	FORM PTO-1595 R 12-24-	1998 ET U.S DEPARTMENT OF COMMERCE	
	1/31/92	Patent and Trademark Office	
08-91.61	To the Honorable Commissioner of 100929	hed original documents or copy thereot.	
	Name of conveying party(ies): Hideyuki Takahashi Haruhiko Makino	2. Name and address of receiving party(ies): Name: Sony Corporation Internal Address:	
	Additional name(s) of conveying party(ies) attached? □ Yes No	jc549	
	3. Nature of conveyance:	Street Address: <u>7-35, Kitashinagawa 6-Chome</u> Shinagawa-Ku City: Tokyo State: <u>Japan</u> Zip: Additional Name(s) & Address(es) attached □Yes ☒ No	
	A. Patent Application No.(s) Attorney Docket No. P98,2416	B: Patent No.(s)	
	Additional numbers attached? ☐ Yes ☒ No		
	Name and address of party to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved	
	Hill & Simpson, P.C. 85th Floor Sears Tower 233 S. Wacker Drive Chicago, IL 60606	7. Total Fee (37 CFR 3.41	
		8. Deposit Account Number: 08-2290 (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. Lewis T. Steadman Name of Person Signing Signature December 15, 1998 Date Total number of pages: 3		
/23/1998 D FC:581	Box A		

PATENT REEL: 9653 FRAME: 0599

Docket Number: P98,2416

ASSIGNMENT

WHEREAS, I, as a below named inventor, residing at the address stated next to my name, 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 SEMICONDUCTOR APPARATUS AND ELECTRONIC SYSTEM

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 Kitas inagawa 6-Chome, Shinagawa-Ku, Tokyo, Japan (hereinafter referenced 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 nereafter 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 this application in the spaces that follow: Serial Number:	in this application to insert the serial number and filing date of Filing Date:
This assignment executed on the dates indicated below.	
HIDEYUKI TAKAHASHI	November 21.1998
Name of first or sole inventor	Execution date of U.S. Patent Application
KANAGAWA, JAPAN	
Residence of first or sole inventor	Verember 26, 1912
Hoteyniki Takahashi	7993. 776.
Signature of first or sole inventor	Date of this assignment

PATENT REEL: 9653 FRAME: 0600

HARUHIKO MAKINO	November 26, 1998
Name of second inventor	Execution date of U.S. Patent Application
KANAGAWA, JAPAN	
Residence of second inventor	
Haruhibo Makino	Movember 26, 1998 Descriptions
Signature of second inventor	Date of this assignment
•	
Name of third inventor	Execution date of U.S. Patent Application
Residence of third inventor	
Signature of third inventor	Date of this essignment
	•
Name of fourth investor	Execution date of U.S. Patent Application
Residence of fourth inventor	
Signature of fourth investor	Date of this essignment
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Name of fifth inventor	Execution date of U.S. Patent Application
Residence of fifth inventor	
Signature of fifth lareator	Dute of this and process

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RECORDED: 12/16/1998 REEL: 9653 FRAME: 0601