereby declare that: |
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| acknowledged, and said ASSIGNEE, the and in all foreign cother relevant Inter- interest in and to a | FORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby I for other good and valuable consideration, I, by these presents do sell, assign and transfer unto the full and exclusive right to the said invention in the United States and its territorial possessions countries (including the right to claim priority under the terms of the International Convention and mational Treaties and Arrangements from the aforesaid application) and the entire right, title and any and all Letters Patent which may be granted therefor in the United States and its territorial any and all foreign countries and in and to any and all divisions, reissues, continuations, enewals thereof. |
| any and all foreign assignee of my ent (his) successors an | ize and request the Patent Office Officials in the United States and its territorial possessions and a countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the ire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its d assigns, to the full end of the term for which said Letters Patent may be granted, as fully and a would have been held by me had this Assignment and sale not been made. |
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| I hereby acknow by fine or imprison | vledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 ment of not more than five (5) years, or both. |
| LEGAL NAME O | |
| Inventor: Tsuyos | |
| Signature: | suyoshi Yoshida |

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P.
ATTORNEYS AT LAW
1940 DUKE STREET
ALEXANDRIA, VIRGINIA 22314

| Title of Invention | OPTICAL TRANSMISSION METHOD AND OPTICAL TRANSMISSION SYSTEM |
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| any and all foreign assignee of my enti (his) successors and | ze and request the Patent Office Officials in the United States and its territorial possessions and countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the ire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its d assigns, to the full end of the term for which said Letters Patent may be granted, as fully and a would have been held by me had this Assignment and sale not been made. |
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| I hereby acknow | vledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 ment of not more than five (5) years, or both. |
| LEGAL NAME OF | |
| Inventor: Kiyosh | i ONOHARA Date: July 12, 2016 |
| Signature: | Keyoshi Onohara |

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P. ATTORNEYS AT LAW 1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314

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| (hereinafter referre TOKYO 100-8310 and to any Letters and all foreign cour | · |
| acknowledged, and said ASSIGNEE, the and in all foreign cother relevant Inter- interest in and to a | FORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby if for other good and valuable consideration, I, by these presents do sell, assign and transfer unto the full and exclusive right to the said invention in the United States and its territorial possessions countries (including the right to claim priority under the terms of the International Convention and mational Treaties and Arrangements from the aforesaid application) and the entire right, title and any and all Letters Patent which may be granted therefor in the United States and its territorial and any and all foreign countries and in and to any and all divisions, reissues, continuations, enewals thereof. |
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| LEGAL NAME O | |
| Inventor: Takash | i SUGIHARA Date: July 12, 2016 |
| Signature: | abashi Sujihan |

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P. ATTORNEYS AT LAW 1940 DUKE STREET

ALEXANDRIA, VIRGINIA 22314

| Title of Invention | OPTICAL TRANSMISSION METHOD AND OPTICAL TRANSMISSION SYSTEM | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--|
| As the below name | d inventor, I hereby declare that: | |
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| LEGAL NAME O | F INVENTOR | |
| Inventor: Kazuo | KUBO Date: July 12, 20/6 | |
| Signature: | Kazuo Kuhr | |

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P.
ATTORNEYS AT LAW
1940 DUKE STREET

ALEXANDRIA, VIRGINIA 22314

| Title of Invention | SYSTEM SYSTEM | |
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| As the below name | As the below named inventor, I hereby declare that: | |
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| LEGAL NAME O | | |
| Inventor: Tatsuy | a KOBAYASHI Date: July 12, 20/6 | |
| Signature: 40 | itonya Kobayashi | |

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P.
ATTORNEYS AT LAW
1940 DUKE STREET
ALEXANDRIA, VIRGINIA 22314

| ľ | OPTICAL TRANSMISSION METHOD AND SYSTEM | OPTICAL TRANSMISSION |
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| LEGAL NAME OF | | |
| Inventor: Keisuke | MATSUDA | Date: July 21 2016 |
| Signature: | Keisuke Matsuda | |

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P.
ATTORNEYS AT LAW
1940 DUKE STREET
ALEXANDRIA, VIRGINIA 22314

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| LEGAL NAME O | | |
| Inventor: Masash | | |
| Signature: <u>Masashi Rinfai</u> | | |

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P.
ATTORNEYS AT LAW
1940 DUKE STREET
ALEXANDRIA, VIRGINIA 22314

PATENT REEL: 039959 FRAME: 0814

RECORDED: 10/06/2016