THAT & TRADEWING 1022	15-2003 U.S. DEPARTMENT OF COMMENT Patent and Trademark O S-1000 448709
To the Director of the United States Patent and Trademark Offic Name of conveying party(ies): Jung-na HEO; Whi-kun YI; Jeong-hee LEE; Se-gi YU; Tae-won JEONG; and Chang-soo LEE Additional name(s) of conveying party(ies) attached? []Yes [X] No 3. Nature of conveyance: [X] Assignment [] Merger [] Security Agreement [] Change of Name Other:	 Please record the attached original documents or copy thereof. Name and address of receiving party(ies): Name: <u>Samsung Electronics Co., Ltd.</u> Address: <u>416 Maetan-dong, Paldal-gu, Suwon-cit</u> Kyungki-do, Republic of Korea Additional name(s) & address(es) attached? [] Yes [X] No
 4. Application number(s) or patent number(s): If this document is being filed together with a new application A. Patent Application No.(s) 10/368,466 Additional numbers att 5. Name and address of party to whom correspondence concerning document should be mailed: 	on, the execution date of the application is: B. Patent No.(s) tached? [] Yes [X] No 6. Total number of applications and patents involved: one
Name: Charles F. Wieland III Address: Burns, Doane, Swecker & Mathis, L.L.P. P.O. Box 1404 Alexandria, Virginia 22313-1404	 7. Total fee (37 CFR § 3.41): <u>\$40.00</u> [X] Enclosed [X] Authorized to be charged to deposit account, if necessary 8. Deposit account number: 02-4800
 Statement and signature. To the best of my knowledge and belief, the foregoing information document. <u>Charles F. Wieland III, Reg. No. 33,096</u> Name of Person Signing 	E THIS SPACE is true and correct and any attached copy is a true copy of the original May 12, 2003 Signature Date number of pages including cover sheet, attachments, and document:
Director of the United State Mail Stop Assignmen P.O. I	th required cover sheet information to: s Patent and Trademark Office nt Recordation Services Box 1450 VA 22313-1450

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PATENT (05/03) REEL: 014057 FRAME: 0438

ASSIGNMENT

THIS ASSIGNMENT, by <u>1) JUNG-NA HEO, 2) WHI-KUN YI, 3) JEONG-HEE LEE,</u> <u>4) SE-GI YU, 5) TAE-WON JEONG</u> and <u>6) CHANG-SOO LEE</u> residing at <u>1) 19-13</u> <u>CHEONGDAM-DONG, GANGNAM-GU, SEOUL, REPUBLIC OF KOREA, 2) 602-1003 AREUM</u> <u>MAEUL SUNKYUNG APT., 142 IMAE-DONG, BUNDANG-GU, SEONGNAM-CITY, KYUNGKI-DO,</u> <u>REPUBLIC OF KOREA, 3) 713-1002 TAP MAEUL KEANGNAM APT., 525 HATAP-DONG,</u> <u>BUNDANG-GU, SEONGNAM-CITY, KYUNGKI-DO, REPUBLIC OF KOREA, 4) 113-102 HYOJACHON</u> <u>HYUNDAI APT., 299 SEOHYEON-DONG, BUNDANG-GU, SEONGNAM-CITY, KYUNGKI-DO,</u> <u>REPUBLIC OF KOREA, 5) 92-28 MANGU 1-DONG, JUNGNANG-GU, SEOUL, REPUBLIC OF KOREA</u> and <u>6) 102-1702 TAEYOUNG APT., 551 WON-DONG, OSAN-CITY, KYUNGKI-DO, REPUBLIC OF KOREA_, (hereinafter referred to as "the Assignors"), respectively, witnesseth:</u>

WHEREAS, the Assignors have invented certain new and useful improvements in <u>ELECTRON AMPLIFIER UTILIZING CARBON NANOTUBES AND</u> <u>METHOD OF MANUFACTURING THE SAME</u> set forth in an application for Letters Patent of the United States, which is a

- (1) which is a provisional application
 - (a) bearing Application No. _____, and filed on ____; or
 (b) to be filed herewith; or
- (2) \square which is a non-provisional application
 - (a) bearing Application No. _____, and filed on _____ FEBRUARY 2003 ; or
 - (b) having an oath or declaration executed on even date herewith
 - prior to filing of application;
 - (c) having an oath or declaration executed on a different date than this Assignment; and

WHEREAS, <u>SAMSUNG ELECTRONICS CO., LTD.</u>, a corporation duly organized under and pursuant to the laws of <u>REPUBLIC OF KOREA</u> and having a principal place of business at <u>416 MAETAN-DONG</u>, <u>PALDAL-GU</u>, <u>SUWON-CITY</u>, <u>KYUNGKI-DO</u>, <u>REPUBLIC OF KOREA</u> (hereinafter referred to as "the Assignee"), is desirous of acquiring the entire right, title, and interest in and to said inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications, including provisional applications for Letters Patent of the United States or other countries claiming priority to said application, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon.

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, the Assignors have sold, assigned, transferred, and set over, and by these presents do sell, assign, transfer, and set over, unto the Assignee, its successors, legal representatives, and assigns the entire right, title, and interest in and to the above-mentioned inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications for Letters Patent of the United States or other countries claiming priority to said applications, and any and all Letters Patent or Patents of the United

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PATENT REEL: 014057 FRAME: 0439

States of America and all foreign countries that may be granted therefor and thereon, and in and to any and all applications claiming priority to said applications, divisions, continuations, and continuations-in-part of said applications, and reissues and extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by the Assignee, for its own use and behalf and the use and behalf of its successors, legal representatives, and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted as fully and entirely as the same would have been held and enjoyed by the Assignors had this sale and assignment not been made;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, the Assignors are the sole and lawful owners of the entire right, title, and interest in and to the inventions set forth in said applications and said applications, including provisional applications, above-mentioned, and that the same are unencumbered, and that the Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns that the Assignors will, whenever counsel of the Assignee, or the counsel of its successors, legal representatives, and assigns, shall advise that any proceeding in connection with said inventions or said applications for Letters Patent or Patents, or any proceeding in connection with Letters Patent or Patents for said inventions in any country, including interference proceedings, is lawful and desirable, or that any application claiming priority to said application, division, continuation, or continuation-in-part of any applications for Letters Patent or Patents, or any reissue or extension of any Letters Patent or Patents to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement, and defense of Letters Patent or Patents for said inventions, without charge to the Assignee, its successors, legal representatives, and assigns, but at the cost and expense of the Assignee, its successors, legal representatives, and assigns;

AND the Assignors hereby authorize and request the attorneys of Burns, Doane, Swecker & Mathis, L.L.P., of Alexandria, Virginia, to insert in the spaces provided above the filing date, application number, and attorney's docket number of said application when known.

AND the Assignors hereby request the Commissioner of Patents to issue any and all said Letters Patent of the United States to the Assignee as the Assignee of said inventions, the Letters Patent to be issued for the sole use and behalf of the Assignee, its successors, legal representatives, and assigns.

DATE	10 March 2003	31 3 4 11/2
<u></u>		Jung-na Heo
DATE	10 March 2003	s/ \$/ X
		Whi-kun Ýi
DATE	10 March 2003	01 22 21
		Jeong-hee Lee

Page 2 of 3

BDSM (10/01) PATENT REEL: 014057 FRAME: 0440

Attorney Docket No. 030681-481

DATE_	10 March 2003	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
DATE	10 March 2003	Se-gi Yu
DATE_	10 March 2003	Tae-won Jeong
_		Chang-seo Lee

Page 3 of 3

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RECORDED: 05/12/2003