PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3898701

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|-------------------------|----------------|
| SEIKO EPSON CORPORATION | 03/22/2016 |

RECEIVING PARTY DATA

| Name: | TOKYO ELECTRON LIMITED |
|-----------------|--------------------------------|
| Street Address: | 3-1 AKASAKA 5-CHOME, MINATO-KU |
| City: | TOKYO |
| State/Country: | JAPAN |

PROPERTY NUMBERS Total: 31

| Property Type | Number |
|---------------------|----------|
| Application Number: | 11835166 |
| Application Number: | 11865959 |
| Application Number: | 13418496 |
| Application Number: | 11948334 |
| Application Number: | 12169107 |
| Application Number: | 12169124 |
| Application Number: | 12197536 |
| Application Number: | 12323004 |
| Application Number: | 12401251 |
| Application Number: | 12473966 |
| Application Number: | 12697739 |
| Application Number: | 12720086 |
| Application Number: | 12786798 |
| Application Number: | 12883452 |
| Application Number: | 12173332 |
| Application Number: | 10631484 |
| Application Number: | 11027921 |
| Application Number: | 11221205 |
| Application Number: | 12542898 |
| Application Number: | 11708169 |
| Application Number: | 11974632 |
| | |

PATENT REEL: 038769 FRAME: 0522

503852052

| Property Type | Number |
|---------------------|----------|
| Application Number: | 11974631 |
| Application Number: | 11948357 |
| Application Number: | 12125468 |
| Application Number: | 12823388 |
| Application Number: | 12332425 |
| Application Number: | 12621733 |
| Application Number: | 13289566 |
| Application Number: | 10347268 |
| Application Number: | 10352217 |
| Application Number: | 12035663 |

CORRESPONDENCE DATA

Fax Number: (703)739-2815

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Email: iprecordals@cpaglobal.com, APandey2@cpaglobal.com

Correspondent Name: CPA GLOBAL LTD
Address Line 1: LIBERATION HOUSE
Address Line 2: CASTLE STREET

Address Line 4: ST HELIER, JERSEY JE1 1BL

| NAME OF SUBMITTER: HEIDI WHITTINGHAM | |
|--------------------------------------|--|
| SIGNATURE: | HMW/IPR/AP/NGBTokyoElectronLtd/047/AG31P |
| DATE SIGNED: | 06/02/2016 |

Total Attachments: 3

source=Deed of Assignment (3)#page1.tif source=Deed of Assignment (3)#page2.tif source=Deed of Assignment (3)#page3.tif

> PATENT REEL: 038769 FRAME: 0523

ASSIGNMENT

WHEREAS, SEIKO EPSON CORPORATION ("ASSIGNOR"), a Corporation [specify entity type—e.g., corporation] organized under the laws of Japan, with a place of business at 4-1 NISHI-SHINJUKU 2-CHOME, SHINJUKU-KU, TOKYO, JAPAN, owns the United States Patent(s) (the "Patent(s)") listed on the attached Schedule A; and

WHEREAS, Tokyo Electron Limited ("ASSIGNEE"), a Limited company [specify entity type—e.g., corporation] organized under the laws of Japan, with a place of business at 3-1 AKASAKA 5-CHOME, MINATO-KU, TOKYO, JAPAN, desires to acquire all rights to the Patent(s);

NOW, THEREFORE, in consideration of <u>One Dollar (\$1.00)</u> and other valuable consideration, the receipt of which ASSIGNOR acknowledges, ASSIGNOR has sold, assigned, transferred, and set over, and does, by this Assignment, sell, assign, transfer, and set over unto ASSIGNEE, all rights to the Patent(s), including reissues and extensions, to be held and enjoyed by ASSIGNEE, its successors, assigns, and legal representatives, for ASSIGNEE's own use and benefit and for the use and benefit of its successors, assigns, and legal representatives, to the end of the term(s) for which the Patent(s) has/have been granted or may be reissued or extended, as fully and entirely as the Patent(s) would have been held and enjoyed by ASSIGNOR had this assignment and sale not been made; together with all claims for profits and damages by reason of past infringement, with the right to sue for and collect the same for the use and benefit of ASSIGNEE, its successors, assigns, and legal representatives.

This Assignment is deemed to have become effective as from: 22 March, 2016

IN WITNESS WHEREOF, ASSIGNOR has caused this Assignment to be executed by its duly authorized officer or representative on the date(s) indicated below.

SEIKO EPSON CORPORATION

By: - 髙畑 佼哉`

Name: Toshiya Takahata

Title: General Administrative Manager Intellectual Property Division

Date:

<u>Schedule</u>

| Country | Application Number | IP Grant Number |
|---------|--------------------|-----------------|
| USA | 11/835166 | 8247021 |
| USA | 11/865959 | 8389046 |
| USA | 13/418496 | 8668951 |
| USA | 11/948334 | 7762644 |
| USA | 12/169107 | 8124190 |
| USA | 12/169124 | 8173223 |
| USA | 12/197536 | 8020512 |
| USA | 12/323004 | 7880873 |
| USA | 12/401251 | 8323724 |
| USA | 12/473966 | 8308267 |
| USA | 12/697739 | 8622084 |
| USA | 12/720086 | 8186803 |
| USA | 12/786798 | 8567890 |
| USA | 12/883452 | 8376512 |
| USA | 12/173332 | 9162445 |
| USA | 10/631484 | 7032990 |
| USA | 11/027921 | 7280933 |
| USA | 11/221205 | 7374270 |
| USA | 12/542898 | 8128197 |
| USA | 11/708169 | 7789038 |
| USA | 11/974632 | 8075082 |
| USA | 11/974631 | 8037841 |
| USA | 11/948357 | 7798592 |

Page 2 of 3

PATENT REEL: 038769 FRAME: 0525

| Country | Application Number | IP Grant Number |
|---------|--------------------|-----------------|
| USA | 12/125468 | 7771011 |
| USA | 12/823388 | 8523319 |
| USA | 12/332425 | 8273418 |
| USA | 12/621733 | 8201915 |
| USA | 13/289566 | 8891046 |
| USA | 10/347268 | 7517549 |
| USA | 10/352217 | 7037810 |
| USA | 12/035663 | 8443753 |

Page 3 of 3

RECORDED: 06/02/2016

PATENT REEL: 038769 FRAME: 0526