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OMB No. 0651-0027 (exp. 04/30/2015)

MR3529-68

U.S. DEPARTMENT OF COMMERCE United States Patent and Trademark Office

RECORDATION FO	ORM COVER SHEET		
PATENT	S ONLY		
To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.			
1. Name of conveying party(ies)	2. Name and address of receiving party(ies)		
EDIC NAVIACEV CUDIC MOCCONE. BA IACORA	Name: CADENCE DESIGN SYSTEMS, INC.		
ERIC NAVIASKY; CHRIS MOSCONE; RAJAGOPAL VIJAYARAGHAVAN; BÉNJAMIN LOUIS HEILMAN	Internal Address:		
Additional name(s) of conveying party(les) attached? Yes X No. 3, Nature of conveyance/Execution Date(s):	Street Address: 2655 SEELY AVENUE		
3. Nature of conveyance/Execution Date(s): Execution Date(s)5/15/12; 5/14/12; 5/14/12; 5/14/2012	THE PERSON NAMED OF THE PERSON NAMED IN THE PE		
Execution Date(s)3/13/12, 3/14/12, 3/14/2012 Assignment Merger			
	City: SAN JOSE		
Security Agreement Change of Name Joint Research Agreement			
Government Interest Assignment	State: CALIFORNIA		
Executive Order 9424, Confirmatory License	Country: USA Zip 95134		
Other	Additional name(s) & address(es) attached? Yes No		
	document is being filed together with a new application.		
4. Application or patent number(s): nis	B. Patent No.(s)		
13/471,945			
<u> </u>	tached? Yes No		
5. Name and address to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved: 1		
Namedun Y. Lee			
•	7. Total fee (37 CFR 1.21(h) & 3.41) \$40.00		
Internal Address:Rosenberg, Klein & Lee	Authorized to be charged to deposit account		
Discrete Additional Additional Control of the Contr	Authorized to be charged to deposit account		
Street Address: 3458 Ellicott Center Drive, Suite 101	None required (government interest not affecting title)		
	8. Payment Information		
City: Ellicott City	w. i wymoni mormalion		
State:MD Zip21043			
Phone Number:410-465-6678	Deposit Account Number 50-5298		
Docket Number <u>510-461-3067</u>			
Email Address: rkl@rklpatlaw.com	Authorized User Name Jun Y. Lee		
9. Signature:	5/21/2012		
Signature	5/21/2012 Date		
Jun Y. Lee	Total number of pages including cover 5		
Name of Person Signing	sheet, attachments, and documents:		
Documents to be recorded (including cover sho Mail Stop Assignment Recordation Services, Director	ot) should be faxed to (571) 273-0140, or malled to: of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450		

PATENT

REEL: 028253 FRAME: 0922

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		MR3529-68
	ASSIGNMENT	DEED
COMBINED 170	GENERATION AND SELECTIVE PHAN	(invention Title) SYSTEM AND METHOD FOR INTERPOLATION
Check one) 🔲 a 1	3 Determit Amerikan kinn Carlot No. 13/471 0	the ASSIGNOR(s) concurrently with this Assignment 145 filed 5/15/2012
Check one) 🛄 U. (X) wo	 Patent rights only ridwide Patent rights. In this case, the assignee 	shall have the right to claim the benefit of the filing date of
The ASSIGNO	y U.S. Pateni Application identified above. R(s) referred to in this agreement is (or are): BRIC NAVIASKY	MD 21043
(Address) <u>8414</u> G	overnors Run, Ellicoff Cify,	MD 21043
(Full name of second at (Address) 104 Ti	signor if eny) <u>CHRIS MOSCONE</u> mber Hitch Rd., Cary, NC 275	13
Full name of third assis	nor, if any) RAJAGOPAL VIJAYARAG	AAVAN
(Address) 204 E)	phoria Cl., Cary, NC 27519	
(Full name of fourth as:	gnor, If any BENJAMIN LOUIS HEIL	MANN
(Address) <u>5049</u> /	mber Clay Lane, Raleigh, NC-	27612
The First ASS	GNEE referred to in this agreement is:	
(Name of Assignee)	CADENCE DESIGN SYSTEMS, INC.	
(wobiess or wasiance)	San Jose, CA 95134	MAN AND AND AND AND AND AND AND AND AND A
The Second A	SSIGNEE referred to in this agreement is:	•
(Check one) The Second (Check one)	a partnership a Corporation of <u>State of Del</u> SSIGNEE is: an individual a partnership	aware (State or Country)
	a Corporation of	(State or Country)

	 Additional assignees are being named on 	separately numbered sheets attached hereto.
which is acknowledged the	, have and do hereby assign the following to each full and exclusive right to the invention:	
an d con the	quat interest in and to the entire right, title and int Inuations, continuations in part, divisionals, re-iss toht to claim priority under 35 U.S.C. 119, based	erest in and to the PATENT RIGHTS in the invention, all ues, and re-examination patents and patent applications; and on any earlier foreign applications for this invention.
As to all U.S. Director of Patents and	Patent Applications assigned under this Agreeme	int, the ASSIGNOR(S) hereby authorize(s) and requests the SIGNEE(s) as the ASSIGNEE(s) of an equal interest in the
Further, the A	SSIGNOR(s) agree(s) to communicate to said AS	SIGNEE(s), or their representatives, any facts known to the
continuation-in-part, su any and all Letters Pai	bstitute, renewal, reexamination and reissue applent to be issued to said ASSIGNEE(s), make all ri	lings, sign all lawful papers, execute all divisional, continuation loations, execute all necessary assignment papers to cause ghiful oaths and generally do everything necessary or desir-
able to aid said ASSIQ	NEE(s), their successors and assigns, to obtain a	nd enforce proper protection for said invention.
2,74	Cum	7)(v. 15 2-012 (Date)
(Signati	re of sole or fifst assignor) ERIC NAVIAS	(Oate)
(Signatu	re of second assignor, if any) CHRIS MOSCO	NE (Date)
(Signate	re of third assignor, it any) RAJAGOPAL VI	JAYARAGHAVAN (Oate)

12PA018US01

(Signature of Idurth assignor, if any) BENJAMIN LOUIS HEILMANN

(Date)

MR3529-68

ASSIGNMENT DEED
This Amin most separated in applicable to an invention entitled (invention Title) SYSTEM AND METHOD FOR
COMBINED TO GENERATION AND DEFECTIVE TRANSPORTED TO
Check one) a Patent Application for this invention, 5245/2012 U.S. Patent Application Serial No. 13/471,945 , filed 5/45/2012 U.S. Patent No. , issued
The PATENT RIGHTS assigned under this agreement are:
Check one) U.S. Patent rights only worldwide Patent rights. In this case, the assigner shall have the right to claim the benefit of the filling date of
any ITS. Patent Application Identified above.
The ASSIGNOR(s) referred to in this agreement is (or are): Full name of first essignor)
2414 Covernors Run Filicott City MD 21043
CADES MOSCONE
(Full name of third assignor, if any) RAJAGOPAL VIJAYARAGHAVAN
BENTAMIN LOUIS HEYLMANN
(Addace) E()(I) Awas (1) IV LODE WILLIAM E(III)
(Address) 3043 April 114) State,
The First ASSIGNEE referred to In this agreement is:
(standardon) CADENCE DESTGN SYSTEMS, INC.
(Address of Assignee) 2655 Seely Avenue San Jose, CA 95134
The Second ASSIGNEE referred to in this agreement is: (Name of Assignee)
(Address of Assignee)
The First ABSIGNEE is:
(Check one)
M a Corporation of State of Delaware
(State or Country) The Second ASSIGNEE is:
(Check one) 🔲 an Individual
☐ a partnership ☐ a Corporation of
(State or Country)
Additional assignees are being named on separately numbered sheets attached herato.
overlaps 41
The ASSIGNOR(S), in consideration of \$1.00 paid by each ASSIGNEE, and other good and valuable consideration, receipt which is acknowledged, have and do hereby assign the following to each ASSIGNEE; their successors and assigns:
the full and exclusive right to the invention; an equal interest in and to the entire right, title and interest in and to the PATENT RIGHTS in the invention, all
continuations, continuations-in-part, divisionals, re-issues, and re-examination patents and patent apparent of the
No. stable a state estable under 35 11 S.C. 110 heads on any earlier location applications for this invention.
As to all U.S. Patent Applications assigned under this Agreement, the ASSIGNOR(S) hereby authorize(s) and requests the Director of Patents and Trademarks to issue all Letters Patent to the ASSIGNEE(s) as the ASSIGNEE(s) of an equal interest in the
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Further, the ASSIGNOR(a) agree(s) to communicate to said ASSIGNEC(s), or their representatives, any tests are the said agreed and investigation and institution and institutio
ASSIGNOR(S) respecting sero inventors and restrict the restrict to the restric
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continuation-in-part, substitute, renewal, reexamination and release applications, execute all indeeds and severything necessary or desirant and all Letters Patent to be issued to said ASSIGNEE(s), make all rightful ceths and generally do everything necessary or desirable to aid said ASSIGNEE(s), their successors and assigns, to obtain and enforce proper protection for said invention. (Slengture of sole or first assigner) ERIC NAVIASKY (Date)
continuation-in-part, substitute, renewal, reexamination and release applications, execute all fleeters and all Letters Patent to be lasted to said ASSIGNEE(s), make all rightful ceths and generally do everything necessary or desirable to aid said ASSIGNEE(s), their successors and assigns, to obtain and enforce proper protection for said invention. (Signature of sole or first assignor) ERTO NAVIASKY (Date)
continuation-in-part, substitute, renewal, reexamination and release applications, execute all fleedessary and all Letters Patent to be lessed to said ASSIGNEE(s), make all rightful oaths and generally do everything necessary or desirable to aid said ASSIGNEE(s), their successors and assigns, to obtain and enforce proper protection for said invention. (Signature of sole or first assignor) ERIC NAVIASKY (Date)
continuation-in-part, substitute, renewal, reexamination and release applications, execute all fleetessary personal and all Letters Patent to be issued to said ASSIGNEE(s), make all rightful ceths and generally do everything necessary or desirable to aid said ASSIGNEE(s), their successors and assigns, to obtain and enforce proper protection for said invention. (Signature of sole or first assignor) ERIC NAVIASKY (Date)
continuation-in-part, substitute, renewal, reexamination and release applications, execute all fleetessary personal personal part and all Letters Patent to be leased to said ASSIGNEE(s), make all rightful only and generally do everything necessary or desirable to aid said ASSIGNEE(s), their successors and assigns, to obtain and enforce proper protection for said invention. (Signature of sole or first assignor) ERTC NAVIASKY (Date) (Signature of second assignor, if any) CHRIS MOSCONE (Date)
continuation-in-part, substitute, renewal, reexamination and release applications, execute all fleetessary personal and all Letters Patent to be leased to said ASSIGNEE(s), make all rightful ceths and generally do everything necessary or desirable to aid said ASSIGNEE(s), their successors and assigns, to obtain and enforce proper protection for said invention. (Signature of sole or first assignor) ERIC NAVIASKY (Date) (Signature of second assignor, if any) CHRIS MOSCONE (Date)
continuation-in-part, substitute, renewal, reexamination and release applications, execute all interests any and all Letters Patent to be assued to said ASSIGNEE(s), make all rightful ceths and generally do everything necessary or desirable to aid said ASSIGNEE(s), their successors and assigns, to obtain and enforce proper protection for said invention. (Signature of sole or first assignor) (Signature of second assignor, if any) (CHRIS MOSCONE (Date) (Signature of third assignor, if any) (Signature of third assignor, if any) (Signature of third assignor, if any) (Date)
continuation-in-part, substitute, renewal, reexamination and release applications, execute all recessary personal and all Letters Patent to be issued to said ASSIGNEE(s), make all rightful ceths and generally do everything necessary or desirable to aid said ASSIGNEE(s), their successors and assigns, to obtain and enforce proper protection for said invention. (Signature of sole or first assignor) ERIC NAVIASKY (Date) (Signature of second assignor, if any) CHRIS MOSCONE (Date) (Signature of third assignor, if any) RAJAGOPAL VIJAYARAGHAVAN (Date)

12PA018US01

	MR3529-68
ASSIGNMENT DEED	
A SYSTEM A	ND METHOD FOR
This Assignment agreement is applicable to an Invention untitled (invention Title) SYSTEM A COMBINED I/O GENERATION AND SELECTIVE PHASE INTERPOLATION	
The PATENT RIGHTS reterred to in this agreement are: (Check one)	with this Assignment 5 /1 5/ 2012
U.S. Patent No. ISSUES	And the second s
(Check one) U.S. Patent rights only worldwide Patent rights. In this case, the assigned shall have the right to claim the any U.S. Patent Application identified above.	benefit of the filing date of
The ACCICANTICIST referred to in this agreement is (or are):	
(Full name of first assignor) ERIC NAVIASKY (Address) 8414 Governors Run, Ellicott City, MD 21043	
(Address) 104 I must fire and a second secon	
TATACADAY VI TAYADAGHAVAN	
14 J.A	
DENTAMEN LOUIS HET MANN	
CARLOLL MAKA ALLEY CIESA LAMA DOLOTON NO. //DI/	
(Address) 5049 Amber Clay Lame, Agreem, 19	
The First ASSIGNEE referred to in this agreement is:	
CADENCE DESIGN SYSTEMS, INC.	
(Address of Assignee) 2655 See1y Avenue San Jose, CA 95134	
(Name of Assignee) (Address of Assignee)	
(Address of Assignee)	
The First ASSIGNEE is: (Chack one) (an individual	
n northership	
(State of Delaware (State of Country)	
The Second ASSIGNEE is:	
(Check one) 🔲 an Individual	
a partnership a Corporation of	
a partnership a Corporation of (State or Country)	•
 Additional assignees are being named on separatoly numbered sheets at 	tached hereto.
The ASSIGNOR(S), in consideration of \$1.00 paid by each ASSIGNEE, and other good and V	aluable consideration, receipt of
which is acknowledged, have and do hereby assign the following to seen ASSIGNEE, their successors	allo togistor
and interest in and to the entire right title and interest in 200 to the PALENT Of	GHTS in the invention, all
trations mentioned in part divisionals re-issues, and re-sitemination peren	(2 Stub haterit obbitemental aux
the right to claim priority under 35 U.S.C. 119, based on any earlier foreign applications assigned under this Agreement, the ASSIGNOR(S) hereby a special U.S. Patent Applications assigned under this Agreement.	Millinited (a) nim independent in it.
Accepted to Delegate and Tendemarks to issue all Latters Patent to the ASSIGNEE(5) 88 the ASSIGNEE	A OLEH SCHOOL WITCH SOLVING A.A.
to the coloured for the eats upg and entermont of said ASSIGNEESS. (DEC SUCCESSOR)	n goongine.
Further, the ASSIGNOR(s) agree(s) to communicate to said ASSIGNEE(s), or their representa-	scute all divisional, continuation,
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I will allow Dalan) to he legisal in said ASSIGNEERS). Make 30 (00000) Dains and 90(0000) W (secondarius in a management at
any and all cellers Falsit to be issued successors and assigns, to obtain and enforce proper protection to able to aid said ASSIGNEE(s), their successors and assigns, to obtain and enforce proper protection to	it partillabilism (*
CHITT BYANT A CVV	/Dotal
(Signature of sole or tiret assignor) ERIC NAVIASKY	(Date)
(Signature of second essignor, if any) CHRIS MOSCONE	(Date)
05/19/201	2
(Signature of third assignor, if any) RAJAGOPAL VIJAYARAGHAVAN	(Date)
(Signature of fourth assignor, if any) BENJAMIN LOUIS HEILMANN	(Date)

12PA018US01

MR3529-68

ASSIGNMENT DEED
This Assignment agreement is applicable to an invention entitled (invention Title) SYSTEM AND METHOD FOR
COMBINED 170 GENERATION AND DELECTIVE PRACE INTERPORT AND
(Check one) a Patent Application for this Invention, executed by the ASSIGNOR(s) concurrently with this Assignment U.S. Patent Application Serial No. 13/471, 945 , filed 5/15/2012 U.S. Patent No
The PATENT RIGHTS assigned under this agreement are:
(Check one) U.S. Patent rights only worldwide Patent rights. In this case, the assignce shall have the right to claim the benefit of the filing date of
any U.S. Patent Application identified above. The ASSIGNOR(s) referred to in this agreement is (or are):
EDTC NAVIASKY
(Address) 8414 Governors Run, Ellicott City, MD 21043
(Full name of second essignor, if any) CHRIS MOSCONE (Address) 104 Timber Hitch Rd., Carr, NC 27513
(Suit game of third essigner if any) RAJAGOPAL VIJAYARAGHAVAN
(Address) 204 Euphoria Cl., Cary, NC 27519
DENTAMEN LOUIS HETT MANN
(Address) 5049 Amber Clay Lane, Raleigh, NC 27612
The First ASSIGNEE referred to in this agreement is:
(Marrie of Assignee) CADENCE DESIGN SYSTEMS INC.
(Address of Assignee) 2655 Secly Avenue San Jose CA 95134
The Second ASSIGNEE reterred to in this agreement is: (Name of Assignee)
(Address of Assignee)
The First ASSIGNEE is:
(Check one) an individual a partnership
(X) a Corporation of State of Delaware
(State or Country) The Second ASSIGNEE Is:
(Check one) 🔲 an Individual
a partnership a Corporation of
(State or Country)
Additional assignees are being named on separately numbered sheets attached hereto.
The ASSIGNOR(S), in consideration of \$1.00 paid by each ASSIGNEE, and other good and valuable consideration, receipt of
which is acknowledged, have and do hereby easign the following to each ASSIGNEE; their successors and assigns: the full and exclusive right to the invention;
an equal interest in and to the entire right, title and interest in and to the PATENT RIGHTS in the invention, all continuations, continuations-in-part, divisionals, re-issues, and re-examination patents and patent applications; and
the dobt to claim priority under 35 U.S.C. 119, based on any earlier foreign applications for this invention.
As to all U.S. Patent Applications assigned under this Agreement, the ASSIGNOR(S) hereby authorize(s) and requests the Director of Patenta and Tradamarks to Issue all Letters Patent to the ASSIGNEE(s) as the ASSIGNEE(s) of an equal interest in the
entire dobt, title and interest, for the sole use and enloyment of said ASSIGNEE(s), their successors and assigns.
Further, the assignments acree(a) to communicate to said ASSIGNEE(s), or their representatives, any lacts known to the
ASSIGNOR(s) respecting said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, continuation-in-part, substitute, renewal, reexamination and release applications, execute all necessary assignment papers to cause
any and all Letters Patent to be Issued to said ASSIGNEE(s), make all rightful ceths and generally do everything necessary or desirable to aid said ASSIGNEE(s), their successors and assigns, to obtain and enforce proper protection for said invention.
ADIB (C RIG SRIG ADDICHEE(5), their buccessors and assigne, to obtain and enteres proper processor for season
(Signature of sole or first assignor) ERIC NAVIASKY (Date)
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(Signature of second assignor, if any) CHRIS MOSCONE (Date)
- "
(Signature of Ihird assignor, if any) RAJAGOPAL VIJAYARAGHAVAN (Date)
2 14/2017
(Signature of Ihird assignor, if any) RAJAGOPAL VIJAYARAGHAVAN (Date) (Signature of fourth assignor, if any) BENJAMIN LOUIS HEILMANN (Date)
Ann Miss 19 5/14/2012