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COVER SHEET

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

Vertical stamp: JC997 U.S. PTO 10/157863 05/31/02

1. Name of conveying party(ies): [FAMILY NAME (ALL CAPS), Given Name] FUKAE, Fumihiro ICHIKAWA, Yuji
Additional name(s) of conveying party(ies) attached? [ ] YES [X] NO
2. Name and address of receiving party(ies) Name: SHARP KABUSHIKI KAISHA Internal Address: Street Address: 22-22 Nagaike-cho Abeno-ku City: Osaka State: ZIP: Country: JAPAN Postal Code: 545-8522
Additional name(s) & address(es) attached? [ ] YES [X] NO
3. Nature of conveyance: [X] Assignment [ ] Merger [ ] Security Agreement [ ] Change of Name [ ] Other:
Execution Date: May 9, 2002

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: May 9, 2002
A. Patent Application No(s). NEW 10,157863
B. Patent No.(s).
Additional numbers attached? [ ] YES [X] NO

5. Name and address of party to whom correspondence concerning document should be mailed: Name: BIRCH, STEWART, KOLASCH & BIRCH, LLP Street Address: P.O. BOX 747 City: FALLS CHURCH State: VA ZIP: 22040-0747 Country: USA
6. Total No. of applications/patents involved: ONE (1)
7. Total fee (37 C.F.R. § 3.41): \$40.00 [X] Enclosed [X] Authorized to be charged to deposit account, if no fee attached.
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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.
Terrell C. Birch, #19,382
Name of Person Signing/Reg. No.
Signature: [Handwritten Signature] #2271
Date: May 31, 2002

Total number of pages including cover sheet, attachments, and document: THREE (3)

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(Rov. 02/11/02)

# BIRCH, STEWART, KOLASCH & BIRCH, LLP

UNITED STATES PATENT RIGHTS, OR  
UNITED STATES PLUS ALL FOREIGN PATENT RIGHTS

## ASSIGNMENT

Application No. NEW

Filed May 31, 2002

Insert Name(s)  
of Inventor(s)

\*\*\*(FAMILY NAME (ALL CAPS), Given Name)\*\*\*

WHEREAS, FUKAE, Fumihiro ; ICHIKAWA, Yuji  
 \_\_\_\_\_ ; \_\_\_\_\_  
 \_\_\_\_\_ ; \_\_\_\_\_  
 \_\_\_\_\_ ; \_\_\_\_\_  
 \_\_\_\_\_ ; \_\_\_\_\_  
 \_\_\_\_\_ ; \_\_\_\_\_  
 \_\_\_\_\_ ; \_\_\_\_\_

(hereinafter designated as the undersigned) has (have) invented certain new and useful improvements in

Insert Title  
of Invention

TRANSMITTING AND RECEIVING CIRCUIT AND TRANSMITTING AND RECEIVING METHOD

for which an application for Letters Patent of the United States of America has been executed by the undersigned (except in the case of a provisional application).

Insert Date  
of Signing of  
Application

on May 9, 2002 ; and

Insert Name  
of Assignee

WHEREAS, SHARP KABUSHIKI KAISHA

Insert Address  
of Assignee

of 22-22 Nagaike-cho Abeno-ku Osaka 545-8522 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 in and to any Letters Patent(s) that may be granted therefor in the United States of America and

CHECK BOX  
IF APPROPRIATE

in any foreign countries.

NOW, THEREFORE, in consideration of the sum of Ten Dollars (\$10.00) to the undersigned in hand paid, the receipt of which is hereby acknowledged, and other good and valuable consideration, the undersigned has (have) sold, assigned and transferred, and by these presents does sell, assign and transfer unto said Assignee the full and exclusive right to the said invention in the United States of America, 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, its territories, dependencies and possessions, and if the box above is designated, in any and all foreign countries;

and to any and all divisions, reissues, continuations, conversions 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, conversion 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 execute all papers necessary in connection with any interference which may be declared concerning this application or continuation, division, conversion or reissue thereof or Letter Patent(s) or reissue patent issued thereon and to cooperate with the Assignee in every way possible in obtaining and producing evidence and proceeding with such interference.

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 of America patent(s) or a grant of a valid United States of America and any foreign 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 authorize(s) and request(s) the Patent and Trademark Office Officials in the United States of America and in any foreign countries to issue any and all Letters Patents resulting from said application or any continuing, divisional conversion or reissue applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has (they have) the 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 law firm of Birch, Stewart, Kolasch & Birch, LLP 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 covenant(s) that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

Date May 9, 2002, Name of Inventor Fumihiko Fukae  
 (signature) FUKAE, Fumihiro

Date May 9, 2002, Name of Inventor Yuji Ichikawa  
 (signature) ICHIKAWA, Yuji

Date \_\_\_\_\_, Name of Inventor \_\_\_\_\_  
 (signature)

Date \_\_\_\_\_, Name of Inventor \_\_\_\_\_  
 (signature)

Date \_\_\_\_\_, Name of Inventor \_\_\_\_\_  
 (signature)

Date \_\_\_\_\_, Name of Inventor \_\_\_\_\_  
 (signature)