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_/	Con	veying I	Party(i	es)		Marl	k if add	litional names	of con	veyin	g parties attached		
0									_	_	Execution Date  Month Day Year		
7			Name	Roger Helkey					]	05/17/2000			
$\mathcal{A}$			Name [	Jonathan Twich	nell			05/15/2000					
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Mail documents to be recorded with required cover sheet(s) information to: Box Assignment, Commissioner of Patents and Trademarks, Washington, D.C. 20231

Page 2 PATENT							
Correspondent Name and Address							
Area Code and Telephone Number 617-248-7688							
Name Patent Administrator							
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Address (line 3) 125 High Street							
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Application Number(s) or Patent Number(s)							
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Number of Properties Enter the total number of properties involved. # 1							
Fee Amount Fee Amount for Properties Listed (37 CFR 3.41): \$ 40.00							
Method of Payment: Enclosed ⊠ Deposit Account □							
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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.							
Michael J. Giannetta Reg. No. 42,574  Muhal  Michael J. Giannetta Reg. No. 42,574  Signature  Date							

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### **ASSIGNMENT**

WHEREAS, We, Roger Helkey and Jonathan Twichell have invented one or more improvements in:

# Narrowband Analog to Digital Converter With Suppressed Second-Order Distortion described in an application (or provisional application) for Letters Patent of the United States: identified by Attorney Docket No. MIT-114, and/or executed by us of even date herewith and about to be filed in the United States Patent Office; Serial No. 09/520,912 filed in the United States Patent Office on March 8, 2000; and

WHEREAS, Massachusetts Institute of Technology (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the Commonwealth of Massachusetts, and having a usual place of business at 77 Massachusetts Avenue, Cambridge, Massachusetts 02139 desires to acquire an interest therein, in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns, and legal representatives, our entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to the inventions described in said application, together with our entire right, title and interest in and to said application and such Letters Patent as may issue thereon or claim priority under international convention, including but not limited to continuations, divisionals, reissues, and reexaminations of said application or such Letters Patent; said inventions, applications and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey all of our rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. We hereby acknowledge that this assignment, being of our entire right, title and interest in and to said inventions, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all Letters Patent to ASSIGNEE for its own name as assignee of our entire right, title and interest therein.

AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns, and legal representatives, but at its or their expense and charges, including: the execution of applications for patents in foreign countries; the execution of substitution, reissue, divisional or continuation applications; and preliminary or other statements or the giving of testimony in any interference or other proceeding in which said inventions or any application or patent directed thereto may be involved; and

## Joint Assignment Page 2

we further hereby authorize ASSIGNEE or its attorneys or agents to insert the correct serial number and filing date into this assignment, if none is indicated on that date of our execution of this assignment;

AND, we do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives.

IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals the date set forth below.

		Inventor:
		Roger Helkey
State of California County of Santa Barbara	) ) ss	O
Subscribed and sworn to before, 2000.	re me, by	y the above-named Roger Helkey this day of
K. WARD  Commission #1176069  Notary Public - California  Santa Barbara County  My Comm. Expires Mar 12, 2002		Notary Public My Commission Expires: March 12, 2000
		Inventor:  Jonathan Twichell
Commonwealth of Massachusetts County of	) ) ss	
Subscribed and sworn to before day of, 200		y the above-named Jonathan Twichell this
		Notary Public My Commission Expires:

GIANNETTA5473/121.990267-1

### **ASSIGNMENT**

WHEREAS, We, Roger Helkey and Jonathan Twichell have invented one or more improvements in:

# Narrowband Analog to Digital Converter With Suppressed Second-Order Distortion described in an application (or provisional application) for Letters Patent of the United States: identified by Attorney Docket No. MIT-114, and/or executed by us of even date herewith and about to be filed in the United States Patent Office; Serial No. 09/520,912 filed in the United States Patent Office on March 8, 2000; and WHEREAS, Massachusetts Institute of Technology (hereinafter "ASSIGNEE"), a corporation

WHEREAS, Massachusetts Institute of Technology (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the Commonwealth of Massachusetts, and having a usual place of business at 77 Massachusetts Avenue, Cambridge, Massachusetts 02139 desires to acquire an interest therein, in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns, and legal representatives, our entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to the inventions described in said application, together with our entire right, title and interest in and to said application and such Letters Patent as may issue thereon or claim priority under international convention, including but not limited to continuations, divisionals, reissues, and reexaminations of said application or such Letters Patent; said inventions, applications and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey all of our rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. We hereby acknowledge that this assignment, being of our entire right, title and interest in and to said inventions, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all Letters Patent to ASSIGNEE for its own name as assignee of our entire right, title and interest therein.

AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns, and legal representatives, but at its or their expense and charges, including: the execution of applications for patents in foreign countries; the execution of substitution, reissue, divisional or continuation applications; and preliminary or other statements or the giving of testimony in any interference or other proceeding in which said inventions or any application or patent directed thereto may be involved; and

# Joint Assignment Page 2

we further hereby authorize ASSIGNEE or its attorneys or agents to insert the correct serial number and filing date into this assignment, if none is indicated on that date of our execution of this assignment;

AND, we do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives.

IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals the date set forth below.

		Inventor:
		Roger Helkey
State of County of	) ) ss	
Subscribed and sworn to before, 2000.	me, by	the above-named Roger Helkey this day of
		Notary Public My Commission Expires:
		Inventor: Zonathan Twichell
Commonwealth of Massachusetts County of Middlesea	) ) ss	
Subscribed and sworn to before day of, 200		the above-named Jonathan Twichell this

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**RECORDED: 05/24/2000**