

05-21-1999

FLH Ref. No.: 450100-4770

5.17.99



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To the Honorable Commissioner of Patents

Please record the attached original documents or copy thereof.

1. Name of conveying party(ies)

Norikazu ITO, Hiroyuki FUJITA, Satoshi YONEYA, Masakazu YOSHIMOTO, Satoshi KATSUO, Jun YOSHIKAWA, Satoshi YUTANI, Koichi SATO, Tomohisa SHIGA, Masaki HIROSE

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

2. Name and address of receiving party(ies)

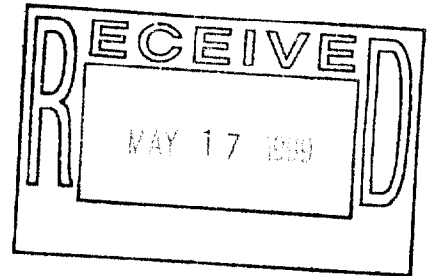
Name: SONY CORPORATION
7-35 Kitashinagawa 6-chome
Shinagawa-Ku, Tokyo 100-31, Japan

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

3. Nature of conveyance:

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

Execution Date(s): April 8, April 26, April 8, April 9, April 9, April 9, April 12, April 12, April 9, and April 11, 1999 respectively.



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:

A. Patent Application No.(s) 09/251,115 filed February 16, 1999

Additional numbers attached? Yes No

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

Name: WILLIAM S. FROMMER
Internal Address: FROMMER LAWRENCE & HAUG LLP
Street Address: 745 FIFTH AVENUE
City: NEW YORK State: N.Y. Zip: 10151

6. Total number of applications and patents involved

1

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

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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.

For: WILLIAM S. FROMMER
Name of Person Signing

Gordon Kessler
Signature

May 14, 1999

Date

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19990107

ASSIGNMENT

WHEREAS, I, as below named inventors, residing at the addresses stated next to our names, am a sole inventor (if only one name is listed below) or a joint inventor (if plural names are listed below) of certain new and useful improvements in

DATA OUTPUT DEVICE AND DATA OUTPUT METHOD

for which application for Letters Patent of the United States of America was executed by me on the date indicated next to my name and address;

AND WHEREAS, SONY CORPORATION, a Japanese corporation, with offices at 7-35 Kitashinagawa 6-Chome, Shinagawa-Ku, Tokyo 141, Japan (hereinafter referred to as ASSIGNEE) is desirous of acquiring all interest in, to and under said invention, said application disclosing the invention and in, to and under any Letters Patent or similar legal protection which may be granted therefor in the United States and in any and all foreign countries;

NOW THEREFORE, in consideration of the sum of One Dollar (\$1.00), and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I, as a sole or joint inventor as indicated below, by these presents do hereby assign, sell and transfer unto the said ASSIGNEE, its successors, assigns, and legal representatives, the entire right, title and interest in the said invention, said application, including any divisions and continuations thereof, and in and to any and all Letters Patent of the United States, and countries foreign thereto, which may be granted for said invention, and in and to any and all priority rights and/or convention rights under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States of America adheres, and to any other benefits accruing or to accrue to me with respect to the filing of applications for patents or securing of patents in the United States and countries foreign thereto, and I hereby authorize and request the Commissioner of Patents to issue the said United States Letters Patent to said ASSIGNEE, as the assignee of the whole right, title and interest thereto;

And I further agree to execute all necessary or desirable and lawful future documents, including assignments in favor of ASSIGNEE or its designee, as ASSIGNEE or its successors, assigns and legal representatives may from time-to-time present to me and without further remuneration, in order to perfect title in said invention, modifications, and improvements in said invention, applications and Letters Patent of the United States and countries foreign thereto;

And I further agree to properly execute and deliver and without further remuneration, such necessary or desirable and lawful papers for application for foreign patents, for filing subdivisions of said application for patent, and or, for obtaining any reissue or reissues of any Letters patent which may be granted for my aforesaid invention, as the ASSIGNEE thereof shall hereafter require and prepare at its own expense;

And I further agree that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said application, said invention and said Letters Patent and legal equivalents in foreign countries as may be known and accessible to me and will testify as to the same in any interference or litigation related thereto;

And I hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment and sale.

And I hereby authorize and request my attorney(s) of record in this application to insert the serial number and filing date of this application in the spaces that follow: Serial Number: 09/251,115, Filing Date: February 16, 1999.

This assignment executed on the dates indicated below.

Norikazu ITO

Name of first or sole inventor	Execution date of U.S. Patent Application
Kanagawa, Japan	
Residence of first or sole inventor	
<i>Norikazu Ito</i>	<i>Apr. 8, 1999</i>
Signature of first or sole inventor	Date of this assignment

Hiroyuki FUJITA

Name of second inventor	Execution date of U.S. Patent Application
Kanagawa, Japan	
Residence of second inventor	
<i>Hiroyuki Fujita</i>	<i>Apr. 26, 1999</i>
Signature of second inventor	Date of this assignment

Satoshi YONEYA

Name of third inventor	Execution date of U.S. Patent Application
Kanagawa, Japan	
Residence of third inventor	
<i>Satoshi Yoneya</i>	<i>Apr. 8, 1999</i>
Signature of third inventor	Date of this assignment

Masakazu YOSHIMOTO

Name of fourth inventor

Execution date of U.S. Patent Application

Kanagawa, Japan

Residence of fourth inventor

*Masakazu Yoshimoto**Apr. 9, 1999*

Signature of fourth inventor

Date of this assignment

Satoshi KATSUO

Name of fifth inventor

Execution date of U.S. Patent Application

Kanagawa, Japan

Residence of fifth inventor

*Satoshi Katsuo**Apr. 9, 1999*

Signature of fifth inventor

Date of this assignment

Jun YOSHIKAWA

Name of sixth inventor

Execution date of U.S. Patent Application

Kanagawa, Japan

Residence of sixth inventor

*Jun Yoshikawa**Apr. 9, 1999*

Signature of sixth inventor

Date of this assignment

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Name of seventh inventor

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Kanagawa, Japan

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*Satoshi Yutani**Apr. 12, 1999*

Signature of seventh inventor

Date of this assignment

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Tokyo, Japan

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*Koichi Sato**Apr. 12, 1999*

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Date of this assignment

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*Tomohisa Shiga**Apr. 9, 1999*

Signature of ninth inventor

Date of this assignment

Masaki HIROSE

Name of tenth inventor

Execution date of U.S. Patent Application

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Residence of tenth inventor

*Masaki Hirose**Apr. 11, 1999*

Signature of tenth inventor

Date of this assignment