Form P 05-31-2006	U.S. DEPARTMENT OF COMMERCE United States Patent and Trademark Office
FOR	S ONLY 10/556151
1. Name of conveying party(ies): Toshiaki KAGAWA (10/18/2005), Hiroshi KIDA (10/18/2005), Takashi YAMANAKA (10/18/2005), and Tetsunori MITSUOKA (10/18/2005) Additional name(s) of conveying party(ies) attached?  Yes X No	2. Name and address of receiving party(ies)  Name: Sharp Kabushiki Kaisha  Internal Address:  Street Address:
3. Nature of conveyance/Execution Date(s):	22-22, Nagaike-cho, Abeno-ku
Execution Date(s): in parentheses after inventor name  X Assignment Merger Change of Name  Security Agreement Joint Research Agreement	Osaka-Shi Osaka 545-8522 JAPAN City:
Government Interest Assignment	State:
Executive Order 9424, Confirmatory License  Other	Country: Zip:  Additional name(s) & address(es) Yes X No attached:
A. Patent Application No.(s)  NEW  Additional numbers attached?	This document is being filed together with a new application.  B. Patent No.(s)  Yes X No
5. Name and address to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved:
Name: Charles Gorenstein BIRCH, STEWART, KOLASCH & BIRCH, LLP Internal Address: Atty. Dkt.: 4492-0139PUS1 Street Address: 8110 Gatehouse Road Suite 100 East P.O. Box 747	7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00  Authorized to be charged by credit card  Authorized to be charged to deposit account  X Enclosed  None required (government interest not affecting title)
City: Falls Church	8. Payment Information
State: VA zip: 22040-0747	a. Credit Card Last 4 Numbers Expiration Date
Phone Number: (703) 205-8000 Fax Number: (703) 205-8050	b. Deposit Account Number
Email Address: mailroom@bskb.com	Authorized User Name
9. Signature: Signature	November 9, 2005
Charles Gorenstein - 29,271	
Chanes appension - 29,271	l otal number of pages including cover 3

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## **ASSIGNMENT**

	Application No.	NEW		Filed 11-09-05
Insert Name(s) of Inventor(s)	***(Given Name FAMILY NAME (ALL CAPS))***			
	WHERE	EAS,	Toshiaki KAGAWA	Hiroshi KIDA
	Takashi YAMANA	AKA	Tetsunori MITSUOKA	
	***************************************			
•	(hereinafter desig	nated as the un	dersigned) has (have) invented co	ertain new and useful improvements in
Insert Title of Invention	HEATING DEVI	CE		
			etters Patent of the United Statof a provisional application).	es of America has been executed by the
Insert Date of Signing of Application	on	Octo	ber 18, 2005	; and
Insert Name of Assignee	WHERE	EAS, <u>SHAR</u>	P KABUSHIKI KAISHA	
Insert Address of Assignee	of <u>22-22, Nagail</u>	ke-cho, Abeno-	ku, Osaka-shi, Osaka 545-8522 J	APAN
CHECK BOX IF APPROPRIATE	acquiring the enti	ire right, title a nerefor in the U		r designated as the Assignee) is desirous of on and in and to any Letters Patent(s) that
	the receipt of wh has (have) sold, Assignee the full dependencies and which may be gra	ich is hereby a assigned and t and exclusive I possessions a inted therefor in	cknowledged, and other good ar ransferred, and by these present right to the said invention in th nd the entire right, title and inte	s (\$10.00) to the undersigned in hand paid, and valuable consideration, the undersigned is does sell, assign and transfer unto said the United States of America, its territories, rest in and to any and all Letters Patent(s) is territories, dependencies and possessions, s;
	and to any and all			and extensions thereof for the full term or

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4492-0139PUS1

The undersigned agree(s) to execute all papers necessary in connection with this application and any continuing, divisional, conversion or reissue applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

The undersigned agree (s) to execute all papers necessary in connection with any interference which may be declared concerning this application or continuation, division, conversion or reissue thereof or Letter Patent(s) or reissue patent issued thereon and to cooperate with the Assignee in every way possible in obtaining and producing evidence and proceeding with such interference.

The undersigned agree(s) to execute all papers and documents and to perform any act which may be necessary in connection with claims or provisions of the International Convention for the Protection of Industrial Property or similar agreements.

The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States of America and any foreign patent(s) to the Assignee and to vest all rights therein hereby conveyed to said Assignee as fully and entirely as the same would have been held by the undersigned if this Assignment and sale had not been made.

The undersigned hereby authorize(s) and request(s) the Patent and Trademark Office Officials in the United States of America and in any foreign countries to issue any and all Letters Patents resulting from said application or any continuing, divisional conversion or reissue applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has (they have) the full right to convey the entire interest herein assigned, and that he has (they have) not executed, and will not execute, any agreement in conflict herewith.

The undersigned hereby grant(s) the law firm of Birch, Stewart, Kolasch & Birch, LLP the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office for recordation of this document.

The undersigned hereby covenant(s) that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

Date Action 18, 2005,	Name of Inventor <u>Joshiaki Ragawa</u> (signature) Toshiaki KAGAWA
Date Oct. 18, 2005,	Name of Inventor Hiroshi Lida
Date Oct. 18. 2005,	(signature) Hiroshi KIDA  Name of Inventor Takashi Yamanaka  (signature) Takashi Yamanaka
Date Oct. 18. 2005,	Name of Inventor <u>Jetsunori Mitsuoka</u> (signature) Tetsunori MITSUOKA
Date,	Name of Inventor (signature)
Date,	Name of Inventor(signature)

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February 2002

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