Case No.: 60010US002 RECORDATION FORM COVER SHEET PATENTS ONLY To: The Director of the U.S. Patent and Trademark Office: Please record the attached document(s) or the new address(es) below. Name and address of receiving party(les): Execution Date(s): Name of conveying party(ies). 3M Innovative Properties Company May 23, 2005 Yuhas, Donald E. May 17, 2005 P.O. Box 33427 Voth, James H. St. Paul, Minnesota 55133-3427 April 19, 2005 Schneider, Patrick April 19, 2005 Foster, Keith H. Additional name(s) of receiving party(ies) attached? ☐ Yes 🏹 No Additional name(s) of conveying party(les) attached? ☐ Yes 🗵 No 3. Nature of conveyance: Merger Ø Assignment Change of Name Security Agreement Other: ☐ This document is being filed together with a new application. 4. Application or patent number(s) B. Patent No(s). A. Patent Application No(s). 11/000631 Additional Numbers Attached?

Yes

No 5. Name and address to whom correspondence 6. Total number of applications concerning document should be mailed: and patents involved: Name: Melanie G. Gover Office of Intellectual Property Counsel 3M Innovative Properties Company Phone Number: (512) 984-4308 7. Total fee (37 CFR §§ 1.21(h) & 3.41): \$40.00 Fax Number: 651-736-3833 ☐ Enclosed Authorized to be charged to deposit account 32692 8. Payment Information: **Customer Number** Deposit Account Number: 13-3723 Authorized User Name: Melanie G. Gover 9. Signature: Printed Name of Attorney/Agent: Melanie G. Gover

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Mail Stop Assignment Recordation Services, Director of the USPTO, P.O. Box 1450, Alexandria, VA 22313-1450

Pages: Total number of pages including COVER SHEET, attachments, and documents

PATENT

REEL: 016284 FRAME: 0859

Registration No.: 41,793

Case No.: 60010US002

ASSIGNMENT OF APPLICATION

nvention in	'	
ADVANCED C	ABLE METROLOGY SYS	I EM
for which an application for a United States Pa for which an application for a United States Pa December 1, 2004; which application is identified as PCT Internat	atent identified as U.S. Patent	Application No. 11/000631; was filed of
Now, therefore, for good and valuable con assign and transfer and do hereby assign and	i transfer unto the 3M INNO	JANIAE EKOEEKIIES COMENIA, S
wholly-owned subsidiary of 3M COMPANY, and Minnesota, its successors and assigns, the entire and in and to any division or continuation (in improvements in the said invention made by me during, or within one year after the termination future subsidiaries), and in and to any and all Leunited States of America and countries foreign or Inventors' Certificates in foreign countries in applications to which such applications are entinave been or may be granted thereon or on any reissue, or other or further application based in the held and enjoyed as fully and exclusively as the held and enjoyed as fully and to any and all countries; and the held and enjoyed as fully and exclusively as the held and enjoyed as fully and exclusively.	re right, title, and interest in a whole or in part) of said a or made jointly with others (performed of the part) of said and the part of	application, and in and to any and all provided any such improvement is made of COMPANY and any of its existing of apply for Letters Patent, Utility Models are any priority rights for such foreign eventions, treaties, or otherwise), which whole or in part), renewal, reexamination id invention or improvements thereon, to what had this assignment and transfer not tors, and administrators, to execute and documents, and to perform such other, its successors, assigns, and nominees aintain Letters Patent, Utility Models, of the assignee of the erries Company, as the assignee of the
Given Name (first and middle [if any]): DONALD E.	Family Name or Sum YUHAS	name:
Inventor's Signature:	Date: _5 - 2	3-05
Résidence: Glen Ellyn, Illinois	Country: USA	Cltizenship: United States of America
Total Older	Mayor	ie Passini Yuhos

REEL: 016284 FRAME: 0860

Given Name (first and middle [if any]):	Family Name or Surname:	
JAMES H.	VOTH	
nventor's Signature:	Date:	
Residence:	Country:	Çitizenship:
New Ulm, Minnesota	USA	United States of America
Witness	Witness	
	Tamilly Manna or Furn	70700
Given Name (first and middle [if any]): PATRICK	Family Name or Surname: SCHNEIDER	
Inventor's Signature:	Date:	
Residence:	Country:	Citizenship: United States of America
Leander, Texas	USA	Onlied States of America
Witness	Witness	
Given Name (first and middle [if any]):	Family Name or Sur	name:
KEITH H.	FOSTER	
Inventor's Signature:	Date:	
Residence:	Country:	Citizenship:
New Ulm, Minnesota	USA	United States of America
	- A.M.:	
Witness	Witness	

Assignment

Page 2 of 2

PATENT Case No.: 60010US002 **REEL: 016284 FRAME: 0861**

Case No.: 60010US002

ASSIGNMENT OF APPLICATION

Whereas I/we, the below named inventor(s), with res invention in	sidence and citizenship as indicated below, have made an	
ADVANCED CABLE METROLOGY SYSTEM		
 ☐ for which an application for a United States Patent is ☐ for which an application for a United States Patent ide December 1, 2004; ☐ which application is identified as PCT International Patent 	entified as U.S. Patent Application No. 11/090631; was filed on	
assign and transfer and do hereby assign and transfe wholly-owned subsidiary of 3M COMPANY, and a corp Minnesota, its successors and assigns, the entire right, and in and to any division or continuation (in whole improvements in the said invention made by me or madduring, or within one year after the termination of, my future subsidiaries), and in and to any and all Letters P United States of America and countries foreign thereto or Inventors' Certificates in foreign countries in its or applications to which such applications are entitled unhave been or may be granted thereon or on any division reissue, or other or further application based in whole obe held and enjoyed as fully and exclusively as they wo been made; I/We do further agree for myself/ourselves and for deliver without further consideration any further application acts as I/we lawfully may, that may be deemed necessafully to secure its right, title, and interest as aforesaid Inventors' Certificates in any and all countries; and	on, receipt of which is acknowledged, I/we have agreed to arrunto the 3M INNOVATIVE PROPERTIES COMPANY, a toration of Delaware, having its principal office at Saint Paul. title, and interest in and to the said invention and application, or in part) of said application, and in and to any and all e jointly with others (provided any such improvement is made employment with 3M COMPANY and any of its existing of attent, reexaminations, reissues, or extensions thereof, of the (including the right to apply for Letters Patent, Utility Models with name and to claim any priority rights for such foreign international conventions, treaties, or otherwise), which had, continuation (in whole or in part), renewal, reexamination in part upon the said invention or improvements thereon, to had have been by me/us had this assignment and transfer no my/our heirs, executors, and administrators, to execute and ions, assignments, and documents, and to perform such othe early by said Company, its successors, assigns, and nominees and to obtain or maintain Letters Patent, Utility Models, of ioner of Patents to issue any and all Letters Patent which may 3M Innovative Properties Company, as the assignee of the solution or the day and year set forth below.	
Given Name (first and middle [if any]): DONALD E.	Family Name or Surname:	
Inventor's Signature:	Date:	

Given Name (first and middle [if any]): DONALD E,	Family Name or Surr YUHAS	name:
Inventor's Signature:	Date:	
Residence: Glen Ellyn, Illinois	Country: USA	Citizenship: United States of America
Witness		

Case No.: 60010US002

	Parily Manager Company	· · · · · · · · · · · · · · · · · · ·
Given Name (first and middle [lf any]):	Family Name or Surname:	
JAMES H.	VOTH	
Inventor's Signature:	Date:	
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> dwww.c+t U toth	5-17-05)
	Country:	Citizenship:
New Liner, Minnesota SAUK CENTRE	USA	United States of America
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Witness	Witness	
Given Name (first and middle [if any]):	Family Name or Surname:	
PATRICK	SCHNEIDER	
Inventor's Signature:	Date:	
<u></u>		
Residence:	Country:	Citizenship:
Leander, Texas	USA	United States of America
Witness	Witness	
		······································
Given Name (first and middle [if any]):	Family Name or Surname:	
KEITH H.	FOSTER	
KEIITI II.	1 OOTEL	
inventor's Signature:	Date:	
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Baldana (1- 10 de 3	Country:	Citizenship:
Residence:		United States of America
New Ulm, Minnesota	USA	Officed States of Afficility
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Il My Stelfour	Greg M.	NNUT-
Witness	Witness	

PATENT Case No.: 60010US002

REEL: 016284 FRAME: 0863

Case No.: 60010US002

ASSIGNMENT OF APPLICATION

below period inventor(s) with residence and citizenship as indicated below, have made an

Whereas I/we, the below named inventor(s), invention in		
ADVANCED C	ABLE METROLOGY SYS	TEM
 for which an application for a United States F for which an application for a United States P December 1, 2004; which application is identified as PCT Internation 	atent identified as U.S. Patent	Application No. 17/000031, was filed on
Now, therefore, for good and valuable consideration, receipt of which is acknowledged, I/we have agreed the assign and transfer and do hereby assign and transfer unto the 3M INNOVATIVE PROPERTIES COMPANY, wholly-owned subsidiary of 3M COMPANY, and a corporation of Delaware, having its principal office at Saint Pau Minnesota, its successors and assigns, the entire right, title, and interest in and to the said invention and application and in and to any division or continuation (in whole or in part) of said application, and in and to any and a improvements in the said invention made by me or made jointly with others (provided any such improvement is made during, or within one year after the termination of, my employment with 3M COMPANY and any of its existing future subsidiaries), and in and to any and all Letters Patent, reexaminations, reissues, or extensions thereof, of the United States of America and countries foreign thereto (including the right to apply for Letters Patent, Utility Model or Inventors' Certificates in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), which have been or may be granted thereon or on any divisional, continuation (in whole or in part), renewal, reexamination be held and enjoyed as fully and exclusively as they would have been by me/us had this assignment and transfer in been made; I/We do further agree for myself/curselves and for my/our heirs, executors, and administrators, to execute an eliver without further consideration any further applications, assignments, and documents, and to perform such oth acts as I/we lawfully may, that may be deemed necessary by said Company, its successors, assigns, and nominee fully to secure its right, title, and interest as aforesaid and to obtain or maintain Letters Patent, Utility Models, Inventors' Certificates in any and all countries; and I/We do hereby authorize and request the Commissioner of P		
Given Name (first and middle [if any]): DONALD E.	Family Name or Sun YUHAS	name:
Inventor's Signature:	Date:	
Residence: Glen Ellyn, Illinois	Country: USA	Citizenship: United States of America
Witness	Witness	

Case No.: 60010US002

Siven Name (first and middle [if any]):	Family Name or Sumame:	
JAMES H.		
ventor's Signature:	Date:	
Residence:	Country:	Citizenship:
New Ulm, Minnesota	USA	United States of America
Witness	Witness	
Given Name (first and middle [if any]):	Family Name or Sum	ame:
PATRICK	SCHNEIDER	
Inventor's Signature:	Date: 04/19/05	
Residence: Leander, Texas	Country: ' USA	Citizenship: United States of America
Sunda M. Ramure	Witness	he Thompson
Given Name (first and middle [if any]):	Family Name or Sun	name:
KEITH H.	FOSTER	
Inventor's Signature:	Date:	
Residence:	Country:	Cltizenship:
New Ulm, Minnesota	USA	United States of America
Witness	Witness	

FACSIMILE

Date: May 27, 2005

Number of Pages (including cover sheet) 8

Customer Number

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3M Innovative Properties Company

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Phone: 703-308-9723

Re: U.S. Application No. 11/000631

Fax No. 703-306-5995

From: Melanie G. Gover

Phone: (512) 984-4308

Our Case No.: 60010US002

Fax No. 651-736-3833

PATENT REEL: 016284 FRAME: 0866

RECORDED: 05/27/2005