PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT4466225

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
KOKI HAMADA	05/22/2017
DAI IKARASHI	05/22/2017
NAOTO KIRIBUCHI	05/22/2017

RECEIVING PARTY DATA

Name:	NIPPON TELEGRAPH AND TELEPHONE CORPORATION
Street Address:	5-1, OTEMACHI 1-CHOME
City:	CHIYODA-KU, TOKYO
State/Country:	JAPAN
Postal Code:	100-8116

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15537567

CORRESPONDENCE DATA

Fax Number: (703)413-2220

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.

Phone: (703) 413-3000 Email: ttraub@oblon.com **Correspondent Name:** OBLON, ET AL. Address Line 1: 1940 DUKE STREET

Address Line 4: ALEXANDRIA, VIRGINIA 22314

ATTORNEY DOCKET NUMBER:	502106US
NAME OF SUBMITTER:	THOMAS TRAUB
SIGNATURE:	/thomas traub/
DATE SIGNED:	06/19/2017

Total Attachments: 3

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> **PATENT** REEL: 042746 FRAME: 0441 504419525

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT FOR SINGLE ASSIGNEE

Title of Invention	MATRIX AND KEY GENERATION DEVICE, MATRIX AND KEY GENERATION SYSTEM, MATRIX COUPLING DEVICE, MATRIX AND KEY
III V CIII CII	GENERATION SYSTEM, MATRIX COUPLING DEVICE, MATRIX AND KEY GENERATION METHOD, AND PROGRAM
As the below name	d inventor, I hereby declare that:
This declaration [The attached application, or
is directed to:	United States application or PCT international application number PCT/JP2016/050850 filed on January 13, 2016
The above-identifie	ed application was made or authorized to be made by me.
I believe that I am t	the original inventor or an original joint inventor of a claimed invention in the application.
(hereinafter referred 100-8116 Japan, is	PON TELEGRAPH AND TELEPHONE CORPORATION d to as "ASSIGNEE") having places of business at: 5-1, Otemachi 1-chome, Chiyoda-ku, Tokyo desirous of acquiring the entire right, title and interest in and to said invention and in and to any may be granted therefore in the United States and its territorial possessions and in any and all
acknowledged, and said ASSIGNEE, the and in all foreign co- other relevant Inter- interest in and to a	FORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby for other good and valuable consideration, I, by these presents do sell, assign and transfer unto be full and exclusive right to the said invention in the United States and its territorial possessions countries (including the right to claim priority under the terms of the International Convention and national Treaties and Arrangements from the aforesaid application) and the entire right, title and may and all Letters Patent which may be granted therefor in the United States and its territorial any and all foreign countries and in and to any and all divisions, reissues, continuations, newals thereof.
I 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 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 had this Assignment and sale not been made.	
Further, I agree that I will communicate to said ASSIGNEE or its (his) representatives any facts known to me 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 Letters 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.	
	rledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 ment of not more than five (5) years, or both.
LEGAL NAME OF INVENTOR	
Inventor: Koki H	
Signature: 2	ki, Hamada

 ${\bf OBLON, McCLELLAND, MAIER \& NEUSTADT, L.L.P.}$

ATTORNEYS AT LAW 1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314

> PATENT REEL: 042746 FRAME: 0442

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT FOR SINGLE ASSIGNEE

Title of Invention	MATRIX AND KEY GENERATION DEVICE, MATRIX AND KEY GENERATION SYSTEM, MATRIX COUPLING DEVICE, MATRIX AND KI GENERATION METHOD, AND PROGRAM	EY
As the below name	ed inventor, I hereby declare that:	
This declaration	The attached application, or	
is directed to:	United States application or PCT international application number PCT/JP2016/050850 filed on January 13, 2016	
The above-identifie	ed application was made or authorized to be made by me.	
I believe that I am t	the original inventor or an original joint inventor of a claimed invention in the application.	
(hereinafter referred 100-8116 Japan, is	PPON TELEGRAPH AND TELEPHONE CORPORATION and to as "ASSIGNEE") having places of business at: <u>5-1</u> , <u>Otemachi 1-chome</u> , <u>Chiyoda-ku</u> , <u>To selection</u> desirous of acquiring the entire right, title and interest in and to said invention and in and to may be granted therefore in the United States and its territorial possessions and in any and	any
acknowledged, and said ASSIGNEE, the and in all foreign conther relevant Inter- interest in and to a	FORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is he d for other good and valuable consideration, I, by these presents do sell, assign and transfer he full and exclusive right to the said invention in the United States and its territorial possess countries (including the right to claim priority under the terms of the International Convention rnational Treaties and Arrangements from the aforesaid application) and the entire right, title any and all Letters Patent which may be granted therefor in the United States and its territor any and all foreign countries and in and to any and all divisions, reissues, continuation enewals thereof.	unto sions and and orial
any and all foreign assignee of my enti (his) successors and	ize and request the Patent Office Officials in the United States and its territorial possessions in countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as tire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE and assigns, to the full end of the term for which said Letters Patent may be granted, as fully e would have been held by me had this Assignment and sale not been made.	s the E, its
Further, I agree that I will communicate to said ASSIGNEE or its (his) representatives any facts known to me 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 Letters 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.		
	vledge that any willful false statement made in this declaration is punishable under 18 U.S.C. Iment of not more than five (5) years, or both.	1001
LEGAL NAME OF	F INVENTOR	
Inventor: Dai IKA	ARASHI Date: May 22, 2017	
Signature:	ai Ikarashi	

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P.
ATTORNEYS AT LAW
1940 DUKE STREET
ALEXANDRIA, VIRGINIA 22314

PATENT REEL: 042746 FRAME: 0443

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT FOR SINGLE ASSIGNEE

Title of Invention	MATRIX AND KEY GENERATION DEVICE, MATRIX AND KEY	
Invention	GENERATION SYSTEM, MATRIX COUPLING DEVICE, MATRIX AND KEY GENERATION METHOD, AND PROGRAM	
As the below name	ed inventor, I hereby declare that:	
This declaration [The attached application, or	
is directed to: United States application or PCT international application number PCT/JP2016/050850 filed on January 13, 2016		
The above-identifie	ed application was made or authorized to be made by me.	
I believe that I am t	the original inventor or an original joint inventor of a claimed invention in the application.	
WHEREAS, NIPPON TELEGRAPH AND TELEPHONE CORPORATION (hereinafter referred to as "ASSIGNEE") having places of business at: 5-1, Otemachi 1-chome, Chiyoda-ku, Tokyo 100-8116 Japan, is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;		
acknowledged, and said ASSIGNEE, the and in all foreign co- other relevant Inter- interest in and to a	FORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby of for other good and valuable consideration, I, by these presents do sell, assign and transfer unto the full and exclusive right to the said invention in the United States and its territorial possessions countries (including the right to claim priority under the terms of the International Convention and mational Treaties and Arrangements from the aforesaid application) and the entire right, title and any and all Letters Patent which may be granted therefor in the United States and its territorial and any and all foreign countries and in and to any and all divisions, reissues, continuations, enewals thereof.	
I 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 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 had this Assignment and sale not been made.		
Further, I agree that I will communicate to said ASSIGNEE or its (his) representatives any facts known to me 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 Letters 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.		
	vledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 ment of not more than five (5) years, or both.	
LEGAL NAME OF INVENTOR		
Inventor: Naoto K	KIRIBUCHI Date: May 22, 2017	
Signature: Na	oto Kriribuchi	

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P.

ATTORNEYS AT LAW 1940 DUKE STREET ALEXANDRIA, VIRGINIA 22314

> PATENT REEL: 042746 FRAME: 0444

RECORDED: 06/19/2017