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FORM PTO-1619A

Expires 08/30/99  
OMB 0851-0027U.S. Department of Commerce  
Patent and Trademark Office  
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**Conveying Party(ies)**☐ Mark if additional names of conveying parties attachedName (line 1) **HUGHES ELECTRONICS CORPORATION**Execution Date  
Month Day Year  
**01302001**Name (line 2) **a corporation of the state of Delaware****Second Party**Name (line 1) Execution Date  
Month Day Year  
Name (line 2) **Receiving Party**☐ Mark if additional names of receiving parties attachedName (line 1) **Raytheon Company**Name (line 2) **a corporation of the state of Delaware**Address (line 1) **Office of the General Counsel**Address (line 2) **141 Spring Street**Address (line 3) **Lexington****Massachusetts****02421**

City

State/Country

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☐ If document to be recorded is an assignment and the receiving party is not domiciled in the United States, an appointment of a domestic representative is attached. (Designation must be a separate document from Assignment.)**Domestic Representative Name and Address**

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Mail documents to be recorded with required cover sheet(s) information to:  
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Raytheon FAX No. 8055624120

X NO. 8055624120

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**PATENT**  
**REEL: 011341 FRAME: 0339**

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Expires 08/30/99  
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U.S. Department of Commerce  
Patent and Trademark Office  
**PATENT**

**Correspondent Name and Address**Area Code and Telephone Number **8055622108**Name **Raytheon Company**Address (line 1) **Patent Docket Administration**Address (line 2) **Bldg. EO/ E1 M/S E150**Address (line 3) **P. O. Box 902**Address (line 4) **E1 Segundo, California 90245-0902****Pages**

Enter the total number of pages of the attached conveyance document including any attachments.

# **3****Application Number(s) or Patent Number(s)**☐ Mark if additional numbers attached

Enter either the Patent Application Number or the Patent Number (DO NOT ENTER BOTH numbers for the same property).

**Patent Application Number(s)****Patent Number(s)****08566208**

If this document is being filed together with a new Patent Application, enter the date the patent application was signed by the first named executing inventor.

Month Day Year

**Patent Cooperation Treaty (PCT)**Enter PCT application number  
only if a U.S. Application Number  
has not been assigned.

PCT

PCT

PCT

PCT

PCT

PCT

**Number of Properties**

Enter the total number of properties involved.

# **1****Fee Amount**Fee Amount for Properties Listed (37 CFR 3.41): \$ **40**Method of Payment:  
Deposit AccountEnclosed ☐Deposit Account ☒

(Enter for payment by deposit account or if additional fees can be charged to the account.)

Deposit Account Number:

# **500616**

Authorization to charge additional fees:

Yes ☒No ☐**Statement and Signature**

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Charges to deposit account are authorized, as indicated herein.

**William C. Schubert, Reg. 30,102**

Name of Person Signing

Signature

Date

RAYTHEON FAX NO. 8055624120

HEC/RTN:Z95003

**PATENT**  
REEL: 011341 FRAME: 0340

**ASSIGNMENT OF U.S. PATENT APPLICATION FROM HUGHES ELECTRONICS  
CORPORATION TO RAYTHEON COMPANY**

This Assignment is effective the 29th day of January 2001 and is executed in duplicate originals.

**WHEREAS**, Hughes Electronics Corporation, having a place of business at 200 North Sepulveda Boulevard, El Segundo, CA 90245 (hereinafter referred to as "Assignor"), a corporation of the State of Delaware, United States of America, is the owner of the entire right, title and interest in and to any invention disclosures, applications for patent, letters patent, reissues, reexaminations, divisions, parents, continuations, continuations-in-part, or extensions thereof which may have been or shall be granted thereon in the United States, and any foreign country throughout the world for an invention entitled "High Efficiency Rotating Coil Torque Motor" (Ref. PD-Z95003) for which a patent application was filed in the U.S. bearing Serial No. 08/566,208, filed December 1, 1995;

**WHEREAS**, Raytheon Company (hereinafter referred to as "Assignee") is now desirous of acquiring rights in and to the United States patent application Serial No. 08/566,208 filed December 1, 1995 and any letters patent, reissues, reexaminations, continuations or continuations-in-part thereof which may have been or shall be granted thereon in the United States therefor, and

**WHEREAS**, Assignor is willing to assign to Assignee its entire rights in and to the United States patent application Serial No. 08/566,208 filed December 1, 1995 and any letter patent, reissues, reexaminations, continuations or continuations-in-part thereof which may have been or shall be granted thereon in the United States therefor;

**NOW THEREFORE**, to whom it may concern, be it known that pursuant to the obligations herein and other good and valuable consideration, of which receipt is hereby acknowledged, the Assignor, subject to pre-existing licenses and retention by Assignor of perpetual, non-exclusive, nontransferable, royalty-free licenses for Assignor, its subsidiaries and its affiliates to make, have made, use, sell and import products and perform or have performed services for use in the Telecommunications and Space Business and Automotive Electronics Business and any other businesses which are not competitive with the Defense Business as it existed as of the Spin-Off Merger Time, hereby sells, assigns and transfers to Assignee, all right, title and interest that it has or may have in, to and under United States patent application Serial No. 08/566,208 filed December 1, 1995 and any letters patent, reissues, reexaminations, continuations or continuations-in-part thereof which may have been or shall be granted thereon in the United States therefor, to be held and enjoyed by the Assignee, its successors and assigns, as fully and entirely as the same would have been held and enjoyed by Assignor had this assignment not been made, together with all present or future claims for profits, royalties, fees and/or damages by reason of past infringement or use of the transferred rights in the United States by any party or parties, with the right to sue for and collect the same as Assignee sees fit.

Assignor, for itself and its assigns, successors in interest and legal representatives does hereby: authorize and request the United States Patent Office to issue all letters patents issuing from U.S. patent application Serial No. 08/566,208 filed December 1, 1995 to Assignee, its successors or other legal representatives; covenant that no assignment, sale, agreement, transfer or encumbrance will be made or entered into which would conflict with this Assignment; agree to communicate to Assignee its successors, assigns or other legal representatives, upon request, any facts known to Assignor respecting U.S. patent application Serial No. 08/566,208; authorize and appoint Assignee to execute all papers with respect to all matters, including claims and proceedings, relating to U.S. patent application Serial No. 08/566,208, including the execution and delivery of all papers and proper oaths and giving of testimony that are deemed necessary or desirable by Assignee, its successors, assigns or representatives for protecting, obtaining, maintaining and enforcing U.S. patent application Serial No. 08/566,208 in the United States, for perfecting, affirming, recording and maintaining the title to U.S. patent application Serial No. 08/566,208 in Assignee, its successors, assigns or other legal representatives; and agree to generally cooperate to the fullest extent in all matters pertaining to U.S. patent application Serial No. 08/566,208.

Assignee agrees to assume all prosecution, maintenance and other pre-existing obligations associated with this U.S. patent application Serial No. 08/566,208, including, without limitation, cost associated with continuing prosecution after final rejection, recordation and future maintenance fee payments.

**HUGHES ELECTRONICS CORPORATION****Assignor's Name***Michael W. Sales*  
Signature1/30/2001  
Date of SignatureMichael W. Sales

Signatory's Name

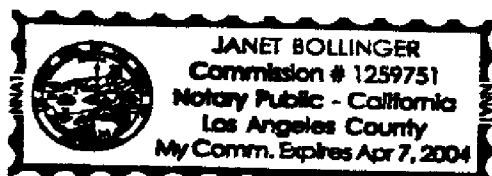
Assistant Secretary

Signatory's Title

STATE OF California  
COUNTY OF Los AngelesON January 30, 2001 before me, Janet Bollinger, a Notary Public in and for said State, personally appeared Michael W. Sales

☒ personally known to me or o proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

*Janet Bollinger*  
Notary Public

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**AGREED TO:****RAYTHEON COMPANY****Assignee's Name**

Signature

February 19, 2001

Date of Signature

Glenn H. Lenzen, Jr.

Signatory's Name

Vice President - Intellectual  
Property & Licensing

Signatory's Title

## COMMONWEALTH

STATE OF MASSACHUSETTSCOUNTY OF MIDDLESEX

ON February 19, 2001 before me, Katherine J. Hancock a Notary Public in and for said State, personally appeared Glenn H. Lenzen, Jr.

☒ personally known to me or o proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Katherine J. Hancock  
Notary Public Katherine J. HancockMy Commission Expires: 12/08/06