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1-31-92

U.S. DEPARTMENT OF COMMERCE  
Patent and Trademark Office

To the Honorable Commissioner of Patents and Trademarks. Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Hisato ISHIMOTO

Yoshinori TAKAHASHI

*04/17/02*

Additional name(s) of conveying party(ies) attached?  Yes  No

2. Name and address of receiving party(ies):

Name: Mitsubishi Denki Kabushiki Kaisha

Address: 1-2, Marunouchi 2-chome, Chiyoda-ku, TOKYO  
100-8310 JAPAN

3. Nature of Conveyance:

- Assignment  Merger
- Security Agreement  Change of Name
- Other

Execution Date: February 25, 2002

Additional name(s) and address(es) attached?  Yes  No

4. Application number(s) or patent number(s):

*10/110203*

If this document is being filed together with a new application, the execution date of the application is: February 25, 2002

A. Patent Application No.(s)

B. Patent No.(s)

Additional numbers attached?  Yes  No

5. Name and address of party to whom correspondence concerning document should be mailed:



22850

6. Total applications and patents involved: 1

7. Total fee (37 CFR 3.41): \$40.00

- Enclosed
- Authorized to be charged to deposit account

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*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.*

Marvin J. Spivak

Name of Person Signing

*Surinder Sachar*

Signature

*April 17, 2002*

Date

Registration Number: 24,913

**Surinder Sachar**  
**Registration No. 34,423**

Total number of pages including this cover sheet: 2

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Mail documents to be recorded with required cover sheet information to:

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**PATENT**  
**REEL: 013093 FRAME: 0174**

ASSIGNMENT

In consideration of the premises and other good and valuable consideration in hand paid, the receipt and sufficiency of which is hereby acknowledged, the undersigned,

- (1) Hisato ISHIMOTO (4) (7)
(2) Yoshinori TAKAHASHI (5) (8)
(3) (6) (9)

who have made a certain new and useful invention, hereby sell, assign and transfer unto

Mitsubishi Denki Kabushiki Kaisha of
2-3, Marunouchi 2-chome, Chiyoda-ku, TOKYO 100-8310 JAPAN

its successors and assigns (hereinafter designated "ASSIGNEE") the entire right, title and interest for the United States of America as defined in 35 U.S.C. 100 in the invention entitled

pi/2 PHASE SHIFTER

(a) for which an application for United States Letters Patent was filed on and identified by United States Serial No. ; or

(b) for which an application for United States Letters Patent was executed on February 25, 2002

and the undersigned hereby authorize and request the United States Commissioner of Patents and Trademarks to issue any and all United States Letters Patent which may be granted therefor and any and all extensions, divisions, reissues, substitutes, renewals, continuations, or continuations-in-part thereof, and the right to all benefits under the International Convention for the Protection of Industrial Property to the said ASSIGNEE, for its interest as ASSIGNEE, its successors, assigns and legal representatives; the undersigned agree that the attorneys of record in said application shall hereafter act on behalf of said ASSIGNEE:

AND the undersigned hereby agree to transfer a like interest, and to render all necessary assistance in making application for and obtaining original, divisional, reissued or extended Letters Patent of the United States, upon request of the said ASSIGNEE, its successors, assigns and legal representatives, and without further remuneration, in and to any improvements, and applications for patent based thereon, growing out of or related to the said invention; and to execute any papers by the said ASSIGNEE, its successors, assigns and legal representatives, deemed essential to ASSIGNEE's full protection and title in and to the invention hereby transferred.

SIGNED on the dates indicated aside our signatures:

INVENTORS

DATE SIGNED

1) Hisato Ishimoto
Name: Hisato ISHIMOTO

February 25, 2002

2) Yoshinori Takahashi
Name: Yoshinori TAKAHASHI

February 25, 2002

3)
Name:

4)
Name:

5)
Name:

6)
Name:

7)
Name:

8)
Name:

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Name: