

08-14-1998

75 Rec'd PCT/PTO 11 JUN 1998



100793719

PATENT
09/077749

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

MED 6-11-98

Applicant(s): SOGABE, Yasushi; AKIYOSHI, Masanori;
 Application No.: Group:
 Filed: June 11, 1998 Examiner:
 For: CHANNEL ESTIMATION CIRCUIT AND MODEM EMPLOYING IT

Date: June 11, 1998

Docket No.: 1163-0200P

RECORDING OF ASSIGNMENT

Assistant Commissioner for Patents
Box Patent Application
Washington, D.C. 20231

Sir:

Please record the attached original documents or copy thereof.

1. Name of conveying party(ies) (e.g. inventor(s)):

SOGABE, Yasushi,
AKIYOSHI, Masanori

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

MITSUBISHI DENKI KABUSHIKI KAISHA
2-3, Marunouchi 2-chome, Chiyoda-ku,
Tokyo 100-8310 Japan

3. Nature of Conveyance:

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

Execution Date: June 9, 1998

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

If this document is being filed together with a new patent application, the execution date(s) of the application is (are) June 9, 1998

A. Patent Application No.(s):

B. Patent No.(s):

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

Birch, Stewart, Kolasch & Birch, LLP
P. O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000

6. Total Number of applications and patents involved: One (1)

7. The recording fee in the amount of \$ 40.00 is enclosed.

8. Please charge Deposit Account No. 02-2448 in the amount of \$. A duplicate copy of this request is enclosed.
9. X If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account 02-2448 for any additional fees required under 37 C.F.R. 1.16 or under 37 C.F.R. 1.17; particularly, extension of time fees.

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.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

Date: June 11, 1998

By: 

MICHAEL K. MUTTER

Reg. No. 29,680

P. O. Box 747

Falls Church, VA 22040-0747

(703) 205-8000

/sas

TOTAL NUMBER OF PAGES INCLUDING COVER SHEET,
ATTACHMENTS, AND DOCUMENT: 05

(Rev. 12/21/93)

ATTORNEY DOCKET NO.

1163-200PCT

ASSIGNMENT

Application No. New

Filed June 11, 1998

Insert Name(s)
of Inventor(s)

WHEREAS, Yasushi Sogabe and Masanori Akiyoshi residing at
Tokyo, Japan

Insert Title
of Invention

(hereinafter designated as the undersigned) has (have) invented certain new and useful improvements in _____
"CHANNEL ESTIMATION CIRCUIT AND MODEM EMPLOYING IT"

for which an application for Letters Patent of the United States of America has been executed by the undersigned

Insert Date
of Signing of
Application

on June 9, 1998; and

Insert Name
of Assignee

WHEREAS, mitsubishi denki kabushiki kaisha

Insert Address
of Assignee

of 2-3, Marunouchi 2-chome, Chiyoda-ku, Tokyo 100-8310 Japan

CHECK BOX
IF APPROPRIATE

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 in any and all 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 and extensions thereof for the full term or terms for which the same may be granted.

PATENT

REEL: 9374 FRAME: 0777

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 execute all papers necessary in connection with any interference which may be declared concerning this application or continuation, division 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 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 June 9, 1998 , Name of Inventor Yasushi Sogabe
(signature) Yasushi Sogabe

Date June 9, 1998 , Name of Inventor Masanori Akiyoshi
(signature) Masanori Akiyoshi

Date _____ , Name of Inventor _____
(signature)

Date _____ , Name of Inventor _____
(signature)

Date _____ , Name of Inventor _____
(signature)

Date _____ , Name of Inventor _____
(signature)