

FORM PTO-1593  
(Rev. 6-93)

U.S. DEPARTMENT OF COMMERCE  
Patent and Trademark Office

RF

09-22-2003

COVER SHEET



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To the Honorable Commissioner of Pa

to receive the attached original documents or copy thereof.

1. Name of conveying party(ies):

- A. Kazuhiro MAEDA
- B. Sachio TSUJINO
- C. Keiji TAKAHASHI
- D. Hajime WASHIO

9-15-03

Additional name(s) of conveying party(ies) attached?

Yes  No

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

Name: Sharp Kabushiki Kaisha  
 Address: 22-22, Nagaike-cho, Abeno-ku,  
 Osaka, Japan 545-8522

Additional name(s) & address(es) attached?

Yes  No

3. Nature of Conveyance:

- Assignment  Merger
- Security Agreement  Change of Name
- Other:

Execution Date: July 25, 2003

4. Application number(s) or patent number(s): 10/440,077, filed May 15, 2003

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

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:

Name: William J. Daley, Jr. (Reg. No.: 35,487)  
 Street Address: EDWARDS & ANGELL, LLP  
 P.O. Box 9169  
 City: Boston State: MA Zip: 02209

6. Total number of applications and patents involved: **[1]**

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

Authorized to be charged to deposit account for additional or excess fees.

8. Deposit account number: 04-1105  
(Attach duplicate copy of this page if paying by deposit account)

**DO NOT USE THIS SPACE**

9. Statement and signature. *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.*

William J. Daley, Jr., Reg. No. 35,487  
Name of Person Signing

*William Daley Jr*  
Signature

September 11, 2003  
Date

Total number of pages including cover sheet, attachments, and documents: **3**

OMB No. 0651-0011 (exp. 4/94)

2003 SEP 15 AM 7:13  
OPR/FINANCE

09/17/2003 ECOOPER 00000027 10440077  
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### ASSIGNMENT

WHEREAS, the following inventor(s): Kazuhiro MAEDA, Sachio TSUJINO, Keiji TAKAHASHI and Hajime WASHIO, hereinafter designated as the undersigned) has (have) invented certain new and useful improvements in

SIGNAL LINE DRIVE CIRCUIT AND DISPLAY DEVICE USING THE SAME

,for which application for Letters Patent of the United States has been filed on May 15, 2003, Serial No. 10/440,077; and

WHEREAS, SHARP KABUSHIKI KAISHA, a Japanese, corporation, having its principal place of business at Osaka, Japan, its heirs, successors, legal representatives and assigns (hereinafter designated as the Assignee) is desirous of acquiring the entire right, title and interest in and to said invention and to any Letters Patent(s) that may be granted therefor in the United States of America;

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) and other good and valuable consideration to the undersigned, the receipt of which is hereby acknowledged, the undersigned has (have) sold, assigned and transferred, and by these presents do sell, assign and transfer unto said Assignee the full and exclusive right to the said invention in the United States of America and its territories, dependencies and possessions and the entire right, title and interest in and to any and all Letters Patent(s) which may be granted therefor in the United States of America and its territories, dependencies and possessions, and in and to any and all divisions, reissues, continuations and extensions thereof for the full term or terms for which the same may be granted.

The undersigned agree(s) to execute all papers necessary in connection with this application and any continuing, divisional or reissue applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

The undersigned agree(s) to furnish all pertinent facts and documents relating to said application, said invention and said patent(s) as may be known and accessible to the undersigned, and will testify as to the same in any interference or litigation related thereto, and will promptly execute and deliver to Assignee any and all papers, instruments or affidavits necessary or desirable to apply for, obtain, maintain or enforce said application or said patent(s) in connection with any interference which may be declared, and any litigation concerning this application or any continuation, division or reissue thereof or Patent(s) or reissue patent(s) issued thereon, and to cooperate with the Assignee in every way possible in obtaining and producing evidence and proceeding with such interference or litigation.

The undersigned agree(s) to execute all papers and documents and to perform any act which may be necessary in connection with claims or provisions of the International Convention for the Protection of Industrial Property or similar agreements.

The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States patent(s) to the Assignee and to vest all rights therein hereby conveyed to said Assignee as fully and entirely as the same would have been held by the undersigned if this Assignment and sale had not been made.

The undersigned hereby grant(s) the law firm of Edwards & Angell, LLP, of P.O. Box 9169, Boston, Massachusetts 02209, U.S.A. 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 U.S. Patent and Trademark Office for recordation of this document.

The undersigned hereby authorize(s) and request(s) the Commissioner of Patents and Trademarks to issue any and all Letters Patents of the United States of America resulting from said application or any division or divisions or continuing or reissue applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he or she has the full right to convey the entire interest herein assigned, and that he or she has not executed, and will not execute, any agreement in conflict herewith.

In witness whereof, signed by the undersigned on the date(s) opposite the undersigned names.

Date: July 25, 2003

Signature of Inventor: Kazuhiro Maeda

Name: Kazuhiro MAEDA

Date: July 25, 2003

Signature of Inventor: Sachio Tsujino

Name: Sachio TSUJINO

Date: July 25, 2003

Signature of Inventor: Keiji Takahashi

Name: Keiji TAKAHASHI

Date: July 25, 2003

Signature of Inventor: Hajime Washio

Name: Hajime WASHIO

Date: \_\_\_\_\_

Signature of Inventor: \_\_\_\_\_

Name:

Date: \_\_\_\_\_

Signature of Inventor: \_\_\_\_\_

Name: