

PATENT ASSIGNMENT

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| SUBMISSION TYPE: | NEW ASSIGNMENT |
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|---------------|----------------|
| Hee Sang Park | 10/28/2010 |
| Ho Seok Jeon | 10/28/2010 |
| Hyun Kim | 10/28/2010 |
| June Kyu Park | 10/28/2010 |
| Jung Hwan Yun | 10/28/2010 |
| Jun Mo Ku | 10/28/2010 |
| Sang Ha Kim | 10/28/2010 |

RECEIVING PARTY DATA

| | |
|-----------------|------------------------------|
| Name: | Hyundai Motor Company |
| Street Address: | 231, Yangjae-Dong, Seocho-Ku |
| City: | Seoul |
| State/Country: | REPUBLIC OF KOREA |

| | |
|-----------------|------------------------------|
| Name: | Kia Motors Corporation |
| Street Address: | 231, Yangjae-Dong, Seocho-Ku |
| City: | Seoul |
| State/Country: | REPUBLIC OF KOREA |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 12941376 |

CORRESPONDENCE DATA

Fax Number: (617)227-4420
Correspondence will be sent via US Mail when the fax attempt is unsuccessful.
 Phone: 617-239-0100
 Email: cscherbel@eapdlaw.com
 Correspondent Name: EDWARDS ANGELL PALMER & DODGE LLP

CH \$40.00 12941376

Address Line 1: P.O. BOX 55874
Address Line 4: BOSTON, MASSACHUSETTS 02205

ATTORNEY DOCKET NUMBER: 87322(51529)

NAME OF SUBMITTER: Peter F. Corless

Total Attachments: 10

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ASSIGNMENT BY INVENTORS

THIS ASSIGNMENT, made this 28 day of October, 2010, by PARK, Hee Sang; JEON, Ho Seok; KIM, Hyun; PARK, June Kyu; YUN, Jung Hwan; KU, Jun Mo; KIM, Sang Ha, (hereinafter referred to as Assignor), residing 102-1009, Hyundai Apt., Namyang-dong, Hwaseong-si, Gyeonggi-do 445-704, REPUBLIC OF KOREA; 605-1801, Samsantown, Samsan-dong, Bupyeong-gu, Incheon 403-090, REPUBLIC OF KOREA; Hyundai Kia Motors Namyang Institute, 772-1, Jangdeok-dong, Hwaseong-si, Gyeonggi-do 445-706, REPUBLIC OF KOREA; 101-601, Poranjae Apt., Moosong-dong, Hwaseong-si, Gyeonggi-do 445-020, REPUBLIC OF KOREA; No. 304, Yongduktown 360-7 Yangjae 2-dong, Seocho-gu, Seoul137-898, REPUBLIC OF KOREA, Hyundai Kia Motors Namyang Institute, 772-1, Jangdeok-dong, Hwaseong-si, Gyeonggi-do 445-706, REPUBLIC OF KOREA, Hyundai Kia Motors Namyang Institute, 772-1, Jangdeok-dong, Hwaseong-si, Gyeonggi-do 445-706, REPUBLIC OF KOREA; respectively;

WHEREAS, Assignors have invented certain new and useful improvements in THERMAL MANAGEMENT SYSTEM, VEHICLES EMBODYING SAME AND METHODS RELATED THERETO, set forth in a Patent application for Letters Patent of the United States, filed herewith; and

WHEREAS, Hyundai Motor Company and Kia Motors Corporation, organized under and pursuant to the laws of Republic of Korea, respectively having their principal places of business at 231, Yangjae-Dong, Seocho-Ku, Seoul, REPUBLIC OF KOREA; and 231, Yangjae-Dong, Seocho-Ku, Seoul, REPUBLIC OF KOREA, respectively (hereinafter referred to as Assignees), are desirous of acquiring the entire right, title and interest in and to said inventions and said Application for Letters Patent of the United States, and in and to any Letters Patent of the United States to be obtained therefore and thereon..

NOW, THEREFORE, in consideration of good and sufficient consideration, the receipt of which is hereby acknowledged, Assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto Assignee, its successors, legal representatives and assigns, the entire right, title

and interest in and to the above-mentioned inventions and application for Letters Patent, and in and to any and all direct and indirect divisions, continuations and continuations-in-part of said application, and any and all Letters Patent in the United States and all foreign countries which may be granted therefore and thereon, and reissues, reexaminations and extensions of said Letters Patent, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by Assignee, for its own use and benefit and the use and benefit of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent may be granted and/or extended, as fully and entirely as the same would have been held and enjoyed by Assignors, had this sale and assignment not been made.

AND for the same consideration, Assignors hereby represent and warrant to Assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, except for any rights, titles and/or interests that have arisen to Assignee under law or that have already been transferred to Assignee, Assignors are the sole and lawful owners of the entire right, title and interest in and to the said inventions and application for Letters Patent above-mentioned, and that the same are unencumbered and that Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, Assignors hereby covenant and agree to and with Assignee, its successors, legal representatives and assigns, that Assignors will sign all papers and documents, take all lawful oaths and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of any Letters Patent and applications for Letters Patent for said inventions, without charge to Assignee, its successors, legal representatives and assigns, whenever counsel of Assignee, or counsel of its successors, legal representatives and assigns, shall advise: that any proceeding in connection with said inventions, or said Patent application for Letters Patent, or any proceeding in connection with any Letters Patent or applications for Letters Patent for said inventions in any country, including but not limited to interference proceedings, is lawful and desirable; or, that any division, continuation or continuation-in-part of any application for Letters Patent, or any reissue,

reexamination or extension of any Letters Patent, to be obtained thereon, is lawful and desirable.

AND Assignors hereby request the Commissioner of Patent and Trademarks to issue said Letters Patent of the United States to Assignee, as Assignee of said inventions and the Letters Patent to be issued thereon, for the sole use and benefit of Assignee, its successors, legal representatives and assigns.

AND Assignors hereby grant the following individuals 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 United States Patent and Trademark Office for recordation of this document:

EDWARDS ANGELL PALMER & DODGE LLP

All practitioners at Customer Number 21874

AND Assignors acknowledge an obligation of assignment of this invention to Assignee at the time the invention was made.

October 28, 2010

Date

Park Hee Sang

PARK, Hee Sang

Witness:

October 28, 2010

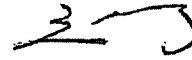
Date

GA

SONG, Ji Huang

October 28, 2010

Date



JEON, Ho Seok

Witness:

October 28, 2010

Date



SONG, Ji-Hyang

October 28, 2010
Date

Kim Hyun
KIM, Hyun

Witness:

October 28, 2010
Date

hw
SONG, Ji Hyang

October 28, 2010
Date

Park, June kyu
PARK, June Kyu

Witness:

October 28, 2010
Date

HA
SONG, Ji Huang

October 28, 2010

Date

YUN Jung Hwan

YUN, Jung Hwan

Witness:

October 28, 2010

Date

HA

SONG, Ji Hwan

October 28, 2010

Date

KU JUN MO

KU, Jun Mo

Witness:

October 28, 2010

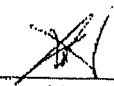
Date

SA

SONG, Ji Hyung

October 28, 2010

Date


KIM, Sang Ha

Witness:

October 28, 2010

Date

HA
SONG, Ji Hyang