

MED 4/30/98

To the Honorable Commissioner of Patents and Trademarks Please record the attached original documents or copy thereof

1. Name of conveying party(ies):
HE HOLDINGS Inc., HUGHES ELECTRONICS,
formerly known as HUGHES AIRCRAFT COMPANY

Additional Name(s) of conveying party(ies) attached?
yes no

2. Name and address of receiving party(ies):
Name: HUGHES ELECTRONICS CORPORATION

Internal Address: Bldg. 001, M/S A109
PO Box 956
200 N. Sepulveda Blvd.
El Segundo, CA 90245-0956

3. Nature of Conveyance:
 Assignment Merger
 Security Agreement Change of Name
 Other

Execution Date: December 17, 1997

Street Address: 200 N. Sepulveda Blvd.
P. O. Box 956
El Segundo, California 90245

Additional name(s) & address(es) attached? yes no

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is:

A. Patent Application No.(s)

B. DUAL Patent No.(s)
4,422,074; 4,209,689 and other as per Schedule A (pgs. 1 - 6) attached to Assignment document.

Additional numbers attached? yes no

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: HUGHES ELECTRONICS CORPORATION
Internal Address: Bldg. 001, M/S A109
PO Box 956
200 N. Sepulveda Blvd.
El Segundo, CA 90245-0956

Street Address: PO Box 956
200 N. Sepulveda Blvd.
El Segundo, CA 90245-0956

PLEASE ASSOCIATE THIS APPLICATION WITH CUSTOMER NO. 020991.

6. Total number of applications and patents involved: []

7. Total fee (37 CFR 3.41): \$40.00 x 167 = \$6,680

Enclosed
 Authorized to be charged to deposit account

8. Deposit account number:
50-0383

(Attached duplicate copy of this page if paying by deposit account)

PLEASE CHARGE FEE

DO NOT USE THIS SPACE

9. 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.

Michael W. Sales, Reg. 30,213
Name of Person Signing

[Signature]
Signature

4/30/98
Date

PATENT

SCHEDULE A TO INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT

DUAL USE PATENTS

ISSUED PATENT #	ISSUE DATE	PD NO	TITLE
4,422,074	12/20/83	005619	SIGNAL SKIMMING SYSTEM
4,209,689	6/24/80	068333	LASER SECURE COMMUNICATIONS SYSTEM
4,263,600	4/21/81	071425	WIDE-BAND, PHASE SCANNED ANTENNA
4,276,551	6/30/81	071466	ELECTRONICALLY SCANNED ANTENNA
4,585,934	4/29/86	075352B	SELF-CALIBRATION TECHNIQUE FOR CHARGE COUPLED DEVICE IMAGERS
4,541,048	9/10/85	077271B	MODULAR PROGRAMMABLE SIGNAL PROCESSOR
4,265,932	5/5/81	07832E	MOBILE TRANSPARENT WINDOW APPARATUS AND METHOD FOR PHOTOCHEMICAL VAPOR DEPOSITION
4,341,569	7/27/82	079043A	SEMICONDUCTOR ON INSULATOR LASER PROCESS
4,649,391	3/10/87	07932E	MONOPULSE CAVITY-BACKED MULTIPOLE ANTENNA SYSTEM
4,428,015	1/24/84	08103E	OVERCURRENT LIMITER CIRCUIT FOR SWITCHING REGULATOR POWER SUPPLIES
4,613,869	9/23/86	081087	ELECTRONICALLY SCANNED ARRAY ANTENNA
4,791,076	12/13/88	08119E	GRAPHITE FIBER REINFORCED SILICA MATRIX COMPOSITE
4,473,939	10/2/84	08202E	PROCESS FOR FABRICATING GAAS FET WITH ION IMPLANTED CHANNEL LAYER
5,535,225	7/9/96	08208E	TIME DOMAIN ALGEBRAIC ENCODER/DECODER
4,621,365	11/4/86	082280	SYNCHRONIZATION PREAMBLE CORRELATION DETECTOR AND FREQUENCY ESTIMATOR
4,709,215	11/24/87	08235A	TRAVELING WAVE TUBE DRIVE CONTROLLER
4,668,922	5/26/87	08306B	FAST PHASE-LOCK FREQUENCY SYNTHESIZER
4,571,704	2/18/86	083207	NONVOLATILE LATCH
4,630,258	12/16/86	08407E	PACKET SWITCHED MULTIPOINT MEMORY NXM SWITCH NODE AND PROCESSING METHOD
4,621,359	11/4/86	08407A	LOAD BALANCING FOR PACKET SWITCHING NODES
4,623,996	11/18/86	08407E	PACKET SWITCHED MULTIPLE QUEUE NXM SWITCH NODE AND PROCESSING METHOD
4,896,340	1/23/90	08418E	PARTIAL DIRECT INJECTION FOR SIGNAL PROCESSING SYSTEM
4,661,650	4/28/87	084290A	SOLAR CELL COATED WITH HIGH MOLECULAR WEIGHT POLYIMIDE
4,667,238	5/19/87	08510E	NONINVASIVE BAD CHANNEL DETECTION AND CORRECTION
4,797,626	1/10/89	085277	OFFSET VOLTAGE CORRECTION CIRCUIT FOR GRIDDED POWER TUBES
5,436,973	7/25/95	08607E	PSEUDO-RANDOM SIGNAL SYNTHESIZER WITH SMOOTH, FLAT POWER SPECTRUM
5,097,485	3/17/92	086294	HF HIGH DATA RATE MODEM
5,001,445	3/19/91	086407A	TRANSPORT PROCESSOR FILTER
4,833,427	5/23/89	08642B	SIGNAL SOURCE FOR USE WITH AN LC TANK CIRCUIT
4,926,500	5/15/90	086540	FREQUENCY CONVERTER
5,276,873	1/4/94	086557B	APPARATUS AND METHOD FOR GENERATING CAPTURE COMMANDS FOR DATA ACQUISITION
5,099,245	3/24/92	087015A	VEHICLE LOCATION SYSTEM ACCURACY ENHANCEMENT FOR AIRBORNE VEHICLES
5,001,773	3/19/91	087023	LOCAL OSCILLATOR FEEDTHRU CANCELLATION CIRCUIT

SCHEDULE A TO INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT

DUAL USE PATENTS

ISSUED PATENT #	ISSUE DATE	PD NO.	TITLE
5,093,781	3/3/92	087116	CELLULAR NETWORK ASSIGNMENT PROCESSOR USING MINIMUM/MAXIMUM CONVERGENCE TECHNIQUE
5,003,490	3/26/91	087117	NEURAL NETWORK SIGNAL PROCESSOR
5,001,631	3/19/91	087118	CELLULAR NETWORK ASSIGNMENT PROCESSOR USING RANDOMLY TRIGGERED ADAPTIVE CELL THRESHOLDS
5,029,182	7/2/91	087126A	AN AUTOMATIC GAIN CONTROL (AGC) FOR FREQUENCY HOPPING RECEIVER
5,081,626	1/14/92	087150	SYSTEM FOR DETECTION AND LOCATION OF EVENTS
4,951,237	8/21/90	087202	DIRECT DIGITAL SYNTHESIZER WITH SELECTABLY RANDOMIZED ACCUMULATOR
5,109,497	4/28/92	087206	ARITHMETIC ELEMENT CONTROLLER FOR CONTROLLING DATA, CONTROL AND MICRO STORE MEMORIES
4,965,602	10/23/90	087302	DIGITAL BEAMFORMING FOR MULTIPLE INDEPENDENT TRANSMIT BEAMS
4,982,197	1/1/91	087372	DUAL MODE LOG PERIODIC DIPOLE ANTENNA
5,121,408	6/9/92	087387	SYNCHRONIZATION FOR ENTRY TO A NETWORK IN A FREQUENCY HOPPING COMMUNICATION SYSTEM
4,977,044	12/11/90	087449	SODIUM-SULFUR THERMAL BATTERY
5,036,236	7/30/91	087489	AIR GAP MATCHING PROXIMITY SENSOR FOR MAGNETIC BEARINGS
4,975,699	12/4/90	087523	ERROR REDUCTION METHOD AND APPARATUS FOR A DIRECT DIGITAL SYNTHESIZER
4,968,568	11/6/90	088091	THERMAL BATTERY WITH COMPOSITE ELECTRODE
4,899,118	2/6/90	088123	LOW TEMPERATURE COFIRE CERAMIC PACKAGES FOR MICROWAVE AND MILLIMETER WAVE GALLIUM ARSENIDE INTEGRATED CIRCUITS
4,916,525	4/10/90	088132	HIGH DEFINITION TV SYSTEM
5,365,592	11/15/94	088143	DIGITAL VOICE DETECTION APPARATUS AND METHOD USING TRANSFORM DOMAIN PROCESSING
5,043,737	8/27/91	088186	PRECISION SATELLITE TRACKING SYSTEM
5,039,577	8/13/91	088187	HYBRID METAL MATRIX COMPOSITE CHASSIS STRUCTURE FOR ELECTRONIC CIRCUITS
5,483,744	1/16/96	088210A	METHOD FOR FABRICATING A BEARING WITH SEMI- RHYTHMIC BALL SPACING
5,099,418	3/24/92	088312	DISTRIBUTED DATA DRIVEN PROCESS
4,982,487	1/8/91	088340	METALLIC COMPONENT COLD ROLL/CRIMPING TOOL
5,276,770	1/4/94	088371C	TRAINING OF NEURAL NETWORK FOR MULTI-SOURCE DATA FUSION
5,150,323	9/22/92	088372	ADAPTIVE NETWORK FOR IN-BAND SIGNAL SEPARATION
4,982,439	1/1/91	088376	FINE-GRAINED MICROSTRUCTURE PROCESSOR
5,083,098	1/21/92	088400	TUNABLE VCO FREQUENCY SENSITIVITY
5,109,438	4/28/92	088430	DATA COMPRESSION SYSTEM AND METHOD
5,164,890	11/17/92	088441	NOVEL CURRENT SHARE SCHEME FOR PARALLEL OPERATION OF POWER CONDITIONERS
5,270,724	12/14/93	088463	MULTIFREQUENCY PHASED ARRAY APERTURE
5,414,804	5/9/95	088465A	FAST IMAGE DECODER
5,392,446	2/21/95	088542A	MULTIPLE CLUSTER SIGNAL PROCESSOR ARCHITECTURE
5,181,041	1/19/93	089030	ACCURATE LOCATION SYSTEM USING TRANSPONDED AND

SCHEDULE A TO INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT

DUAL USE PATENTS

ISSUED PATENT #	ISSUE DATE	PD NO.	TITLE
5,100,494	3/31/92	089037A	CORRELATED LORAN SIGNALS
5,258,244	11/2/93	089227	STRUCTURAL BONDING AND DEBONDING SYSTEM
5,422,983	6/6/95	089333B	REVERSIBLE AUTOMATIC CELL BYPASS CIRCUIT
5,051,754	9/24/91	089394	NEURAL ENGINE
5,218,648	6/8/93	089475	OPTOELECTRONIC WIDE BANDWIDTH PHOTONIC BEAMSTEERING PHASED ARRAY
5,182,849	2/2/93	089485	CONSTELLATION MATCHING SYSTEM AND METHOD
5,386,370	1/31/95	089502A	PROCESS FOR MANUFACTURING LIGHTWEIGHT, LOW COST MICROWAVE COMPONENTS
5,024,965	6/18/91	089534	METHOD AND PROCESSOR COMPUTING APPARATUS FOR DETERMINING FOR THREE-DIMENSIONAL COORDINATES OF OBJECTS USING DATA FROM...
5,293,455	3/8/94	089565	MANUFACTURING HIGH SPEED LOW LEAKAGE RADIATION HARDENED CMOS/SOI DEVICES
5,208,112	5/4/93	089648	SPATIAL-TEMPORAL-STRUCTURAL PROCESSOR FOR MULTI-SENSOR MULTI-SCAN DATA FUSION
5,442,342	8/15/95	089649E	THERMALLY REGENERATED FUEL CELL
5,162,809	11/10/92	089669	DISTRIBUTED USER AUTHENTICATION PROTOCOL
5,202,846	4/13/93	090011	POLARIZATION INDEPENDENT FREQUENCY SELECTIVE SURFACE FOR DISPLEXING TWO CLOSELY SPACED FREQUENCY BANDS
5,160,895	11/3/92	090018	PRIME NUMBER SPUR REDUCTION FOR DIGITAL SYNTHESIS
5,198,919	3/30/93	090157	MMIC AMPLIFIER WITH EXTENDED DYNAMIC RANGE AND LOW DISTORTION
5,218,618	6/8/93	090263	NARROW FIELD OF VIEW SCANNER
5,231,411	7/27/93	090300	CELLULAR TELEPHONE SERVICE USING SPREAD SPECTRUM TRANSMISSION
5,311,190	5/10/94	090351	ONE PIECE MILLIMETER WAVE PHASE SHIFTER/ANTENNA TRANSMIT AND RECEIVE ANTENNA ELEMENT WITH FEEDBACK
5,150,078	9/22/92	090385	LOW NOISE FINE FREQUENCY STEP SYNTHESIZER
5,488,736	1/30/96	090409A	BIDIRECTIONAL PROGRAMMABLE I/O DRIVER ARRAY
5,172,082	12/15/92	090495	MULTI-OCTAVE BANDWIDTH BALUN
5,072,331	12/10/91	090520	SECURE CIRCUIT STRUCTURE
5,548,299	8/20/96	090555	COLINEARLY POLARIZED NESTED CUP DIPOLE FEED
5,422,605	6/6/95	090563	LOW NOISE PUSH-PULL CRYSTAL OSCILLATOR
5,256,981	10/26/93	090595	DIGITAL ERROR CORRECTED FRACTIONAL-N SYNTHESIZER AND METHOD
5,278,837	1/11/94	091141A	MULTIPLE USER DIGITAL RECEIVER APPARATUS AND METHOD WITH COMBINED MULTIPLE FREQUENCY CHANNELS
5,280,636	1/18/94	091143	MULTI-BAND DIGITAL RECEIVING APPARATUS AND METHOD WITH BANDWIDTH REDUCTION
5,442,706	8/15/95	091226	SECURE MOBILE STORAGE
5,280,581	1/3/94	091238	ENHANCED CALL-BACK AUTHENTICATION METHOD AND APPARATUS
5,473,617	12/5/95	091273A	A HIGH IMPEDANCE TECHNIQUE FOR TESTING

SCHEDULE A TO INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT

DUAL USE PATENTS

ISSUED PATENT #	ISSUE DATE	PD NO.	TITLE
5,302,959	4/12/94	091284	INTERCONNECTIONS IN DIGITAL SYSTEMS SINGLE ELEMENT DRIVER ARCHITECTURE FOR FERRITE BASED PHASE SHIFTER
5,166,694	11/24/92	091366	VEHICLE LOCATION SYSTEM HAVING ENHANCED POSITION LOCATION PROCESSING
5,266,421	11/30/93	091399	ENHANCED MEMBRANE-ELECTRODE INTERFACE
5,495,262	2/27/96	091406A	MOLDED PLASTIC MICROWAVE ANTENNA
5,499,195	3/12/96	091442	FINE-GRAINED MULTI-PLANAR CLUTTER REJECTION PROCESSOR
5,265,159	11/23/93	091457	SECURE FILE ERASURE
5,318,255	6/7/94	091560	STAGE SEPARATION MECHANISM FOR SPACE VEHICLES
5,317,284	5/31/94	091570	WIDE BAND, LOW NOISE, FINE STEP TUNING, PHASE LOCKED LOOP FREQUENCY SYNTHESIZER
5,222,178	6/22/93	091615	HIGH DENSITY FIBER OPTIC CABLE PACKAGING
5,264,298	11/23/93	091701	LEWIS ACID THERMOELECTROCHEMICAL CONVERTER
5,307,349	4/26/94	091713	TDMA NETWORK AND PROTOCOL FOR READER- TRANSPONDER COMMUNICATIONS AND METHOD
5,351,013	9/27/94	092002	STEP ATTENUATOR USING PIN DIODES
5,373,432	12/13/94	092072	A FIXED FREQUENCY DC TO DC CONVERTER WITH A VARIABLE INDUCTANCE CONTROLLER
5,382,848	1/3/95	092116	DIGITAL INTEGRATED TIME OF ARRIVAL DETECTOR
5,495,202	2/27/96	092118	HIGH SPECTRAL PURITY DIGITAL WAVEFORM SYNTHESIZER
5,378,938	1/3/95	092218	SAMPLE-AND-HOLD CIRCUIT INCLUDING PUSH-PULL TRANSCONDUCTANCE AMPLIFIER AND CURRENT MIRRORS FOR PARALLEL FEED-FORWARD....
5,442,746	8/15/95	092256	PROCEDURAL USER INTERFACE
5,227,803	6/17/93	092284	TRANSPONDER LOCATION AND TRACKING SYSTEM AND METHOD
5,435,733	7/25/95	092427	CONNECTOR ASSEMBLY FOR MICROELECTRONIC MULTI- CHIP MODULE
5,365,588	11/15/94	092452	HIGH SPEED ENCRYPTION SYSTEM AND METHOD
5,383,187	1/17/95	092509	ADAPTIVE PROTOCOL FOR PACKET COMMUNICATIONS NETWORK AND METHOD
5,428,603	6/27/95	093066	SYNCHRONOUS TIME DIVISION MULTIPLE ACCESS INTERROGATE-RESPOND DATA COMMUNICATION NETWORK
5,521,560	5/28/96	093080	MINIMUM PHASE SHIFT MICROWAVE ATTENUATOR
5,404,405	4/4/95	093137	FM STEREO DECODER AND METHOD USING DIGITAL SIGNAL PROCESSING
5,434,918	7/18/95	093184	METHOD FOR PROVIDING MUTUAL AUTHENTICATION OF A USER AND A SERVER ON A NETWORK
5,546,049	8/13/96	093348	FREQUENCY SCALABLE PRE-MATCHED TRANSISTOR
5,517,192	5/14/96	094068	HIGH RESOLUTION GAIN RESPONSE CORRECTION CIRCUIT
5,561,405	10/1/96	094112	VERTICAL GROUNDED COPLANAR WAVEGUIDE H-BEND INTERCONNECTION APPARATUS
5,557,298	9/17/96	094190	METHOD FOR SPECIFYING A VIDEO WINDOW'S BOUNDARY COORDINATES TO PARTITION A VIDEO SIGNAL AND

SCHEDULE A TO INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT

DUAL USE PATENTS

ISSUED PATENT #	ISSUE DATE	PD NO.	TITLE
			COMPRESS ITS COMPONENTS
5,043,736	8/27/91	095675L	CELLULAR POSITION LOCATING SYSTEM
4,245,346	1/13/81	95271M	COMMUNICATION SYSTEM
4,358,857	11/9/82	95371M	COMMUNICATION SYSTEM
4,271,502	6/2/81	95727M	DIGITAL VOICE CONFERENCER
4,303,943	12/1/81	95729M	ADAPTIVE ENHANCEMENT OF SIGNAL TO NOISE RATIO IN TV IMAGERY
4,334,244	6/8/82	95730M	ADAPTIVE IMAGE ENHANCEMENT SYSTEM
4,384,293	5/17/83	95732M	APPARATUS AND METHOD FOR PROVIDING POINT INFORMATION
4,516,159	5/7/85	95734M	ELEVATION STEP SCANNER
4,543,546	9/24/85	95735M	SWITCHED CAPACITOR CIRCUIT WITH MINIMIZED SWITCHED CAPACITANCE
4,641,192	2/3/87	95737M	FOCUS-CORRECTED CONVERGENT BEAM SCANNER
4,682,029	7/21/87	95739M	STEROSCOPIC INFRARED IMAGER HAVING A TIME SHARED DETECTOR ARRAY
4,734,701	3/29/88	95742M	NULL PROCESSING RECEIVER APPARATUS AND METHOD
4,812,991	3/14/89	95748M	METHOD FOR PRECISION DYNAMIC DIFFERENTIAL POSITIONING
4,827,186	5/2/89	95749M	ALTERNATING CURRENT PLASMA DISPLAY PANEL
4,963,889	10/16/90	95751M	METHOD AND APPARATUS FOR PRECISION ATTITUDE DETERMINATION AND KINEMATIC POSITIONING
4,972,431	11/20/90	95754M	P-CODE-AIDED GLOBAL POSITIONING SYSTEM RECEIVER
5,040,240	8/13/91	95757M	RECEIVER ARCHITECTURE FOR USE WITH A GLOBAL POSITIONING SYSTEM
5,059,977	10/22/91	95761M	SYNCHRONIZING SWITCH ARRANGEMENT FOR A DIG-TO-ANALOG CONVERTER TO REDUCE IN-BAND SWITCHING TRANSIENTS
5,072,227	10/10/91	95762M	METHOD AND APPARATUS FOR PREVISION ATTITUDE DETERMINATION
5,127,850	7/7/92	95764M	METHOD AND MEANS FOR KEYING SIGNAL CONDUCTORS
5,177,489	1/5/93	95767M	PSEUDOLITE AIDED METHOD FOR PRECISION KINEMATIC POSITIONING
5,237,587	8/17/93	95771M	PSEUDO-NOISE MODEM AND RELATED DIGITAL CORRELATION METHOD
5,263,048	11/16/93	95772M	NARROW BAND INTERFERENCE FREQUENCY EXCISION METHOD AND MEANS
5,268,878	12/7/93	95773M	ACCELEROMETER SENSOR NOISE REDUCTION METHOD AND MEANS
5,317,322	5/31/94	95778M	NULL PROCESSING AND BEAM STEERING RECEIVER APPARATUS AND METHOD
5,319,196	6/7/94	95779M	OPTICAL ROTATION SENSOR
5,343,173	8/30/94	95780M	PHASE SHIFTING NETWORK AND ANTENNA AND METHOD
5,471,217	11/28/95	95782M	METHOD AND APPARATUS FOR SMOOTHING CODE MEASUREMENTS IN A GLOBAL POSITIONING SYSTEM RECEIVER
5,535,278	7/9/96	95786M	GLOBAL POSITIONING SYSTEM (GPS) RECEIVER FOR RECOVERY AND TRACKING OF SIGNALS MODULATED WITH

SCHEDULE A TO INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT

DUAL USE PATENTS

ISSUED PATENT #	ISSUE DATE	PD NO.	TITLE
			P-CODE
4,622,574	11/11/86	D90039	SEMICONDUCTOR CHIP WITH RECESSED BOND PADS
5,253,944	10/19/93	D91052	PRECISION ALIGNMENT AND MOUNTING APPARATUS
5,260,557	11/9/93	D91054	METHOD AND APPARATUS FOR ACQUISITION AND TRACKING OF LIGHT SOURCES IN A TRANSIENT EVENT RICH ENVIRONMENT
5,348,255	9/20/94	D91078	SYSTEM AND METHOD FOR SENSING ATTITUDE OF A SPACECRAFT WITH EQUILIBRATED STAR TRACKER ERRORS ALONG THREE ORTHOGONAL AXES
5,475,520	12/12/95	D93031	SATELLITE COMMUNICATIONS SYSTEM
4,282,527	8/4/81	G00871	MULTI-SPECTRAL DETECTION SYSTEM WITH COMMON COLLECTING MEANS
4,282,529	8/4/81	G00874A	DIFFERENTIAL DRIVE ROLLING ARC GIMBAL
4,540,293	9/10/85	G01039	DIELECTRIC HEAT SENSOR
5,263,122	11/16/93	G92003	NEURAL NETWORK ARCHITECTURE
4,344,476	8/17/82	S77011A	SUPERCOOL METHOD FOR PRODUCING SINGLE CRYSTAL MERCURY CADMIUM TELLURIDE
4,769,531	9/6/88	S83022	DIRECTION FINDER SYSTEM WITH INCLINED DETECTORS
4,782,028	11/1/88	S86021	PROCESS METHODOLOGY FOR TWO-SIDED FABRICATION OF DEVICES ON THINNED SILICON
5,045,897	9/3/91	S90006	QUATERNARY II-VI MATERIALS FOR PHOTONICS
5,258,764	11/2/93	S90012	SATELLITE ORIENTATION DETECTION SYSTEM

MAR 4 30 98
5-4-98

05-01-1998



100700500

PD-005619 - PD-S90012

To the Honorable Commissioner of Patents and Trademarks. Please record the attached original documents or copy thereof.

<p>1. Name of conveying party(ies):</p> <p>HE HOLDINGS Inc., HUGHES ELECTRONICS, formerly known as HUGHES AIRCRAFT COMPANY</p> <p>Additional Name(s) of conveying party(ies) attached?</p> <p>yes <input type="checkbox"/> no <input checked="" type="checkbox"/></p>	<p>2. Name and address of receiving party(ies):</p> <p>Name: HUGHES ELECTRONICS CORPORATION</p> <p>Internal Address: Bldg. 001, M/S A109 P.O. Box 956 200 N. Sepulveda Blvd. El Segundo, CA 90245-0956</p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<p>3. Nature of Conveyance:</p> <p><input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name <input type="checkbox"/> Other _____</p> <p>Execution Date: December 17, 1997</p>	<p>Street Address: 200 N. Sepulveda Blvd. P.O. Box 956 El Segundo, California 90245</p> <p>Additional name(s) & address(es) attached? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is:

<p>A. Patent Application No.(s)</p>	<p>B. DUAL Patent No.(s) 4,422,074, 4,209,689 and others as per Schedule A (pgs. 1-6) attached to Assignment document.</p>
-------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------

Additional numbers attached? yes no

<p>5. Name and address of party to whom correspondence concerning document should be mailed:</p> <p>Name: Patent Records Administration Internal Address: HUGHES ELECTRONICS CORPORATION Building 001, M/S A109 P.O. Box 956 200 N. Sepulveda Blvd. El Segundo, CA 90245-0956</p> <p>Street Address: 200 N. Sepulveda Blvd. P.O. Box 956 El Segundo, California 90245</p>	<p>6. Total number of applications and patents involved: []</p> <p>7. Total fee (37 CFR 3.41): \$40.00 x 167 = \$6,680</p> <p><input type="checkbox"/> Enclosed <input checked="" type="checkbox"/> Authorized to be charged to deposit account</p> <p>8. Deposit account number: 50-0383</p> <p>(Attached duplicate copy of this page if paying by deposit account)</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

DO NOT USE THIS SPACE

9. 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.

Marc W. Sel... [Signature] 4/30/98
Name of Person Signing Signature Date

Total number of pages comprising cover sheet: []

INTELLECTUAL PROPERTY ASSIGNMENT

WHEREAS, HE Holdings, Inc. ("Assignor"), Hughes Electronics Corporation ("Assignee), General Motors Corporation and Delco Electronics Corporation are parties to that certain Master Separation Agreement dated as of December 17, 1997 (the Master Separation Agreement; and capitalized terms used herein not otherwise defined shall have the meanings set forth therein), entered into in connection with the merger of Raytheon Company ("Raytheon") with and into Assignor pursuant to an Agreement and Plan of Merger, dated as of January 16, 1997, by and between Assignor and Raytheon; and

WHEREAS, Assignor is now the sole and exclusive owner of all right, title and interest in and to the Intellectual Property (as hereinafter defined), including the patents and patent applications that have been registered or applied for in the United States Patent and Trademark Office and in patent offices in the several other countries and invention disclosures that are identified in Schedule A attached to this Intellectual Property Assignment;

WHEREAS, Assignee is desirous of acquiring all right, title and interest in and to certain Intellectual Property, including in and to each of the patents, patent applications and invention disclosures identified in Schedule A, the trademarks, registrations and applications identified in Schedule B and the trade names identified in Schedule C hereto;

NOW, THEREFORE, in consideration for the sum of one dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, Assignor and Assignee agree as follows:

1. Assignor hereby sells, assigns, transfers and conveys to Assignee, as of the Spin-Off Merger Time, all right, title and interest in and to the Intellectual Property, including, without limitation, Dual Use Technology and the Intellectual Property of Hughes Research Laboratories, Inc. that exists as of the Spin-Off Merger Time as identified on Schedule A including, without limitation, the patents, patent applications and invention disclosures, any divisional, continuation and continuation-in-part applications that may be filed based on any such application; any patents issuing on any of the foregoing applications, and any reissues or certificates of reexamination of any of the foregoing patents, and any foreign counterparts of them; together with the right to sue for damages and other relief for past and current infringements. "Intellectual Property" means, other than the Defense Intellectual Property, all of Assignor's right, title and interest in and to, as of the Spin-Off Merger Time, all of HEC's or HEC's Subsidiaries' domestic and foreign patents and patent

applications, together with any continuations, continuations-in-part or divisional applications thereof, and all patents issuing thereon (including reissues, renewals and re-examinations of the foregoing); invention disclosures; net lists; mask works; copyrights, and copyright applications and registrations; trademarks, servicemarks, service names and trade names and trade dress, in each case together with any applications and registrations therefor and all appurtenant goodwill relating thereto; trade secrets, commercial and technical information, know-how, proprietary or confidential information, including engineering, production and other designs, notebooks, processes, drawings, specifications, formulae, and technology; computer and electronic data processing programs and software (object and source code), data bases and documentation thereof; inventions (whether patented or not); and all other intellectual property under the laws of any country throughout the world.

2. Assignor further agrees to execute such additional documents as are necessary to continue, secure, defend, register and otherwise give full effect to and to perfect the rights of Assignee under this Intellectual Property Assignment, including all documents necessary to register in the name of Assignee the assignment of each patent, patent application, and invention disclosure identified in Schedule A in the appropriate country or countries, each trademark, registration and application listed in Schedule B and each trade name identified in Schedule C.

3. Assignor hereby authorizes and requests that the Commissioner of Patents and Trademarks of the United States and each official holding a corresponding position of authority in any country in which Assignor owns one or more patent or trademark registrations or has pending one or more patent or trademark applications to issue and to record the title of Assignee as owner of all right, title and interest in and to the patents, patent applications and invention disclosures identified in Schedule A, the trademarks, registrations and applications identified on Schedule B, and, if necessary, the trade names identified in Schedule C.

IN TESTIMONY WHEREOF, Assignor has signed below, by its duly authorized representative, on this 17th day of December 1997.

By: _____
Name: _____
Title: _____

ACKNOWLEDGMENT

On behalf of Assignee, I hereby acknowledge receipt of assignment -- for good and valuable consideration -- of the Assigned Intellectual Property.

By: J. L. Williamson

Title: Secretary

State of New York)
)s.s.:
County of New York)

On this 17th day of December 1997, before me personally came J. L. Williamson to me known, who, being duly sworn, did depose and say that she is the Secretary of Hughes Electronics Corporation, the corporation described in and which executed the foregoing instrument; that she knows the seal of her respective corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by orders of the Board of Directors of the corporation, and that she signed her name thereto by like order.

Debra M. Goldberg
Notary Public

DEBRA M. GOLDBERG
NOTARY PUBLIC, State of New York
No. 01GO5086516
Qualified in Kings County
Commission Expires Oct. 14, 19 98

ACKNOWLEDGEMENT

On behalf of the Assignee, I hereby acknowledge receipt of assignment – for goods and valuable consideration – of the Intellectual Property, including the patents, patent applications and invention disclosures set forth in Schedule A, the trademarks, registrations and applications listed on Schedule B and the trade names listed on Schedule C.

By: *R. S. Austin*
Senior Vice President and Chief
Financial Officer

State of California)
) s.s.:
County of Los Angeles)

On this 12th day of December 1997, before me personally came R. S. Austin, to me know, who, being duly sworn, did depose and say that she is a Senior Vice President and Chief Financial Officer of Hughes Electronics Corporation, the corporation described in and which executed the foregoing instrument; that she knows the seal of her respective corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by orders of the Board of Directors of the corporation, and that she signed her name thereto by like order.



Christina H. Tady
Christina H. Tady
Notary Public

SCHEDULE A

Dual Use Technology and Intellectual Property of Hughes Research Laboratories, Inc.

State of Delaware

Office of the Secretary of State

I, EDWARD J. FREEL, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "HUGHES AIRCRAFT COMPANY", CHANGING ITS NAME FROM "HUGHES AIRCRAFT COMPANY" TO "HE HOLDINGS, INC.", FILED IN THIS OFFICE ON THE SECOND DAY OF JANUARY, A.D. 1996, AT 9 O'CLOCK A.M.

A CERTIFIED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS FOR RECORDING.



Handwritten signature of Edward J. Freel in cursive script.

Edward J. Freel, Secretary of State

0472015 8100

960000711

AUTHENTICATION 7774686
REEL: 9342 FRAME: 0810
DATE:

01-02-96

**CERTIFICATE OF AMENDMENT
OF
CERTIFICATE OF INCORPORATION
OF
HUGHES AIRCRAFT COMPANY**

Hughes Aircraft Company, a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware, does hereby certify:

FIRST: That the sole stockholder of the Corporation did consent to and adopt the following resolution setting forth a proposed amendment to the Certificate of Incorporation of the Corporation:


RESOLVED, That Article 1 of the Certificate of Incorporation of this corporation is hereby amended to read as follows:

"1. The name of the corporation is HE Holdings, Inc."

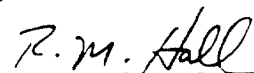
SECOND: That this amendment was duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

IN WITNESS WHEREOF, said corporation has caused this certificate to be signed by its Chairman of the Board and attested by its Secretary this 28th day of December, 1995.

HUGHES AIRCRAFT COMPANY

By: 
M. T. Smith
Chairman of the Board

Attest:

By: 
R. M. Hall
Secretary



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

ASSISTANT SECRETARY AND COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

JUNE 24, 1998

PTAS

HUGES ELECTRONICS CORPORATION
PATENT RECORDS ADMINISTRATION
BUILDING 001, M/S A109, P.O. BOX 956
200 N. SEPULVEDA BLVD.
EL SEGUNDO, CA 90245-0956



100700500A

RECEIVED

JUN 24 1998

UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF NON-RECORDATION OF DOCUMENT

PATENT DIVISION
OFFICE OF PUBLIC RECORDS

DOCUMENT ID NO.: 100700500

THE ENCLOSED DOCUMENT HAS BEEN EXAMINED AND FOUND NON-RECORDABLE BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. THE REASON(S) FOR NON-RECORDATION ARE STATED BELOW. DOCUMENTS BEING RESUBMITTED FOR RECORDATION MUST BE ACCOMPANIED BY A NEW COVER SHEET REFLECTING THE CORRECT INFORMATION TO BE RECORDED AND THE DOCUMENT ID NUMBER REFERENCED ABOVE.

THE ORIGINAL DATE OF FILING OF THIS ASSIGNMENT DOCUMENT WILL BE MAINTAINED IF RESUBMITTED WITH THE APPROPRIATE CORRECTION(S) WITHIN 30 DAYS FROM THE DATE OF THIS NOTICE AS OUTLINED UNDER 37 CFR 3.51. THE RESUBMITTED DOCUMENT MUST INCLUDE A STAMP WITH THE OFFICIAL DATE OF RECEIPT UNDER 37 CFR 3. APPLICANTS MAY USE THE CERTIFIED PROCEDURES UNDER 37 CFR 1.8 OR 1.10 FOR RESUBMISSION OF THE RETURNED PAPERS, IF THEY DESIRE TO HAVE THE BENEFIT OF THE DATE OF DEPOSIT IN THE UNITED STATES POSTAL SERVICE

SEND DOCUMENTS TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231. IF YOU HAVE ANY QUESTIONS REGARDING THIS NOTICE, YOU MAY CONTACT THE INDIVIDUAL WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723.

1. THE DOCUMENT SUBMITTED FOR RECORDING IN THE ASSIGNMENT DIVISION HAS BEEN FOUND NON-RECORDABLE THERE SHOULD BE A SEPARATE COVERSHEET EACH TRANSACTION.

TARA WASHINGTON, EXAMINER
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS

RECORDED: 04/30/1998

PATENT
REEL: 9342 FRAME: 0812