PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Yuchen Zhou	08/17/2011
Kunliang Zhang	08/28/2011
Min Li	08/08/2011
Kenichi Takano	09/06/2011
Joe Smyth	08/07/2011
Moris Dovek	08/07/2011
Akihiko Takeo	09/12/2011
Tomomi Funayama	09/12/2011
Masahiro Takashita	06/06/2011
Masayuki Takagishi	06/06/2011

RECEIVING PARTY DATA

Name:	TDK Corporation
Street Address:	1-13-1, Nihonbashi
City:	Chuo-ku, Tokyo 103-8272
State/Country:	JAPAN

Name:	Kabushiki Kaisha Toshiba
Street Address:	1-1, Shibaura 1-Chome
City:	Minato-ku, Tokyo 105-8001
State/Country:	JAPAN

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	13200148

CORRESPONDENCE DATA

Fax Number: (845)471-2064

PATENT REEL: 027114 FRAME: 0389 .H \$40.00 13200

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Email: cathys@saileackerman.com

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

via US Mail.

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ATTORNEY DOCKET NUMBER:	HT10-005

NAME OF SUBMITTER: Stephen B Ackerman

Total Attachments: 9

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In consideration of the payment by ASSIGNEE to ASSIGNOR of the sum of One Dollar (\$1.00), the receipt of which is hereby acknowledged, and for other good and valuable consideration, ASSIGNOR: YUCHEN ZHOU Type or print name of ASSIGNOR Type or print name of ASSIGNOR Address San Took, CA 95124 Min LI Type or print name of ASSIGNOR Nationality MIN LI Type or print name of ASSIGNOR Address FERRORT, CA 94539 KENICHI TAKANO Type or print name of ASSIGNOR Address Address Address Address TOK Corporation 1-13-1, Nihonbashi Chuo-ku, Tokyo 103-8272 Japan Nationality And SIGNOE Minato-ku, Tokyo 105-8001 Japan Nationality And SIGNOE (complete one of the following) X the entire right, title and interest an undivided percent (_%) interest for the United States and its territorial possessions (check the following box/f foreign rights are also to be assigned)	HT10-005	For X U.S. and/or X Foreign Rights For X Application or X U.S. Patent By X Inventor(s) or X Present Owner T OF INVENTION
Address San Tase, CA 95124 P. R. Change Nationality MIN LI Type or print name of ASSIGNOR Address FENICHI TAKANO Type or print name of ASSIGNOR Address Address RENICHI TAKANO Type or print name of ASSIGNOR Address Address Nationality I Shibaura 1-Chome Minato-ku, Tokyo 105-8001 Japan Nationality and the successors, assigns and legal representatives of the ASSIGNEE (complete one of the following) X the entire right, title and interest an undivided percent (%) interest for the United States and its territorial possessions (check the following box/f foreign rights are also to be assigned)	In consideration of the payment by ASSIGNE the receipt of which is hereby acknowledged,	E to ASSIGNOR of the sum of One Dollar (\$1.00),
Address Address Address Nationality Nationality hereby sells, assigns and transfers to ASSIGNEE: TDK Corporation 1-13-1, Nihonbashi Chuo-ku, Tokyo 103-8272 Japan Nationality Address Kabushiki Kaisha Toshiba 1-1 Shibaura 1-Chome Minato-ku, Tokyo 105-8001 Japan Nationality and the successors, assigns and legal representatives of the ASSIGNEE (complete one of the following) X the entire right, title and interest an undivided percent (%) interest for the United States and its territorial possessions (check the following box/f foreign rights are also to be assigned)	Address Son Tose, CA 95124	Address Fremont, CA 94539 P. R. CHINA
TDK Corporation 1-13-1, Nihonbashi Chuo-ku, Tokyo 103-8272 Japan Nationality and the successors, assigns and legal representatives of the ASSIGNEE (complete one of the following) x the entire right, title and interest an undivided percent (%) interest for the United States and its territorial possessions (check the following box/f foreign rights are also to be assigned)	Address Fremont, A94539 P.R. China Nationality	Address
TDK Corporation 1-13-1, Nihonbashi Chuo-ku, Tokyo 103-8272 Japan Nationality and the successors, assigns and legal representatives of the ASSIGNEE (complete one of the following) x the entire right, title and interest an undivided percent (%) interest for the United States and its territorial possessions (check the following box/f foreign rights are also to be assigned)	•	
(complete one of the following) x the entire right, title and interest an undivided percent (%) interest for the United States and its territorial possessions (check the following box/f foreign rights are also to be assigned)	TDK Corporation 1-13-1, Nihonbashi Chuo-ku, Tokyo 103-8272 Japan	1-1 Shibaura 1-Chome Minato-ku, Tokyo 105-8001 Japan
possessions (check the following box/f foreign rights are also to be assigned)	(complete one of the following) x the entire right, title and interest	
x and in all foreign countries in and to any and all improvements which are disclosed in the invention entitled: Perpendicular Spin Torque Oscillator FMR Frequency Measurement Method	possessions (check the following box/f foreign and in all foreign countries) in and to any and all improvements which are	gn rights are also to be assigned) disclosed in the invention entitled:

	For U.S. and/or Foreign Rights
HT10-005	For Application or U.S. Patent
	By X Inventor(s) or X Present Owner
ASSIGN	IMENT OF INVENTION
In consideration of the payment by ASI the receipt of which is hereby acknowle ASSIGNOR:	BIGNEE to ASSIGNOR of the sum of One Dollar (\$1.00), edged, and for other good and valuable consideration.
YUCHEN ZHOU	KUNLIANG ZHANG
Type or print name of ASSIGNOR	KUNLIANG ZHANG Type or print name of ASSIGNOR
Address	Address
Nationality	Nationality
MIN LI	KENICHI TAKANO Type or print name of ASSIGNOR
Type or print name of ASSIGNOR	l ype or print name of ASSIGNOR
Address	21-1-20 Sakadaira - eki kita,
	Saku-shi, Nagano 339-0027, Japan
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hereby sells, assigns and transfers to	Category Consel
ASSIGNEE:	
TDK Corporation 1-13-1, Nihonbashi Chuo-ku, Tokyo 103-8272 Japan Nationality	Kabushiki Kaisha Toshiba 1-1 Shibaura 1-Chome Minato-ku, Tokyo 105-8901 Japan ^{Nationality}
and the successors, assigns and legal i	representatives of the ASSIGNEE
(complete one of the following)	
x the entire right, title and interest	
an undivided percent (%	6) interest for the United States and its territorial
possessions	
(check the following box/	foreign rights are also to be assigned)
in and to any and all improvements which Perpendicular Spin Torque Oscillato	ch are disclosed in the invention entitled: r FMR Frequency Measurement Method

HT10-005	For $x \in \mathbb{R}$ U.S. and/or $x \in \mathbb{R}$ Foreign Rights For $x \in \mathbb{R}$ Application or $x \in \mathbb{R}$ U.S. Patent By $x \in \mathbb{R}$ Inventor(s) or $x \in \mathbb{R}$ Present Owner	
ASSIGNMEN	T OF INVENTION	
In consideration of the payment by ASSIGNE receipt of which is hereby acknowledged, and ASSIGNOR:	E to ASSIGNOR of the sum of One Dollar (\$1.00), the d for other good and valuable consideration,	
JOE SMYTH Type or print name of ASSIGNOR 136 VENTINUA CT Address Aptro CA GENUS	MORIS DOVEK Type or print name of ASSIGNOR 5623 (Nouds 1) Address South (A 95137)	
ひら Nationality	USA Nationality	
AKIHIKO TAKEO Type or print name of ASSIGNOR 1-8-81, Nishi, Kunitachi-shi Address Toyko, 185-000, Japan Japanese Nationality hereby sells, assigns and transfers to	TOMOMI FUNAYAMA Type or print name of ASSIGNOR 2-3-2, Harumi-Cho, Fuchu-Shi Address Tokyo, 183-0057, Sapan Japanese Nationality	
ASSIGNEE: TDK Corporation 1-13-1, Nihonbashi Chuo-ku, Tokyo 103-8272 Japan Nationality	Kabushiki Kaisha Toshiba 1-1, Shibaura 1-Chome Minato-ku, Tokyo 105-8001 Japan Nationality	
and the successors, assigns and legal repres (complete one of the following) x the entire right, title and interest	entatives of the ASSIGNEE	
an undivided percent (%) interest for the United States and its territorial possessions (check the following box/f foreign rights are also to be assigned) x and in all foreign countries		
in and to any and all improvements which are disclosed in the invention entitled: Perpendicular Spin Torque Oscillator FMR Frequency Measurement Method		

	For U.S. and/or Foreign Rights	
HT10-005	For Application or U.S. Patent	
	By x inventor(s) or x Present Owner	
ASSIGNMEN	NT OF INVENTION	
In consideration of the payment by ASSIGNE receipt of which is hereby acknowledged, an ASSIGNOR:	EE to ASSIGNOR of the sum of One Dollar (\$1.00), the d for other good and valuable consideration,	
MASAHIRO TAKASHITA Type or print name of ASSIGNOR	MASAYUKI TAKAGISHI Type or print name of ASSIGNOR	
	2-18-2-1103, Kita-1-Chome, Kunitachi-shi	
1-627-102, Marukodori, Nakahara-Ku, Address	Address	
Kawasaki -shi, 211-0006, Japan	Tokyo, 186-0001, Japan	
Japanese Nationality	Japanese Nationality	
nereby sells, assigns and transfers to	·	
TDK Corporation	Kabushiki Kaisha Toshiba	
1-13-1, Nihonbashi Chuo-ku, Tokyo 103-8272	1-1, Shibaura 1-Chome Minato-ku, Tokyo 105-8001	
Japan	Japan	
Nationality	Nationality	
nd the successors, assigns and legal repres	entatives of the ASSIGNEE	
complete one of the following)		
the entire right, title and interest		
an undivided percent (%) inte	rest for the United States and its territorial possessions	
(check the following box/f foreign and in all foreign countries	gn rights are also to be assigned)	
and to any and all improvements which are	disclosed in the invention entitled:	
erpendicular Spin Torque Oscillator Fmr Frequency Measurement Method		

and which is found in	
(a) U.S. patent application executed on ever	n date herewith
(b) U.S. patent application executed on	
(c) U.S. application serial no.	filed on
(d) U.S. patent no	issuedif foreign application(s) is also being assigned)
(e) and any legal equivalent thereof in a fore	ign country, including the right to claim priority
	ed for said invention by the above application or any hereof, and as to letters patent any re-issue or re-
ASSIGNOR hereby covenants that no assignable will be made or entered into which would conflict which whic	gnment, sale, agreement or encumbrance has been or with this assignment.
pertinent facts and documents relating to said inviting the said inviting to said inviting to said inviting the said inviting to said inviting to said inviting the said inv	IEE will, upon its request, be provided promptly with all rention and said Letters Patent and legal equivalents as divided will testify as to the same in any interference, litigation ofly execute and deliver to ASSIGNEE or its legal or affidavits required to apply for, obtain, maintain, issue as a said Letters Patent and said equivalents thereof which imposes thereof.
WARNING Date of signing must be the same as the date of	
Signature of ASSIGNOR	Date of Signing OB/98/2011 Date of Signing
Signature of ASSIGNOR	Date of Signing
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Signature of ASSIGNOR	Date of Signing
If ASSIGNOR is a <u>legal entity</u> complete the fol	llowing information
Type or print the name of the above person authorized to	o sign on behalf of ASSIGNOR
Title	
	necessary, if the assignment is notarized or legalized then it will only be
prima facie evidence (35 USC 261). Use next page if not	arization is desiredNotarization of Legalization Page Added.

and which is for	un d in	
x (a) U.S. p	patent application executed on even date	e h erewith
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x (e) and an	ny legal equivalent thereof in a foreign co	ountry, including the right to claim priority
	livision, renewal, or substitute, thereo	said invention by the above application or any f, and as to letters patent any re-issue or re-
	OR hereby covenants that no assignment entered into which would conflict with the	nt, sale, agreement or encumbrance has been or nis assignment.
may be known or proceeding representatives and enforce saimay be necessarial witness with the major of the saimay be necessarial witness with the saimay be necessarial witness with the saimay be saimay be necessarial witness witne	and accessible to ASSIGNOR and will to related thereto and will promptly examp and all papers, instruments or afficial application, said invention and said ary or desirable to carry out the purpose. /HEREOF, I / We have signed	n and said Letters Patent and legal equivalents as testify as to the same in any interference, litigation execute and deliver to ASSIGNEE or its legal davits required to apply for, obtain, maintain, issue Letters Patent and said equivalents thereof which is thereof.
Signature of AS SIG	NOR	Date of Signing
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and which is found in		
x (a) U.S. patent application executed on e	ven date herewith	
(b) U.S. patent application executed on		
(c) U.S. application serial no.	filed on	
(d) U.S. patent no issued		
x (e) and any legal equivalent thereof in a fo	preign country, including the right to claim priority	
	ined for said invention by the above application or any thereof, and as to letters patent any re-issue or re-	
ASSIGNOR hereby covenants that no as will be made or entered into which would conflic	ssignment, sale, agreement or encumbrance has been or of with this assignment.	
pertinent facts and documents relating to said i may be known and accessible to ASSIGNOR a or proceeding related thereto and will prorrepresentatives any and all papers, instruments	SNEE will, upon its request, be provided promptly with all nvention and said Letters Patent and legal equivalents as and will testify as to the same in any interference, litigation mptly execute and deliver to ASSIGNEF or its legal is or affidavits required to apply for, obtain, maintain, issue and said Letters Patent and said equivalents thereof which purposes thereof.	
Signature of ASSIGNOR Signature of ASSIGNOR	te of execution of the application if item (a) was checked above. 7 A 2011 Date of Signing 7 A 2011 Date of Signing	
Signature of ASSIGNOR	Date of Signing	
Signature of ASSIGNOR	Date of Signing	
If ASSIGNOR is a <u>legal entity</u> complete the f	following information	
Type or print the name of the above person authorized	d to sign on behalf of ASSIGNOR	
Title		
	is necessary, if the assignment is notarized or legalized then it will only be	
prima facie evidence (35 USC 261). Use next page if r	notarization is desiredNotarization of Legalization Page Added.	

and	which is found in			
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П	(c) U.S. application serial no.	filed on		
	(d) U.S. patent no(also check (e) ii	issued		
(e) and any legal equivalent thereof in a foreign country, including the right to claim priority				
and, in and to, all Letters Patent to be obtained for said invention by the above application or an continuation, division, renewal, or substitute, thereof, and as to letters patent any re-issue or reexamination thereof.				
will l	ASSIGNOR hereby covenants that no assigned be made or entered into which would conflict w	nment, sale, agreement or encumbrance has been o ith this assignment.		
or preprietand may	inent facts and documents relating to said inverse be known and accessible to ASSIGNOR and proceeding related thereto and will prompt esentatives any and all papers, instruments or enforce said application, said invention and be necessary or desirable to carry out the pure ITNESS WHEREOF, I / We have signed	EE will, upon its request, be provided promptly with all ention and said Letters Patent and legal equivalents as will testify as to the same in any interference, litigation by execute and deliver to ASSIGNEE or its legal raffidavits required to apply for, obtain, maintain, issue said Letters Patent and said equivalents thereof which poses thereof.		
Signa	ture of ASSIGNOR	Date of Signing		
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If AS	SIGNOR is a <u>legal entity</u> complete the folk	owing information		
Туре	or print the name of the above person authorized to	sign on behalf of ASSIGNOR		
Title				
	Note: No witnessing, notarization or legalization is no prima facie evidence (35 USC 261). Use next page if notar	ccessary, if the assignment is notarized or legalized then it will only be ization is desired.		

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and '	which is found in	
x	(a) U.S. patent application executed on ever	n date herewith
$\bar{\Box}$	(b) U.S. patent application executed on	
П	(c) U.S. application serial no.	filed on
П	(d) U.S. patent no(also check (e) ii	issued
Ц	(also check (e) i	f foreign application(s) is also being assigned)
x	(e) and any legal equivalent thereof in a fore	ign country, including the right to claim priority
conti		ed for said invention by the above application or any hereof, and as to letters patent any re-issue or re-
will b	ASSIGNOR hereby covenants that no assignee made or entered into which would conflict v	gnment, sale, agreement or encumbrance has been or with this assignment.
may or p repre and may	be known and accessible to ASSIGNOR and roceeding related thereto and will promp esentatives any and all papers, instruments of	ention and said Letters Patent and legal equivalents as divill testify as to the same in any interference, litigation of the execute and deliver to ASSIGNEE or its legal or affidavits required to apply for, obtain, maintain, issue said Letters Patent and said equivalents thereof which reposes thereof.
WAF	RNING Date of signing must be the same as the date of	of execution of the application if item (a) was checked above.
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If AS	SIGNOR is a <u>legal entity</u> complete the fol	lowing information
Туре	or print the name of the above person authorized to	o sign on behalf of ASSIGNOR
Title		
	Note: No witnessing, notarization or legalization is	necessary, if the assignment is notarized or legalized then it will only be
	prima facie evidence (35 USC 261). Use next page if nota	-
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RECORDED: 10/25/2011