FORM PTO-1595		_		U.S.	DEPARTMENT OF COMMERCE
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5.9.0					PD-9902
	ommissioner of Patenta	1013739			iginal documents or copy thereof.
Name of conve	eying party(ies):		2. Name	and add	ress of receiving party(ies):
Kurt B. Kreiner, Jo Pilcher	hn R. Beattie, Alois Wittn	nan and Lewis S.			S ELECTRONICS CORPORATIO
Additional Name(s) of conveying party(ies) attached?			Internal A	ddress:	PO Box 956 200 N. Sepulveda Blvd.
Yes □	no 🗷				El Segundo, CA 90245-0956
3. Nature of Conv	eyance:		Street Add	dress:	200 N. Sepulveda Blvd. P.O. Box 956
☑ Assignme☐ Security☐ Other	Agreement 🗆 Cha	ger nge of Name			El Segundo, California 90245
Execution Date:	April 19, 2000, April 20,	2000 and April 27,	Additional	name(s)	& address(es) attached? □ yes 区
4 A - 1: - 1:		(a). DD 000000 4	<u> </u>	7.000	
4. Application nun	nber(s) or patent number	(s). PD-990200 (9569	108	
If this document is April 20, 2000 and		a new application, th	e execution	n date of	the application is: April 19, 2000
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A. Patent	t Application No.(s)		l B	. Patent	t No.(s)
		Additional numbers	l attached?	□ yes	s ⊠ no
5 Name and addr	ress of party to whom cor	respondence	6. Total	number o	of applications and patents involved:
	cument should be mailed:		1		
•				fee (37	CFR 3.41):\$40.00 🗸
Name:	HUGHES ELECTRONI			Enclose	od.
Internal Address:	Corporate Patents & Lic Bldg. 001, M/S A109	censing			ed∕to be charged to deposit account
	PO Box 956			Admone	by to be unarged to deposit descar.
	El Segundo, CA 90245-09	956	8. Depo	sit acco	unt number:
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		DO NOT USE TH	IIS SPACE		
9. Statement and	signature.				
To the best o	of my knowledge and belief,	the foregoing informat	ion is true an	nd correct	t and any attached copy is a true
copy of the c	original document.	11 . 1/2			· · · · · · · · · · · · · · · · · · ·
	Gudmestad Person Signing	Sign	ature		May 9', 2000 Date
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OMB No. 0651-0011 (exp. 4/94)



ASSIGNMENT

Page 1 of 2 PD-990208

WHEREAS, I, as below named sole inventor (if only one name is listed below) or joint inventor (if plural names are listed below) of the city and state as stated below next to my name, have invented a(an) ION THRUSTER WITH ION-EXTRACTION GRIDS HAVING COMPOUND CONTOUR SHAPES for which application for Letters Patent of the United States has been executed by me on this day, or (if the following is completed) filed on ______ as Serial No. ______; and

WHEREAS, **HUGHES ELECTRONICS CORPORATION**, (hereinafter referred to as **HUGHES**), a Delaware Corporation, having its principal place of business in El Segundo, California, is desirous of acquiring the entire and exclusive right, title and interest in, to and under said invention, said application and any and all Letters Patent that may be granted therefor in the United States and throughout the world;

NOW, THEREFORE, in consideration of the obligations voluntarily assumed by me and set forth in an invention agreement between me and my employer, effective the date as stated below next to my name, and other good and valuable consideration, receipt of which is hereby acknowledged, I do hereby sell, assign and transfer to HUGHES, its successors, assigns or other legal representatives, the entire and exclusive right, title and interest in and to said invention invented by me, to said application and any and all applications which are continuations, continuations-in- part, divisions or substitutes of said application and any and all Letters Patent that may be granted therefor in the United States and throughout the world on any of said applications and to any and all reexaminations, reissues, renewals or extensions of said Letters Patent in the United States and throughout the world for the full term or terms for which said Letters patent may be granted in the United States and throughout the world; authorize and request The Commissioner of Patents and Trademarks of the United States and all foreign countries to issue all such Letters Patent to said HUGHES, its successors, assigns or other legal representatives; covenant that no assignment, sale, agreement, transfer or encumbrance has been, or will be, made or entered into which would conflict with this assignment, sale and transfer; and agree to communicate to HUGHES, its successors, assigns or other legal representatives, upon request and at no cost or expense to me, any facts known by me respecting said invention, do all lawful acts, including the execution and delivery of all papers and proper oaths and giving of testimony that is deemed necessary or desirable by HUGHES, its successors, assigns or other legal representatives with regard to said invention for protecting, obtaining, maintaining and enforcing any and all of said Letters Patent in the United States and throughout the world for said invention and for perfecting, affirming, recording and maintaining the title of HUGHES, its successors, assigns or other legal representatives, and generally cooperate to the fullest extent in all matters pertaining to said invention, and any and all of said Letters Patent and the title thereto in HUGHES, its successors, assigns or other legal representatives.

> PATENT REEL: 010820 FRAME: 0076

N WITNESS WHEREOF, I have executed this instrument.

FULL NAME OF SOLE OR JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE				
Kurt B. Kreiner		1 1 1 1				
RESIDENCE (CITY AND STATE)	1000 1 cen					
30/33 Via Vietoria, Ranche Full name of sole or joint inventor	Palos Vendes CA. 90275 INVENTOR'S SIGNATURE	DATE				
John R. Beattie	John K Beatter	Alanho				
RESIDENCE (CITY AND STATE)		INVENTION AGREEMENT DATE				
Westlake Village, California 91361		March 14, 1977				
FULL NAME OF SOLE OR JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE				
Alois Wittmann	Cloic and war	4/27/00				
RESIDENCE (CITY AND STATE)		INVENTION AGREEMENT DATE				
Palos Verdes, California 90274						
FULL NAME OF SOLE OR JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE				
Lewis S. Plicher PIACHER 2507	Zenio S. Pelcher	4/20/0C				
RESIDENCE (CITY AND STATE)		INVENTION AGREEMENT DATE				
El Segundo, California 90245		6/30/58				
STATE OF CALIFORNIA)					
COUNTY OF LOS ANGELES) SS:						
On <u>April 19, 2000</u> before me, <u>T. MONTGOMERY</u> , a Notary Public in and for said						
State, personally appeared KURT B. KREINER**********************************						
name(s)xis/are subscribed to the within inst	trument and acknowledged to me that he/	she/they executed the same				
in his/het/their authorized capacity(i) a), an the entity upon behalf of which the person		instrument the person(8), or				
WITNESS my hand and mitiniat court		1 A				
Notory Public - Coll Los Angeles Cou		ontgomery				
My Comm. Expires Dec	5,2003 Notary Public					
STATE OF CALIFORNIA	· · · · · · · · · · · · · · · · · · ·					
COUNTY OF LOS ANGELES) SS:)					
	, <u>Laura P. Aceves,</u> a Notary Public in ar	nd for said State, personally				
appeared, <u>John R. Beatti</u> personally known to me or proved to		e to be the person(s) whose				
name(s) is/are subscribed to the within ins	trument and acknowledged to me that he	/she/they executed the same				
in his/her/their authorized capacity(ies), and the entity upon behalf of which the person(s) acted, executed the instrument.	instrument the person(s), or				
WITNESS my hand and official seal.		20				
1	· Taure R	Meen				
LAURA P. ACEVES Commission # 1195368	Notary Public Laura I	P. Aceves				
Notary Public - California Los Angeles County	WALL TO THE PARTY OF THE PARTY					
My Comm. Expires Sep 3, 2002	Þ					

PATENT REEL: 010820 FRAME: 0077

STATE OF	
On <u>April 20, 2000</u> before me, <u>Laura P. Aceves</u> a Notary Public in and for said State, personally appeared <u>Lewis S. Pilcher</u> □ personally known to me or xxproved to me on the basis of satisfactory evidence to be the personame(s) is/are-subscribed to the within instrument and acknowledged to me that he/she/they execute in his/her/their authorized capacity(tes), and that by his/her/their signature(s) on the instrument the puthe entity upon behalf of which the person(s) acted, executed the instrument.	d the same
LAURA P. ACEVES Commission # 1195368 No ary Public - California Los Angeles County My Comm. Expires Sep 3, 2002	en.
STATE OF	
On <u>April 27, 2000</u> before me, <u>Laura P. Aceves</u> a Notary Public in and for said State, personally appeared <u>Alois Wittmann</u> o personally known to me or proved to me on the basis of satisfactory evidence to be the personame(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they execute in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) acted, executed the instrument.	ed the same
LAURA P. ACEVES Commission # 1195368 Notary Public - California Los Angeles County My Comm. Expires Sep 3, 2002	<u> </u>

RECORDED: 05/09/2000

PATENT REEL: 010820 FRAME: 0078