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|  | riginal documents or copy thereof.  |
| 1. Name of conveying party(ies): Hiroki Ikeda  | Name and address of receiving party(ies):   |
| Shigeki Kitajima 10-18-02  | Name: Hitachi America, Ltd.   |
| Shoichi Hanatani   | Internal Address: Intellectual Property Group   |
| Additional namc(s) of conveying party(ies) attached? Yes   |   |
| 3. Nature of Conveyance:  ☐ Merger   | Street Address: 2000 Sierra Point Parkway   |
| Security Agreement Change of N   |   |
| Other  | City Brisbane State CA Zip 94005  |
| Execution Date: !0/04/02   | Additional name(s) and address(es) attached?   Yes No   |
| 4. Application number(s) or patent number(s):  |   |
| If this document is being filed together with a new appli  | ication, the execution date of the application is: 10/04/02   |
| A. Patent Application No.(s)   | B. Patent No.(s)  |
|  | 10/244244   |
| Additional numbers   | s attached?  Yes No   |
| 5. Name and address of party to whom correspondence  | 6. Total number of applications and patents involved: 1   |
| concerning document should be mailed:  |   |
| Name: David Cunningham Internal Address: Hitachi America, Ltd.   | 7. Total Fee (37 CFR 3.41):\$   |
| Legal Group  | <ul><li>☑ Enclosed</li><li>☑ Authorized to be charged to Deposit Account</li></ul>  |
| Street Address: 50 Prospect Avenue   |   |
| City: Tarrytown State: NY Zip 10591  | 8. Deposit Account Number: 08-2393  |
| City. Tarrytown State. 141 Zip 10221   | (Attach duplicate copy of this page if paying by deposit account)   |
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| P. al Cumpinguan   | Jan ( Jul 8/02  |
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| Management and Budget, Faperwork Reduction Froject, (0031-0011),   | , mainington, Dict. accord  |

EXPRESS MAIL NO. EU148449175US

## PATENT ASSIGNMENT

**HAL 219** 

The undersigned, as an inventor of the invention and/or discovery entitled OPTICAL PROTECTION SWITCHING USING 2 BY 2 SWITCHING FUNCTIONS desires to assign to

Hitachi America, Ltd., a corporation organized and existing under the laws of the United States and whose corporate offices are located at

2000 Sierra Point Parkway Brisbane, CA 94005

which, together with its successors and assigns, hereinafter called "Assignee", is desirous of acquiring the title, rights, benefits and privileges hereinafter recited, and of confirming the same or any part thereof acquired by Assignee.

NOW, THEREFORE, for valuable consideration furnished by Assignee to me, receipt and sufficiency of which I hereby acknowledge, I hereby without reservation:

- 1. Assign and convey to and confirm in Assignee the entire right, title and interest in and to said invention and discovery, any and all applications for Letters Patent of the United States of America, any and all other applications for Letters Patent on said invention and discovery in whatever countries, including all divisional, renewal, substitute, continuation and Convention applications based in whole or in part upon said invention or discovery or upon said applications, and all Letters Patent and reissues and extensions of Letters Patent granted for said invention and discovery or upon said applications and every priority right that it may be predicated upon or arise from said inventions, said discovery, said applications and said Letters Patent;
- Authorize Assignee to file patent applications in any or all countries on any or all of said invention and discovery in my name or in the name of Assignee or otherwise as Assignee may deem advisable, under the International Convention or otherwise;
- 3. Authorize and request the Commissioner of Patents of the United States of America and the empowered officials of all other governments to issue or transfer all said Letters Patent to Assignee, as assignee of the entire right, title and interest therein or otherwise as Assignee may direct;
- 4. Warrant that I have not knowingly conveyed to others any right in said invention, discovery, applications or patents or any license to use the same or to make, use or sell anything embodying or utilizing any of said invention or discovery; and that I have the right to assign the same to Assignee without encumbrance;
- 5. Bind my heirs and legal representatives, as well as myself, to do, upon Assignee's request and at its expense, but without additional consideration to me or them, all acts reasonable serving to assure that said invention and discovery, said patent applications and said Letters Patent shall be held and enjoyed by Assignee as fully and entirely as the same could have been held and enjoyed by me or my heirs or representatives if this Assignment had not been made; and particularly to execute and deliver to Assignee all lawful application documents including petitions,

specifications, and others, and all assignments, disclaimers, and law affidavits in the form and substance as may be requested by Assignee; to communicate to Assignee all facts known to me relating to said invention and discovery or the history thereof; and to furnish Assignee with any and all documents, photographs, models, samples and other physical exhibits in my control or in the control of my heirs or legal representatives and which may be useful for establishing the facts of my conceptions, disclosures and reduction to practice of said invention and discovery.

| The effective date of this instrument is the $\underline{\psi}$   | th day of <u>October</u>  | , 200 <u>-2</u> .                   |  |  |
|---|---|-------------------------------------|--|--|
| First Assignor's Name: Ikeda (last)<br>Citizenship: Japan   | Hiroki (first)  | (no middle)                         |  |  |
| Signature: Has Blda   | 10/04/2002  |                                     |  |  |
| Second Assignor's Name: Kitajima (last)<br>Citizenship: Japan   | Shigeki (first)   | (no middle)                         |  |  |
| Signature:  | _   |                                     |  |  |
| Third Assignor's Name: Hanatani (last)<br>Citizenship: Japan  | Shoichi (first)   | (no middle)                         |  |  |
| Signature:  | Date:   |                                     |  |  |
| IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal this day of, 200  |   |                                     |  |  |
| STATE OF ) ) ss.:   |   |                                     |  |  |
| COUNTY OF )   |   |                                     |  |  |
| On this day of, 200_, before personally appeared the above-named individue to be the individual who is described in an Assignment, and who duly acknowledged to make the own voluntary act and deed for the use | uals to me known and id who executed the former that he/she execute | each known to regoing d the same as |  |  |
| Notary Public h:\\Patent\Earn\Assign1   |   |                                     |  |  |

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- Authorize Assignee to file patent applications in any or all countries on any or all of said invention and discovery in my name or in the name of Assignee or otherwise as Assignee may deem advisable, under the International Convention or otherwise;
- 3. Authorize and request the Commissioner of Patents of the United States of America and the empowered officials of all other governments to issue or transfer all said Letters Patent to Assignee, as assignee of the entire right, title and interest therein or otherwise as Assignee may direct;
- 4. Warrant that I have not knowingly conveyed to others any right in said invention, discovery, applications or patents or any license to use the same or to make, use or sell anything embodying or utilizing any of said invention or discovery; and that I have the right to assign the same to Assignee without encumbrance;
- 5. Bind my heirs and legal representatives, as well as myself, to do, upon Assignee's request and at its expense, but without additional consideration to me or them, all acts reasonable serving to assure that said invention and discovery, said patent applications and said Letters Patent shall be held and enjoyed by Assignee as fully and entirely as the same could have been held and enjoyed by me or my heirs or representatives if this Assignment had not been made; and particularly to execute and deliver to Assignee all lawful application documents including petitions,

| heirs or legal r<br>my conceptior<br>discovery.            | epresentatives and which mades, disclosures and reductions.  | ay be useful for estation to practice of                            | blishing the facts of said invention and    |
|--|--|---|---|
| The effective date   | of this instrument is the ${rac{\mathcal{D}}{2}}$   | nd day of October   | , 200 <u>2</u> .                            |
| <b>First Assignor's</b><br>Citizenship:                    | <b>Name:</b> Ikeda (last)<br>Japan   | Hiroki (first)  | (no middle)                                 |
| Signature:   |  | _   |   |
| Second Assigno<br>Citizenship:                             | <b>r's Name:</b> Kitajima (last)<br>Japan  | Shigeki (first)   | (no middle)                                 |
| Signature:   | highi Kityra   |   | 02/2002                                     |
| Third Assignor's<br>Citizenship:                           | <b>Name:</b> Hanatani (last)<br>Japan  | Shoichi (first)   | (no <sup>-</sup> middle)                    |
| Signature:   |  | Date:   |   |
| IN WITNESS WHE   | EREOF, I have hereunto set r<br>200  | my hand and affixed   | my seal this                                |
| STATE OF   | )<br>) ss.:<br>)   |   |   |
| COUNTY OF  | )  |   |   |
| personally appear<br>me to be the indiv<br>Assignment, and | of, 200_, before red the above-named individual who is described in ar who duly acknowledged to natary act and deed for the us | luals to me known ar<br>nd who executed the<br>ne that he/she execu | nd each known to foregoing ited the same as |
| Notary Public h:\\P  | atent\Form\Assign1   |   |   |

specifications, and others, and all assignments, disclaimers, and law affidavits in the form and substance as may be requested by Assignee; to communicate to Assignee all facts known to me relating to said invention and discovery or the history thereof; and to furnish Assignee with any and all documents, photographs, models, samples and other physical exhibits in my control or in the control of my

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**RECORDED: 10/18/2002** 

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| The effective date                                   | e of this instrument is the $3$  | nd day of October  | , 2002.                                   |
|--|--|--|---|
| <b>First Assignor's</b><br>Citizenship:              | <b>Name:</b> Ikeda (last)<br>Japan   | Hiroki (first)   | (no middle)                               |
| Signature:   |  | _  |   |
| Second Assigno<br>Citizenship:                       | r <b>'s Name:</b> Kitajima (last)<br>Japan   | Shigeki (first)  | (no middle)                               |
| Signature:   |  |  |   |
| Third Assignor' Citizenship:                         | s Name: Hanatani (last)<br>Japan   | Shoichi (first)  | (no middle)                               |
| Signature:   | The state of the s | Date: <u>/0/o</u>  | 3/02                                      |
| IN WITNESS WH day of                                 | EREOF, I have hereunto set<br>_, 200   | my hand and affixed r  | ny seal this                              |
| STATE OF   | )<br>) ss.:  |  |   |
| COUNTY OF  | j  |  |   |
| personally appearme to be the ind<br>Assignment, and | of, 200_, before<br>ared the above-named indivi<br>ividual who is described in a<br>who duly acknowledged to<br>intary act and deed for the t  | iduals to me known and who executed the filme that he/she executed that he/she executed the second in the second i | d each known to foregoing ted the same as |
| Notary Public h:\\                                   | Patent\Form\Assign1  |  |   |