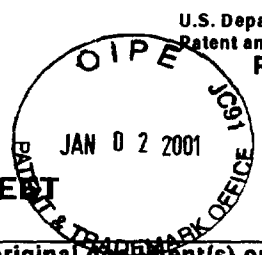


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FORM PTO-1619A  
Expires 06/30/99  
OMB 0651-0027

01-08-2001  
101574342



U.S. Department of Commerce  
Patent and Trademark Office  
PATENT

### RECORDATION FORM COVER SHEET PATENTS ONLY

40999

TO: The Commissioner of Patents and Trademarks: Please record the attached original document(s) or copy(ies).

#### Submission Type

- New
- Resubmission (Non-Recordation)  
Document ID# \_\_\_\_\_
- Correction of PTO Error  
Reel # \_\_\_\_\_ Frame # \_\_\_\_\_
- Corrective Document  
Reel # \_\_\_\_\_ Frame # \_\_\_\_\_

#### Conveyance Type

- Assignment
  - License
  - Merger
  - Security Agreement
  - Change of Name
  - Other \_\_\_\_\_
- U.S. Government**  
(For Use ONLY by U.S. Government Agencies)
- Departmental File
  - Secret File

#### Conveying Party(ies)

Mark if additional names of conveying parties attached

Execution Date  
Month Day Year

Name (line 1) Ernst Eberlein

Name (line 2) \_\_\_\_\_

12/15/00

#### Second Party

Name (line 1) Stefan Lipp

Name (line 2) \_\_\_\_\_

Execution Date  
Month Day Year

12/15/00

09673291

#### Receiving Party

Mark if additional names of receiving parties attached

If document to be recorded is an assignment and the receiving party is not domiciled in the United States, an appointment of a domestic representative is attached. (Designation must be a separate document from Assignment.)

Name (line 1) Fraunhofer-Gesellschaft zur Foerderung der angewandten

Name (line 2) Forschung e.V.

Address (line 1) Leonrodstrasse 54

Address (line 2) \_\_\_\_\_

Address (line 3) Muenchen Germany D-80636

City State/Country Zip Code

#### Domestic Representative Name and Address

Enter for the first Receiving Party only.

Name \_\_\_\_\_

Address (line 1) \_\_\_\_\_

Address (line 2) \_\_\_\_\_

Address (line 3) \_\_\_\_\_

Address (line 4) \_\_\_\_\_

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Public burden reporting for this collection of information is estimated to average approximately 30 minutes per Cover Sheet to be recorded, including time for reviewing the document and gathering the data needed to complete the Cover Sheet. Send comments regarding this burden estimate to the U.S. Patent and Trademark Office, Chief Information Officer, Washington, D.C. 20231 and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Paperwork Reduction Project (0651-0027), Washington, D.C. 20503. See OMB Information Collection Budget Package 0651-0027, Patent and Trademark Assignment Practice. DO NOT SEND REQUESTS TO RECORD ASSIGNMENT DOCUMENTS TO THIS ADDRESS.

Mail documents to be recorded with required cover sheet(s) information to:  
Commissioner of Patents and Trademarks, Box Assignments, Washington, D.C. 20231

PATENT  
REEL: 011391 FRAME: 0100

**Correspondent Name and Address**

Area Code and Telephone Number (202) 530-7374

Name John E. Holmes

Address (line 1) Roylance, Abrams, Berdo & Goodman, L.L.P.

Address (line 2) 1300 19th Street, N.W., Suite 600

Address (line 3) Washington, D.C. 20036

Address (line 4)

**Pages** Enter the total number of pages of the attached conveyance document including any attachments. # 4

**Application Number(s) or Patent Number(s)**

Mark if additional numbers attached

Enter either the Patent Application Number or the Patent Number (DO NOT ENTER BOTH numbers for the same property).

Patent Application Number(s)

Patent Number(s)

09/673,271						

If this document is being filed together with a new Patent Application, enter the date the patent application was signed by the first named executing inventor.

Month	Day	Year

**Patent Cooperation Treaty (PCT)**

Enter PCT application number only if a U.S. Application Number has not been assigned.

PCT		PCT		PCT	
PCT		PCT		PCT	

**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:  
Deposit Account

Enclosed  Deposit Account

(Enter for payment by deposit account or if additional fees can be charged to the account.)

Deposit Account Number: # 18-2220

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.

John E. Holmes

1/2/01

Name of Person Signing

Signature

Date

**RECORDATION FORM COVER SHEET  
CONTINUATION  
PATENTS ONLY**

**Conveying Party(ies)**

Mark if additional names of conveying parties attached

Enter additional Conveying Parties

Name (line 1)

Execution Date  
Month Day Year

Name (line 2)

Name (line 1)

Execution Date  
Month Day Year

Name (line 2)

Name (line 1)

Execution Date  
Month Day Year

Name (line 2)

**Receiving Party(ies)**

Mark if additional names of receiving parties attached

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Name (line 1)

If document to be recorded is an assignment and the receiving party is not domiciled in the United States, an appointment of a domestic representative is attached. (Designation must be a separate document from Assignment.)

Name (line 2)

Address (line 1)

Address (line 2)

Address (line 3)  City  State/Country  Zip Code

Name (line 1)

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Mark if additional numbers attached

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Patent Application Number(s)

Patent Number(s)

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**RECORDATION FORM COVER SHEET  
CONTINUATION  
PATENTS ONLY**

**Conveying Party(ies)**

Mark if additional names of conveying parties attached

Enter additional Conveying Parties

Name (line 1) Sabah Badri

Execution Date  
Month Day Year  
12/15/00

Name (line 2)

Execution Date  
Month Day Year

Name (line 1)

Name (line 2)

Execution Date  
Month Day Year

Name (line 1)

Name (line 2)

**Receiving Party(ies)**

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**Application Number(s) or Patent Number(s)**

Mark if additional numbers attached

Enter either the Patent Application Number or the Patent Number (DO NOT ENTER BOTH numbers for the same property).

**Patent Application Number(s)**


**Patent Number(s)**


## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

A S S I G N M E N T

WHEREAS, we, Ernst Eberlein, Stefan Lipp, Stephan Buchholz, Albert Heuberger and Heinz Gerhaeuser, all citizens of Germany respectively residing at Waldstrasse 28 b, D-91091 Grossenseebach, Germany; Steinweg 9 a, D-91058 Erlangen, Germany; Kerschbacher Strasse 8, D-81447 Muenchen, Germany; Hausaeckerweg 18, D-91056 Erlangen, Germany; and Saugendorf 17, D-91344 Waischenfeld, Germany; and Sabah Badri, a citizen of Morocco residing at Sebaldustrasse 8, D-91058 Erlangen, Germany (hereinafter ASSIGNORS), have made a certain invention entitled FRAME STRUCTURE AND FRAME SYNCHRONIZATION FOR MULTICARRIER SYSTEMS, for which an application for Letters Patent of the United States has been filed under Serial No. 09/673,271; and

WHEREAS, Fraunhofer-Gesellschaft zur Foerderung der angewandten Forschung e.V., a research organization duly organized under the laws of Germany, located and doing business at Leonrodstrasse 54, D-80636 Muenchen, Germany (hereinafter ASSIGNEE), is desirous of acquiring the entire right, title and interest in and to the aforementioned invention and the aforementioned application in and for the United States, and in and to any and all United States Letters Patent to be obtained on said invention and/or application;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN:

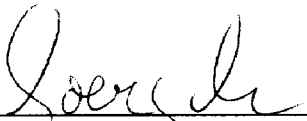
BE IT KNOWN that for good and valuable consideration paid to us by said ASSIGNEE, the receipt and sufficiency of which is hereby acknowledged, we, the ASSIGNORS, by these presents do hereby sell, assign, set over and transfer unto the said ASSIGNEE, its successors, legal representatives or assigns, the entire right, title and interest in and to the aforesaid invention in and for the United States; the entire right, title and interest in, to and under the aforesaid United States application and any divisional, continuing, substitute or reissue applications or supplementary disclosures which may be filed on said invention in the United States; our right to claim priority in the United States under the provisions of any international convention or treaty; and the entire right, title and interest in and to any Letters Patent of the United States issued or granted on said invention and/or said applications;


AND ASSIGNORS HEREBY authorize and request the U.S. Patent and Trademark Office to issue any and all patents on said invention and/or said applications to said ASSIGNEE as sole assignee; and we further hereby authorize said ASSIGNEE to file and prosecute said applications;

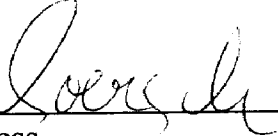
AND ASSIGNORS HEREBY covenant that we have the full right to convey the entire right, title and interest herein assigned and that we have not executed and will not execute any assignment or other instrument in conflict herewith;


AND ASSIGNORS HEREBY further covenant and agree to communicate to said ASSIGNEE or its legal representatives, successors or assigns, any facts relating to said invention, including evidence for interference purposes or other proceedings, whenever requested, and to testify in any interference or in any other legal proceeding, when requested, and to execute and deliver on request all lawful papers required to make any of the foregoing provisions effective; and to perform the aforesaid communicating, executing and delivering, without any payment except for expenses and to perform the aforesaid testifying for reasonable compensation; and generally to do everything possible to aid the said ASSIGNEE, its successors, legal representatives or assigns to obtain and enforce proper patent protection on and for said invention in the United States; and we likewise make these provisions binding upon our heirs, legal representatives and/or administrators.

IN WITNESS WHEREOF, we have hereunder set our hand and seal this 15th day of December, 2000.

  
\_\_\_\_\_  
Witness Birgit Boersch

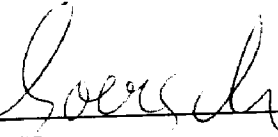
  
\_\_\_\_\_  
Ernst Eberlein


  
\_\_\_\_\_  
Witness Birgit Boersch

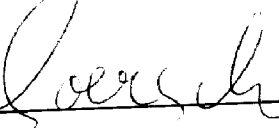
  
\_\_\_\_\_  
Stefan Lipp

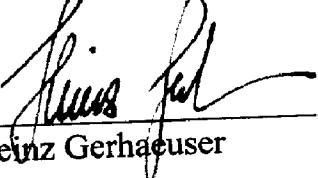
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Witness

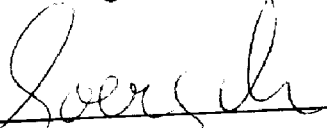
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Stephan Buchholz

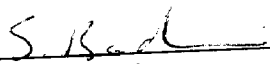
  
\_\_\_\_\_  
Witness Birgit Boersch

  
\_\_\_\_\_  
Albert Heuberger

  
\_\_\_\_\_  
Witness Birgit Boersch

  
\_\_\_\_\_  
Heinz Gerhaeuser

  
\_\_\_\_\_  
Witness Birgit Boersch

  
\_\_\_\_\_  
Sabah Badri

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ASSIGNMENT

WHEREAS, we, Ernst Eberlein, Stefan Lipp, Stephan Buchholz, Albert Heuberger and Heinz Gerhaeuser, all citizens of Germany respectively residing at Waldstrasse 28 b, D-91091 Grossenseebach, Germany; Steinweg 9 a, D-91058 Erlangen, Germany; Kerschbacher Strasse 8, D-81447 Muenchen, Germany; Hausaeckerweg 18, D-91056 Erlangen, Germany; and Saugendorf 17, D-91344 Waischenfeld, Germany; and Sabah Badri, a citizen of Morocco residing at Sebaldustrasse 8, D-91058 Erlangen, Germany (hereinafter ASSIGNORS), have made a certain invention entitled FRAME STRUCTURE AND FRAME SYNCHRONIZATION FOR MULTICARRIER SYSTEMS, for which an application for Letters Patent of the United States has been filed under Serial No. 09/673,271; and

WHEREAS, Fraunhofer-Gesellschaft zur Foerderung der angewandten Forschung e.V., a research organization duly organized under the laws of Germany, located and doing business at Leonrodstrasse 54, D-80636 Muenchen, Germany (hereinafter ASSIGNEE), is desirous of acquiring the entire right, title and interest in and to the aforementioned invention and the aforementioned application in and for the United States, and in and to any and all United States Letters Patent to be obtained on said invention and/or application;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN:

BE IT KNOWN that for good and valuable consideration paid to us by said ASSIGNEE, the receipt and sufficiency of which is hereby acknowledged, we, the ASSIGNORS, by these presents do hereby sell, assign, set over and transfer unto the said ASSIGNEE, its successors, legal representatives or assigns, the entire right, title and interest in and to the aforesaid invention in and for the United States; the entire right, title and interest in, to and under the aforesaid United States application and any divisional, continuing, substitute or reissue applications or supplementary disclosures which may be filed on said invention in the United States; our right to claim priority in the United States under the provisions of any international convention or treaty; and the entire right, title and interest in and to any Letters Patent of the United States issued or granted on said invention and/or said applications;

AND ASSIGNORS HEREBY authorize and request the U.S. Patent and Trademark Office to issue any and all patents on said invention and/or said applications to said ASSIGNEE as sole assignee; and we further hereby authorize said ASSIGNEE to file and prosecute said applications;

AND ASSIGNORS HEREBY covenant that we have the full right to convey the entire right, title and interest herein assigned and that we have not executed and will not execute any assignment or other instrument in conflict herewith;

AND ASSIGNORS HEREBY further covenant and agree to communicate to said ASSIGNEE or its legal representatives, successors or assigns, any facts relating to said invention, including evidence for interference purposes or other proceedings, whenever requested, and to testify in any interference or in any other legal proceeding, when requested, and to execute and deliver on request all lawful papers required to make any of the foregoing provisions effective; and to perform the aforesaid communicating, executing and delivering, without any payment except for expenses and to perform the aforesaid testifying for reasonable compensation; and generally to do everything possible to aid the said ASSIGNEE, its successors, legal representatives or assigns to obtain and enforce proper patent protection on and for said invention in the United States; and we likewise make these provisions binding upon our heirs, legal representatives and/or administrators.

IN WITNESS WHEREOF, we have hereunder set our hand and seal this 13th day of December, 2000.

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Ernst Eberlein

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Stefan Lipp

Claudia Sabottge  
Witness Claudia SABOTTGE

Stephan Buchholz  
Stephan Buchholz

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Witness

\_\_\_\_\_  
Albert Heuberger

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Witness

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Heinz Gerhaeuser

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Witness

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Sabah Badri