Mail Stop: Assignment Recordation Servi Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	ET U.S. DEPARTMENT OF COMMER Patent and Trademark Of
9 23 03	Attorney Docket No. 117264
Please record the attached or	riginal document or copy thereof.
A. Name of conveying party: Koichi TERUNUMA	2. A. Name and address of receiving party: TDK CORPORATION 1-13-1, NIHONBASHI, CHUO-KU, TOKYO, 103-8272, JAPAN
B. Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No	
3. A. Nature of conveyance:	B. Additional name(s) & address(es) attached? ☐ Yes ☐ No
☐ Security Agreement ☐ Change of Name	
Other	
B. Execution Date: September 2, 2003	
B. Patent Application No.(s)Additional numbers a	C. Patent No.(s)
Name and address of party to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved: 1
Name: James A. Oliff	7. A. Total fee (37 CFR 3.41)\$ 40.00
	B. Enclosed (Check No. <u>146578</u>)
Address: OLIFF & BERRIDGE, PLC P.O. Box 19928 Alexandria, VA 22320	Credit any overpayment or charge any underpayment to deposit account number 15-0461.
BYRNE 00000075 10667349 40.00 0P	
9. Statement and signature.	rmation is true and correct and any attached copy is a true copy o
James A. Oliff Registration No. 27,075 Thomas J. Pardini Registration No. 30,411	Date: September 23, 2003

PATENT REEL: 014542 FRAME: 0288

ASSIGNMENT

(1-8)		(1)	Koichi TERUNUM	(5)	
(1-8)	_				
	Insert Name(s)	(2)			
	of Inventor(s)	(3)			
		(4)			
		to eac	ch of the undersigned, each under		ood and valuable consideration paid nereby does assign, transfer and set
(9)	Insert Name of Assignee	(9)	TDK Corporation	on	
(10)	Insert Address of Assignee	(10)	1-13-1, Nihonbas	shi, Chuo-ku, Toky	ro, 103-8272, Japan
(11)	Insert	the en inven division reissu (11)	tire right, title and interest for to tion, and in all applications for onal, continuation, substitute, a es and reexamination certificate MAGNETORESISTIVE	the United States of America as patent including any and all present including any and all present application(s), and a s that may be granted on the incremental of the incremental o	all Letters Patent, extensions, avention known as THIN FILM MAGNETIC HEA
	Identification such as Title, Case		MAGNETIC HEAD DEV	ICE AND MAGNETIC I	RECORDING/REPRODUCING DE
	Number, or Foreign Application Number	(Attor	ney Docket No.)
					tent in the United States of America
(12)	Insert Date of Signing of Application	(12)	on September 2	2, 2003	
(13)	Alternative	(13)	U.S. application Serial Number	r	
	Identification for				
	pplications for the invention	n, and an	ute all papers necessary in conn y patent(s) issuing thereon, and	ection with any application an	d any continuing, divisional or aments in connection with such
application any application any application and application of the Assignment of the	filed applications 1) Each undersigned agree, pplications for the invention ons and patents as the Assig 2) Each undersigned agree; ication or continuation or dignee in every way possible is 3) Each undersigned agree; provisions of the Internation 4) Each undersigned agrees that in a grant of a valid Unit 5) Each undersigned author from said application(s) to the terms of the te	s to execute, and any gree may sto executivision the nobtaining sto executional Converse to perform the said Anathe has sheirs, surprise to grants to execute the said Anathe has sheirs, surprise to execute the said Anathe	ate all papers necessary in conning patent(s) issuing thereon, and deem necessary. It all papers necessary in conneceof, or any patent or reissue a nigle evidence and going forward ate all papers and documents an cention for Protection of Industrian all affirmative acts which missioner to the Assignee. It is patent to the Assignee of the entagence of the entagence and conneced to the control of the entagence	ection with any application analso to execute separate assign ection with any interference with such interference. It is performed any act which may lead the property or similar agreemals be necessary to obtain, mainly attents to issue any and all Let it interest, and covenants that cute, any agreements in conflices esentatives.	d any continuing, divisional or aments in connection with such thich may be declared concerning the invention, and to cooperate with the necessary in connection with such that the necessary in connection with such the necessary in connection with the necessary in connection wi
application any application any application applications of the color	filed applications 1) Each undersigned agree upplications for the invention ons and patents as the Assig 2) Each undersigned agree ication or continuation or dignee in every way possible is 3) Each undersigned agrees reprovisions of the Internation 4) Each undersigned agrees reaction a grant of a valid Unit 5) Each undersigned author from said application(s) to the term of this document.	s to execut, and any gnee may gnee may so to executivision the nobtaining to executoral Converted States rizes and the said Anathe has sheirs, suy grants to desiral	ate all papers necessary in conning patent(s) issuing thereon, and deem necessary. It all papers necessary in conning ereof, or any patent or reissue a nig evidence and going forward ate all papers and documents any ention for Protection of Industry all affirmative acts which may patent to the Assignee. It is a patent to the Assignee of the act of the continuous and the patent to the Assignee of the entire cecessors, assigns and legal repute firm of OLIFF & BERRIDGE, the firm of OLIFF & BERRIDGE.	ection with any application analso to execute separate assign ection with any interference with such interference. It is interference, for the with such interference. It is interference, it is property or similar agreemally be necessary to obtain, main attents to issue any and all Let ire interest, and covenants that cute, any agreements in conflict esentatives. PLC the power to insert on this rules of the United States Pate	d any continuing, divisional or aments in connection with such thich may be declared concerning the invention, and to cooperate with one necessary in connection with ents. Intain or confirm by reissue or ters Patents of the United States the has full right to convey the ortherewith, and agrees that this is assignment any further int and Trademark Office for
application any application any application applications of the color	filed applications 1) Each undersigned agree, pplications for the invention ons and patents as the Assig 2) Each undersigned agree; ication or continuation or dignee in every way possible is 3) Each undersigned agrees; provisions of the Internation 4) Each undersigned agrees; ation a grant of a valid Unit 5) Each undersigned author from said application(s) to the term of the internation and application in the internation and application in the internation and application in the internation and the international application in the internation int	s to execute, and any gree may sto execute to the store on all Constant Store on all Constant Store said Anathe has sheirs, suy grants to desiral ed by the	ate all papers necessary in conny patent(s) issuing thereon, and deem necessary. Ite all papers necessary in conneceof, or any patent or reissue a ng evidence and going forward ite all papers and documents any ention for Protection of Industry multiple and affirmative acts which me patent to the Assignee. Requests the Commissioner of Ite and the entire and affirmative and will not executed, and will not executed. The patent of OLIFF & BERRIDGE, the in order to comply with the	ection with any application analso to execute separate assign ection with any interference with such interference. It with such interference. It with such interference. It is perform any act which may lead to be necessary to obtain, main extents to issue any and all Let ire interest, and covenants that exite, any agreements in conflict esentatives. PLC the power to insert on this rules of the United States Pate opposite the undersigned name	d any continuing, divisional or aments in connection with such thich may be declared concerning the invention, and to cooperate with the necessary in connection with tents. Intain or confirm by reissue or ters Patents of the United States the has full right to convey the cot herewith, and agrees that this is assignment any further int and Trademark Office for the test in connection with the same than the same that the convey the cot herewith, and agrees that this is assignment any further int and Trademark Office for the test.
applicati any appl the Assig claims of reexamir resulting entire int assignment identificate recordati	filed applications 1) Each undersigned agree upplications for the invention ons and patents as the Assig 2) Each undersigned agree ication or continuation or dignee in every way possible is 3) Each undersigned agrees reprovisions of the Internation 4) Each undersigned agrees reaction a grant of a valid Unit 5) Each undersigned author from said application(s) to the term of this document.	s to executary and any sto executary and constant is to executary and cons	ate all papers necessary in conny patent(s) issuing thereon, and deem necessary. Ite all papers necessary in conneceof, or any patent or reissue a ng evidence and going forward ite all papers and documents any cention for Protection of Industrian all affirmative acts which me patent to the Assignee. In the commissioner of Easignee, as Assignee of the end in not executed, and will not executed, and will not executed. The firm of OLIFF & BERRIDGE, the firm of OLIFF & BERRIDGE, and in order to comply with the content of the date(s) of the end of the en	ection with any application analso to execute separate assign ection with any interference with such interference. It is interference, for the with such interference. It is interference, it is property or similar agreemally be necessary to obtain, main attents to issue any and all Let ire interest, and covenants that cute, any agreements in conflict esentatives. PLC the power to insert on this rules of the United States Pate	d any continuing, divisional or aments in connection with such thich may be declared concerning the invention, and to cooperate with one necessary in connection with ents. Intain or confirm by reissue or ters Patents of the United States the has full right to convey the cot herewith, and agrees that this is assignment any further int and Trademark Office for e(s).
application applic	filed applications 1) Each undersigned agree, pplications for the invention ons and patents as the Assig 2) Each undersigned agree; ication or continuation or dignee in every way possible is 3) Each undersigned agrees; provisions of the Internation 4) Each undersigned agrees; ation a grant of a valid Unit 5) Each undersigned author from said application(s) to the term of the internation and application in the internation and application in the internation and application in the internation and the international application in the internation int	s to execut, and any gnee may so to executivision the nobtaining to executional Converse and Converse and the said Anathe has sheirs, sury grants to or desiral ed by the said	ate all papers necessary in conny patent(s) issuing thereon, and deem necessary. Ite all papers necessary in conneceof, or any patent or reissue a ng evidence and going forward ite all papers and documents any cention for Protection of Industry and affirmative acts which me is patent to the Assignee. Inventor Signature Inventor Signature	ection with any application analso to execute separate assign ection with any interference with such interference. It is perform any act which may be necessary to obtain, main elements to issue any and all Let ire interest, and covenants that eute, any agreements in conflict esentatives. PLC the power to insert on this rules of the United States Pate possite the undersigned name to the conflict end of the conflict end of the United States Pate possite the undersigned name to its limitation and the conflict end of the United States Pate possite the undersigned name to its limitation and the conflict end of the United States Pate possite the undersigned name to its limitation and the conflict end of the United States Pate possite the undersigned name to its limitation and the conflict end of the	d any continuing, divisional or aments in connection with such hich may be declared concerning the invention, and to cooperate with the necessary in connection with such that the necessary in connection with the necessary in connectio
application any application any application claims of the Assignment of the Assignme	filed applications 1) Each undersigned agree upplications for the invention ons and patents as the Assig 2) Each undersigned agree ication or continuation or dignee in every way possible is 3) Each undersigned agrees reprovisions of the Internation 4) Each undersigned agrees reprovisions of the Internation agrant of a valid Unit 5) Each undersigned author from said application(s) to the test herein assigned, and the test is binding on him and his 6) Each undersigned hereby ation that may be necessary on of this document. In witness whereof, execut	s to execute, and any gnee may see execute to execute the secute on all Converted States and the said Anathe has sheirs, suy grants to or desiral the said Anathe the secute of the said Anathe the said A	ate all papers necessary in conny patent(s) issuing thereon, and deem necessary. Ite all papers necessary in connereof, or any patent or reissue and gevidence and going forward ite all papers and documents and rention for Protection of Industry all affirmative acts which me patent to the Assignee. It requests the Commissioner of Existing and a signee, as Assignee of the end and the end and the signee in order to comply with the construction of OLIFF & BERRIDGE, the firm of OLIFF & BERRIDGE, the firm of OLIFF & BERRIDGE, the in order to comply with the condensation of the signature inventor Signature. Inventor Signature	ection with any application analso to execute separate assign ection with any interference with such interference. It is interference, the property or similar agreemal by the necessary to obtain, main eatents to issue any and all Let ire interest, and covenants that exite, any agreements in conflicion of the United States Pate proposite the undersigned name the control of the United States Pate of the Uni	d any continuing, divisional or aments in connection with such thich may be declared concerning the invention, and to cooperate with one necessary in connection with ents. Intain or confirm by reissue or ters Patents of the United States the has full right to convey the cot herewith, and agrees that this is assignment any further int and Trademark Office for the control of the control of the control of the control of the convey the cot herewith, and agrees that this is assignment any further int and Trademark Office for the control of the c
applicati any appli the Assignment in interest in inte	filed applications 1) Each undersigned agree applications for the invention ons and patents as the Assigned ication or continuation or dignee in every way possible if 3) Each undersigned agrees a provisions of the Internation 4) Each undersigned agrees at a valid Unit 5) Each undersigned author from said application(s) to the internation agrant of a valid Unit of the internation agrant of the internation in the in	s to execut, and any gnee may so to executivision the nobtaining to executional Comparts to perform the said Anathe has sheirs, sury grants to or desiral ed by the said by the said sheirs, sury grants to or desiral ed by the said sheirs.	ate all papers necessary in conny patent(s) issuing thereon, and deem necessary. Ite all papers necessary in conneceof, or any patent or reissue a ng evidence and going forward ite all papers and documents any cention for Protection of Industry and In	ection with any application analso to execute separate assign ection with any interference with such interference. It is perform any act which may be necessary to obtain, main elements to issue any and all Let ire interest, and covenants that eute, any agreements in conflict esentatives. PLC the power to insert on this rules of the United States Pate possible the undersigned name to the conflict end of the Conflict end of the United States Pate possible the undersigned name to the Conflict end of the	d any continuing, divisional or aments in connection with such hich may be declared concerning he invention, and to cooperate with the enterest of the United States the has full right to convey the cotherewith, and agrees that this is assignment any further and Trademark Office for the e(s). (SEAL) (SEAL)
applicati any appl the Assignment of the Assignm	filed applications 1) Each undersigned agree, pplications for the invention ons and patents as the Assig 2) Each undersigned agrees ication or continuation or dignee in every way possible if 3) Each undersigned agrees reprovisions of the Internation 4) Each undersigned agrees reprovisions of the Internation a grant of a valid Unit 5) Each undersigned author from said application(s) to derest herein assigned, and the tent is binding on him and his 6) Each undersigned hereby ation that may be necessary on of this document. In witness whereof, execut \$\$Sept. 02, 2	s to execute, and any gnee may see execute to execute the secute on all Converted States rizes and the hast he	ate all papers necessary in conny patent(s) issuing thereon, and deem necessary. Ite all papers necessary in conneces, or any patent or reissue a ng evidence and going forward the all papers and documents and rention for Protection of Industry all affirmative acts which me patent to the Assignee. It requests the Commissioner of Flassignee, as Assignee of the end and will not executed, and will not executed and the legal reprise for order to comply with the sundersigned on the date(s) or inventor Signature Inventor Signature Inventor Signature Inventor Signature	ection with any application analso to execute separate assign ection with any interference with such interference. It is property or similar agreemal by be necessary to obtain, main eatents to issue any and all Let ire interest, and covenants that cute, any agreements in conflicute, any agreements in conflicute, any agreements in conflicute, any agreements in conflicute, any agreements in conflicutes of the United States Pate proposite the undersigned name Koichi Terunua Koichi Terunua	d any continuing, divisional or aments in connection with such thich may be declared concerning the invention, and to cooperate with one necessary in connection with ents. Intain or confirm by reissue or ters Patents of the United States the has full right to convey the cot herewith, and agrees that this is assignment any further int and Trademark Office for e(s). (SEAL) (SEAL) (SEAL)
application any application any application and application of the color and application application application application and application applicati	filed applications 1) Each undersigned agree upplications for the invention ons and patents as the Assig 2) Each undersigned agree ication or continuation or dignee in every way possible if 3) Each undersigned agrees provisions of the International agrant of a valid Unit 5) Each undersigned author from said application(s) to terest herein assigned, and the test is binding on him and his 6) Each undersigned hereby ation that may be necessary on of this document. In witness whereof, execut Sept. 02, 2	s to execut, and any gnee may so to executivision the nobtaining to executional Comparts to perform the said Anathe has sheirs, sury grants to or desiral ed by the said Anathe has sheirs.	ate all papers necessary in conny patent(s) issuing thereon, and deem necessary. Ite all papers necessary in conneceof, or any patent or reissue a ng evidence and going forward ite all papers and documents any ention for Protection of Industry and affirmative acts which me is patent to the Assignee. Inventor Signature	ection with any application analso to execute separate assign ection with any interference with such interference. It is perform any act which may be necessary to obtain, main elements to issue any and all Let ire interest, and covenants that eute, any agreements in conflices entatives. PLC the power to insert on this rules of the United States Pate possite the undersigned name the conflicit of the Conflicit o	d any continuing, divisional or aments in connection with such hich may be declared concerning he invention, and to cooperate with the invention, and to cooperate with the nets. Intain or confirm by reissue or ters Patents of the United States the has full right to convey the cot herewith, and agrees that this is assignment any further and Trademark Office for the cess. (SEAL) (SEAL) (SEAL) (SEAL) (SEAL)

PATENT REEL: 014542 FRAME: 0289