lev, 6-93) MB No, 0651-001! (exp. 4/9-	KEC		M COVER SHEET U.S. DEPARTMENT OF COMMERCE Patent and Trademark Offi
		PATENTS	
To the Honorable	e Commissioner of Pa	atents and Trademarks: Ple	ase record the attached original documents or copy thereof.
Name of conveying pa		·	2. Name and address of receiving party(ies):
in-ho Ryu			Name: Samsung Electronics, Co., Ltd.
hoon-sun Shin Yong-gyu Chu			Internal Address:
OND 61 4 4			_
dditional name(s) of conveyi	ng party(ies) attached?	□ Yes ⊠ No	
. Nature of conveyance	:		Street Address: 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea
		☐ Merger	
and the state of t		☐ Change of Name	City: State ZIP
☐ Security Agre	ellietu		
Execution Date:	March 8, 2004		Additional name(s) & address attached?
	Į.	Additional numbers attache	.d? ┌ Ye ⊠ No
5. Name and address of	f party to whom corre		6. Total number of applications and registrations involved
5. Name and address of document should be ma	ailed:		6. Total number of applications and registrations 1
5. Name and address of document should be managed by Name: Steven Managed Steven	ailed:		6. Total number of applications and registrations 1
document should be ma	ailed:	espondence concerning	6. Total number of applications and registrations involved
document should be manner: Steven !	ailed: M. Mills	espondence concerning	6. Total number of applications and registrations involved
document should be manner: Steven ! Internal Address:	ailed: M. Mills MILLS & ONEL	espondence concerning	6. Total number of applications and registrations involved
document should be manner: Steven !	ailed: M. Mills	espondence concerning	6. Total number of applications and registrations involved
document should be man Name: Steven ! Internal Address: Street Address:	alled: M. Mills MILLS & ONEL Eleven Beacon S	espondence concerning	6. Total number of applications and registrations involved
document should be manner: Steven Manner: Internal Address:	alled: M. Mills MILLS & ONEL Eleven Beacon S	treet, Suite 605 MA ZIP 02108	6. Total number of applications and registrations involved
document should be manner: Name: Steven ! Internal Address: Street Address: City: Boston	ailed: M. Mills MILLS & ONEL Eleven Beacon S State	treet, Suite 605 MA ZIP 02108 DO NOT USE	6. Total number of applications and registrations involved
document should be mind a steven! Internal Address: Street Address: City: Boston 9. Statement and signator the best of my known.	ailed: M. Mills MILLS & ONEL Eleven Beacon S State	treet, Suite 605 MA ZIP 02108 DO NOT USE	6. Total number of applications and registrations involved
document should be many Name: Steven ! Internal Address: Street Address: City: Boston	ailed: M. Mills MILLS & ONEL Eleven Beacon S State	treet, Suite 605 MA ZIP 02108 DO NOT USE	6. Total number of applications and registrations involved
document should be many Name: Steven Many	Alled: M. Mills MILLS & ONEL Eleven Beacon S State ature: whedge and belief, the	treet, Suite 605 MA ZIP 02108 DO NOT USE	6. Total number of applications and registrations involved
document should be many Name: Steven Many Steven Many Steven Many Steven Many Many Statement and signate To the best of my know document. Steven Many Miles Name of Pares.	Alls, Reg. No. 36,610	treet, Suite 605 MA ZIP 02108 DO NOT USE e foregoing information is Signat	6. Total number of applications and registrations involved

Reference No.:SAM-0505

ASSIGNMENT

We, rin-ho Ryu, of 705-080, Mongnyeon 7-danji Woosung Apt., Hogye-dong, Anyang-city, Kyungki-do, Republic of Korea; Choon-sun Shin, of 507-301, Gunyoung Villa, 12, Gumi-dong, Seongnam-city, Kyungki-do, Republic of Korea; and Yong-gyu Chu, of 204-1002, Jugong Apt., Jaegungdong, Gunpo-city, Kyungki-do, Republic of Korca, having invented improvements in CIRCUIT AND METHOD FOR TRANSFORMING DATA INPUT/OUTPUT FORMAT IN PARALLEL BIT TEST, described in an application for Letters Patent of the United States, Serial No. 10/716,773, filed November 19, 2003, for good and valuable consideration, receipt of which is hereby acknowledged from Samsung Electronics, Co., Ltd., a Korean corporation having a place of business at 416, Mactan-dong, Yeongtonggu, Sawon-si, Gyeonggi-do, Republic of Korea (and hereinafter called the Assignee, which term shall include its successors and assigns), do hereby self, assign and transfer unto the Assignee my entire right, title, and interest in and throughout the United States of America (including its territories and dependencies) and all countries foreign thereto, in and to and under said application (which term shall include hereinafter where the context so admits all divisional, continuing, reissue and other patent applications based thereon) and the inventions (which term shall include each and every such invention, or part thereof) therein described, and any and all patents and like rights of exclusion (including extensions thereof) of any country which may be granted on or for said inventions or on said application;

And for the same consideration I do also hereby sell, assign, and transfer unto the Assignee, all my rights under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, and all other treaties of like purpose in respect of said inventions and said application, and I do hereby authorize the Assignee to apply in my name or its own name or its designee for patents and like rights of exclusion on or for said inventions in all countries, claiming (if the Assignee so desires) the priority of the filing date of said application under the provisions of said Convention, Treaty or any such other Convention or Treaty;

And for the same consideration, I do hereby agree for myself and for my heirs, executors, and administrators, promptly upon request of the Assignee to execute and deliver without further compensation any power of attorney, assignment, original, divisional, continuing, reissue or other application or applications for patent or patents or like rights of exclusion of any country, or other lawful documents and any further assurances that may be deemed necessary or desirable by the Assignee, fully to secure to it said right, title, and interest as aforesaid in and to said inventions, applications, and said several patents and like rights of exclusion (including extensions thereof) or any of those, all, however, at the expense of the Assignee, its successors, or assigns:

And I do hereby authorize and request the Commissioner of Patents and Trademarks of the United States of America and the corresponding Official of each country foreign thereto to issue to the Assignee, any and all patents and like rights of exclusion which may be granted in any country upon said United States application on or for said inventions;

And I do hereby covenant for myself and my legal representatives and agree with the Assignee, that I have granted no right or license to make, use, or sell said inventions to anyone except the Assigne2, that prior to the execution of this deed our right, ritie, and interest in and to said inventions has not been otherwise encumbered by me, and that I have not executed and will not execute any instruments in conflict herewith.

Page 1 of 2

Reference No.:SAM-0505

First or Sole Inventor:

Signature:

Second Joint Inventor:

Signature:

Date: 1 March 2004

Third Joint Inventor:

Signature:

REFERENCE NO. SAM-0505

Page 2 of 2

CORDED: 03/17/2004

REEL: 015198 FRAME: 0017