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To the Honorable Commissioner of Patents and Trademarks. Please	record the attached original documents or copy thereof.
1. Name of conveying party(ies): Richard J. FREEMAN; Jay R. WALLACE; Yoichi KURONO; Arthur H. LAFLAMME, Jr.; Louise Smith BARRISS; Tadashi ONISHI Additional name(s) of conveying party(ies) attached? ☐ Yes ■ No. 3. Nature of Conveyance: ■ Assignment ☐ Merger ☐ Security Agreement ☐ Change of Name ☐ Other Execution Date: 09/06/01; 09/06/01; 09/25/01; 09/06/01; 09/26/01; 09/26/01	2. Name and address of receiving party(ies): Name: TOKYO ELECTRON LIMITED Address: TBS Broadcast Center Intellectual Property Department
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)	B. Patent No.(s)
09/889,582	
Additional numbers attach	hed? 🗆 Yes 🔳 No
5. Name and address of party to whom correspondence concerning document should be mailed:	6. Total applications and patents involved: 1
22850	7. Total fee (37 CFR 3.41): \$40.00 Enclosed Authorized to be charged to deposit account 8. Deposit account number: 15-0030 (Attach duplicate copy of this page if paying by deposit account)
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PATENT REEL: 012883 FRAME: 0161

Assignment of Application

Page 1 of 2

WHEREAS, I (WE) Richard J. FREEMAN, 1 Orchard Lane, Wenham.	
Massachusetts 01984; Jay R. WALLACE, 38 Chase Street, Danvers.	
Massachusetts 01923: Yoichi KURONO, 11 Cunningham Drive. South	
Hamilton, Massachusetts 01982; Arthur H. LAFLAMME, Jr., 15 Kittery	
Avenue, Rowley, Massachusetts 01969: Louise Smith BARRISS, 330	
Park Street, North Reading, Massachusetts 01864; Tadashi ONISHI,	
5 Heritage Drive #25, Salem, Massachusetts 01970	
5 neticage brive #25, baran, hassachasects	
	•
, respectively, h	nave
invented certain new and useful improvements in:	
ETCHING SYSTEM AND ETCHING CHAMBER	
for which an application for Letters Patent was executed on 09/06/01; 09/06/01; 09/25	5/01;
(Application No. 09/889,582 , filed 24 October 2001), and 08/27/01	09/26/01
WHEREAS, TOKYO ELECTRON LIMITED	ntor
(hereinafter referred to as "ASSIGNEE") having a place of business at: TBS Broadcast Ce	iller,
Intellectual Property Department, 3-0, Akasaka 3-Chome, Minato-k	u
Fokyo 107-8481 JAPAN is desirous or acquiring the entire right, title and interest in and to said invention and in and to an Letters Patent that may be granted therefore in the United States and its territorial possessions and any and all foreign countries;	y 1 in
any and an ioneigh countries,	
CONTRACT TO COLUMN ADDRESS AND AREA AND	n.+

NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby acknowledged, and for other good and valuable consideration, I (WE), by these presents do sell, assign and transfer unto said ASSIGNEE, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.

I (WE) hereby authorize and request the Patent Office Officials in the United States and its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my (our) entire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me (us) had this Assignment and sale not been made.

PATENT REEL: 012883 FRAME: 0162 Further, I (WE) agree that I (WE) will communicate to said ASSIGNEE or its (his) representatives any facts known to me (us) respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letter Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.

The undersigned hereby grant(s) the firm of Oblon, Spivak, McClelland, Maier & Neustadt, P.C. of Fourth Floor, 1755 Jefferson Davis Highway, Arlington, Virginia 22202 the power to insert on this assignment any further identification, including the application number and filing date, which may be necessary or desirable in order to comply with the rules of the United States Patent and

	Trademark Office for recordation of this do	cumently
ar e	Date: 9/6/01	(Signature of Inventor) Dishard I EDEFMAN
	,	(Signature of Inventor) Richard J. FREEMAN
	Date:	m mais
	Date: 9/25/01	(Signature of Invertion) Jay R. WALLACE
		(Shapature of Inventor) Yejchi KUROMO
	Date: 1/6/0/	fitte of the second
		Atthur H. WFLAMME, Jr.
	Date: 9/24/01	In Dyons
	7 /	(Signature of Inventor) Louise Smith BARRISS
7 :	Date: 9/26/200/	2 d. nint
	, ,	(Signature of Inventor) Tadashi ONISHI
	Data	
	Date:	(Signature of Inventor)
		Antipological and antipological antipological and antipological and antipological antipologi
	Date:	
		(Signature of Inventor)

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RECORDED: 05/09/2002

PATENT REEL: 012883 FRAME: 0163