

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
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EPAS ID: PAT4450329

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
ARTHUR ROBERT CALDERBANK	09/24/1997
AYMAN F. NAGUIB	09/24/1997
NAMBIRAJAN SESHADRI	09/24/1997
VAHID TAROKH	11/04/1997
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	AT&T CORP.
<b>Street Address:</b>	32 AVENUE OF THE AMERICAS
<b>City:</b>	NEW YORK
<b>State/Country:</b>	NEW YORK
<b>Postal Code:</b>	10013-2412
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	14797647
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(443)964-2201
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
<b>Email:</b>	qle@polsinelli.com
<b>Correspondent Name:</b>	AT&T LEGAL DEPARTMENT - POLSINELLI PC
<b>Address Line 1:</b>	ONE AT&T WAY, ROOM 2A-207
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<b>Address Line 4:</b>	BEDMINSTER, NEW JERSEY 07921
<b>ATTORNEY DOCKET NUMBER:</b>	111834-CON-6
<b>NAME OF SUBMITTER:</b>	QUY LE
<b>SIGNATURE:</b>	/Quy Le/
<b>DATE SIGNED:</b>	06/08/2017
<b>Total Attachments: 5</b>	
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## ASSIGNMENT AND AGREEMENT

For value received, we, Arthur Robert Calderbank, of Princeton in the County of Mercer and State of New Jersey, Ayman F. Naguib, of New Providence in the County of Union and State of New Jersey, Nambirajan Seshadri, of Chatham in the County of Morris and State of New Jersey, and Vahid Tarokh, of Madison in the County of Morris and State of New Jersey, hereby sell, assign and transfer to AT&T Corp., a corporation of the State of New York, having an office at 32 Avenue of the Americas, New York, New York 10013-2412, U.S.A., and its successors, assigns and legal representatives, the entire right, title and interest, for the United States of America, in and to certain inventions related to **Method And Apparatus For Data Transmission Using Space-Time Codes And Multiple Transmit Antennas** described in an application for Letters Patent of the United States, Serial No. 08/847635, filed April 25, 1997, which claims the benefit of provisional application Serial No. 60/030571, filed on November 7, 1996, and all the rights and privileges in said application and under any and all Letters Patent that may be granted in the United States for said inventions; and we also concurrently hereby sell, assign and transfer to AT&T Corp. the entire right, title and interest in and to said inventions for all countries foreign to the United States, including all rights of priority arising from the application aforesaid, and all the rights and privileges under any and all forms of protection, including Letters Patent, that may be granted in said countries foreign to the United States for said inventions.

We authorize AT&T Corp. to make application for such protection in its own name and maintain such protection in any and all countries foreign to the United States, and to invoke and claim for any application for patent or other form of protection for said inventions, without further authorization from us, any and all benefits, including the right of priority provided by any and all treaties, conventions, or agreements.

We hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of AT&T Corp. to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

We request that any and all patents for said inventions be issued to AT&T Corp. in the United States and in all countries foreign to the United States, or to such nominees as AT&T Corp. may designate.

A.R. Calderbank 15-1-36-1

We agree that, when requested, we shall, without charge to AT&T Corp. but at its expense, sign all papers, and do all acts which may be necessary, desirable or convenient in connection with said applications, patents, or other forms of protection.

AR Calderbank

Arthur Robert Calderbank

Date: 9/24/97

United States of America )

State of New Jersey ) ss.:

County of Morris )


On this 24<sup>th</sup> day of September, 1997, before me personally came Arthur Robert Calderbank, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

Margaret Cardoso

Notary Public

**MARGARET CARDOSO**  
NOTARY PUBLIC OF NEW JERSEY  
My Commission Expires Dec. 20, 1998

A.R. Calderbank 15-1-36-1

  
Ayman F. Naguib


Date: 9/24/97

United States of America )

State of New Jersey ) ss.:

County of Morris )

On this 24<sup>th</sup> day of September, 19 97, before me personally came Ayman F. Naguib, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

  
Notary Public

**MARGARET CARDOSO**  
NOTARY PUBLIC OF NEW JERSEY  
My Commission Expires Dec. 20, 1998

A.R. Calderbank 15-1-36-1

Nambirajan Seshadri  
Nambirajan Seshadri

Date: 9/24/97

United States of America )

State of New Jersey ) ss.:

County of Morris )

On this 24<sup>th</sup> day of September, 1997, before me personally came Nambirajan Seshadri, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

Margaret Cardoso  
Notary Public

**MARGARET CARDOSO**  
NOTARY PUBLIC OF NEW JERSEY  
My Commission Expires Dec. 20, 1998

A.R. Calderbank 15-1-36-1

Vahid Tarokh  
Vahid Tarokh

Date: Nov. 4, 1997

United States of America )

State of New Jersey ) ss.:

County of Morris )

On this 4<sup>th</sup> day of November, 1997, before me personally came Vahid Tarokh, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

Margaret Cardoso  
Notary Public

**MARGARET CARDOSO**  
NOTARY PUBLIC OF NEW JERSEY  
My Commission Expires Dec. 20, 1998

AT&T Corp.  
P. O. Box 4110  
Middletown, New Jersey 07748