

PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT										
NATURE OF CONVEYANCE:	ASSIGNMENT										
CONVEYING PARTY DATA											
<table border="1"><thead><tr><th>Name</th><th>Execution Date</th></tr></thead><tbody><tr><td>Toshiyuki Koike</td><td>07/24/2008</td></tr><tr><td>Hidekazu Tanaka</td><td>07/24/2008</td></tr><tr><td>Soo Chen Lai</td><td>07/08/2008</td></tr><tr><td>Thomas Chee Wee Leow</td><td>03/21/2006</td></tr></tbody></table>	Name	Execution Date	Toshiyuki Koike	07/24/2008	Hidekazu Tanaka	07/24/2008	Soo Chen Lai	07/08/2008	Thomas Chee Wee Leow	03/21/2006	
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Thomas Chee Wee Leow	03/21/2006										
RECEIVING PARTY DATA											
Name:	Matsushita Electric Industrial Co., Ltd.										
Street Address:	1006, Oaza Kadoma, Kadoma-shi										
City:	Osaka										
State/Country:	JAPAN										
Postal Code:	571-8501										
PROPERTY NUMBERS Total: 1											
<table border="1"><thead><tr><th>Property Type</th><th>Number</th></tr></thead><tbody><tr><td>Application Number:</td><td>12281553</td></tr></tbody></table>	Property Type	Number	Application Number:	12281553							
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Application Number:	12281553										
CORRESPONDENCE DATA											
Fax Number:	(610)407-0701										
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>											
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NAME OF SUBMITTER:	Lawrence E. Ashery										
Total Attachments: 3 source=Assignment#page1.tif											

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PATENT
REEL: 021667 FRAME: 0186

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Matsushita Ref*: P42706-03
 Japan Firm Name: MTIS
 US Firm Name*: RP
 (* must be filled)

Application Serial No. _____
 Japan Firm Ref: P42706-03
 US Firm Ref: MAT-1018705

ASSIGNMENT

WHEREAS, the undersigned has (have) invented the invention entitled:

Box 1

Title of Invention:
SPEAKER SYSTEM

1. For use when signing Declaration prior to filing U.S. patent application (check only one box below)

(a) ☐ for which an application for U.S. patent has been executed by the undersigned concurrently herewith, or

(b) ☐ for which an application for U.S. patent has been executed on the following

date(s): _____, or
 (if Declaration & Assignment are signed on the same day, check (a) and make no entry in the blank; if the Declaration was signed before this Assignment, enter the date(s) on which you signed the Declaration)

(c) ☒ for which an International Application has been filed as:
 (for the PCT-US national entry, check only (c) and enter PCT application number in the right)

PCT Application No.

PCT/JP2006/306842 and,

2. For use when signing Declaration after filing U.S. patent application

(d) ☐ for which an application for U.S. patent has been filed on:

Application Filing Date

and,

WHEREAS, Matsushita Electric Industrial Co., Ltd. of 1006, Oaza Kadoma, Kadoma-shi, Osaka 571-8501, JAPAN, and

its/their heirs, successors, legal representatives and assigns (hereinafter designated as "Assignee(s)") is/are desirous of acquiring the entire right, title, and interest in and to said invention and in and to any Letters Patent(s) that may be granted therefor.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged and intended to be legally bound hereby, the undersigned, by these presents, does sell, assign and transfer unto said Assignee(s) the entire and exclusive right, title and interest in and to; (i) said invention in the United States of America, its territories, dependencies and possessions (hereinafter designated as the United States) and in all countries foreign to the United States; and (ii) this patent application and any and all related patent application(s) disclosing said invention, including provisionals, non-provisionals, conversions, divisions, continuations, continuations-in-part and reissues thereof in the United States and all countries foreign to the United States (hereinafter designated as "Related Applications"), along with all rights of priority created by this patent application under any treaty relating thereto; and (iii) any and all Letters Patent(s), including all renewals, extensions, reissues and reexamination certificates which may be granted therefore, and all rights to sue for past and future infringement thereunder, in the United States and in all countries foreign to the United States for the full term or terms thereof.

The undersigned agree(s) to execute all papers necessary in connection with this application and any and all Related Applications thereof, all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements, all papers necessary in connection with any interference which may be declared concerning this application or any and all Related Applications thereof and to cooperate with the Assignee(s) in every way possible in obtaining and producing evidence and proceeding with such interference, and for any and all litigations regarding, or for the purpose of protecting the right, title and interest in and to said invention, this application and any and all Related Applications or Letters Patent(s) therefore, and to testify in any legal proceeding relating thereto and in support thereof, for the benefit of Assignee(s), and also to execute separate assignments in connection with such applications as the Assignee(s) may deem necessary or expedient.

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

The undersigned hereby authorize(s) and request(s) the Commissioner of Patents, and officials of all foreign countries, whose duty is to issue patents, to issue any and all Letters Patent(s) resulting from said application or any and all Related Applications thereof to said Assignee(s) and hereby covenants that the undersigned has (have) full right to convey the entire interest herein assigned, and that the undersigned has (have) not executed, and will not execute, any assignment, sale, agreement or encumbrances in conflict herewith.

The undersigned hereby does sell, assign and transfer unto said Assignee(s) the full and exclusive authority for revoking power of attorney(s) executed by the undersigned in connection with this application and for appointing a new power of attorney in place thereof. The undersigned hereby grant(s) the Assignee(s) and the appointed U.S. patent attorneys and agents 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 Office for recordation of this document.

The undersigned hereby agree(s) that the above obligations shall apply to the undersigned both individually and collectively.

The undersigned hereby agree(s) that this Assignment shall be construed in accordance with the law of the appropriate jurisdiction within the United States.

IN WITNESS WHEREOF, executed by the undersigned on the date(s) following the undersigned name(s) and signature(s).

Box2 (Each Inventor, please Sign and Date below)

	(e) First Name, Last Name	(f) Signature	(g) Date signed
(1)	Toshiyuki KOIKE	Toshiyuki Koike	24 July 2008
(2)	Hidekazu TANAKA		24 July 2008
(3)	Soo Chen LAI		8 July 2008
(4)	Thomas Chee Wee LEOW		

☐ Check if additional paper(s) is/are attached. Total of ____ pages are submitted.

Invention/Design Disclosure and Agreement

Reference No.

FORM-2

WHEREAS, undersigned Inventor(s)/creator(s) (hereinafter called the "Employee(s)") is/are the first and true inventor/creator of an invention/design entitled;

Title: Loudspeaker Device and

WHEREAS, the Employee was at all material times employed by the Corporation;
Panasonic Electronic Devices Singapore Pte Ltd
No. 3 Bedok South Road, Singapore 469269

(hereinafter called "PEDSG") and made the invention/design hereinafter more fully set forth.

A. The Employee(s) made the invention/design herein above identified, pursuant to the respective contract of employment with PEDSG wherein PEDSG has all right, title and interest in and to the invention/design under the law of Singapore and in all countries.

B. In consideration of the sum of One Singapore Dollar (SG\$1.00) and the other good and valuable considerations, the Employee(s) has/have assigned to PEDSG the entire right, title and interest for the patent or the design herein above identified, and any patent application(s) or any design registration application(s) for the invention/design and any patent(s) or any registered design(s) that may issue for the invention/design in Singapore and in all countries.

C. The Employee(s) hereby agree(s) to sign, execute and deliver documents, forms and papers reasonably required by or through PEDSG in connection with any application for patent, design registration, or other protection in Singapore and in all countries on the subject matter of the invention/design.

IN TESTIMONY WHEREOF, said Employee(s) has/have hereunto set their hands and affixed their seals.

Employee(s)

Name: Hidekazu TANAKA
Nationality: Japanese
Passport #: TZ0264945
Signature (in full): [Signature]
Date signed: 21/03/06
Home Address: 3 BEDOK SOUTH ROAD
SINGAPORE 469269

Name: LAI Soo Chen
Nationality: Malaysian
Passport #: A14949399
Signature (in full): [Signature]
Date signed: 21/3/06
Home Address: Block 15, Bedok South
Road, #13-105, Singapore 460015

Name: Thomas LEOW Chee Wee
Nationality: Singaporean
Passport #: S7528260E
Signature (in full): [Signature]
Date signed: 21/3/06
Home Address: Block 339B, Sembawang
Close, #12-13, Singapore 752339

Name: _____
Nationality: _____
Passport #: _____
Signature (in full): _____
Date signed: _____
Home Address: _____

Witnesses: _____
Name: _____
Signature: _____
Date signed: _____

Name: _____
Nationality: _____
Passport #: _____
Signature (in full): _____

Disclosure of the invention/Drawings of the design

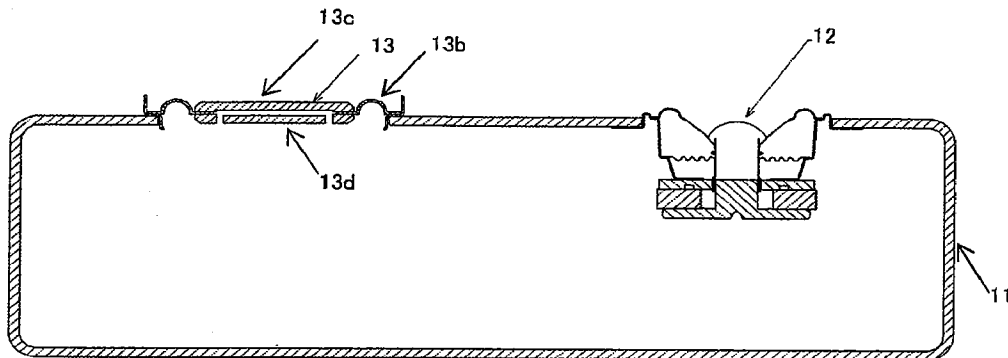


Fig. 1 Cross section of the speaker box

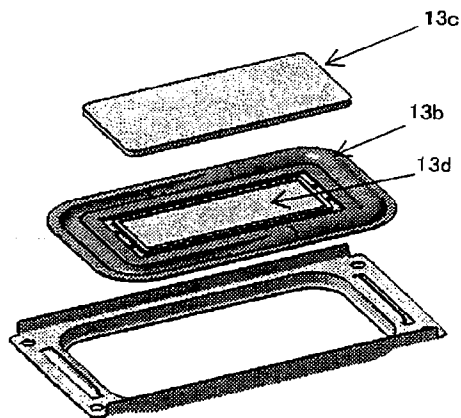


Fig. 2 Passive radiator

Description

The loudspeaker device of this invention is made up of a speaker unit (12) which is mounted onto a speaker box (11) and a passive radiator (13) where the speaker edge (13b) which forms the support system of the passive radiator is sandwiched between the first vibration plate (13c) and the second vibration plate (13d) and bonded together.

This invention enables realization of low frequencies reproduction and high input endurance by improving the endurance and bonding strength between the speaker edge (13b) and both of the vibration plates (13c and 13d).