

Form PTO-1595 (Rev. 03/01) OMB No. 0651-0027 (exp. 5/31/2002)

RECORDATION FORM COVER SHEET
PATENTS ONLY

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

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof

1. Name of conveying party(ies):
Christopher A. Ludden(08/01/2003), Richard A. Erhart (10/07/2003), Mark D. Kuhns(08/11/2003), and Arif Alam (10/06/2003)

Additional name(s) of conveying party(ies) attached? Yes No

3. Nature of Conveyance:

Assignment Merger
 Security Agreement Change of Name
 Other Corrective Assignment To correct to name of the receiving party and of the conveying party Reel: 014628 Frame: 0762

Execution Date: See Box 1

2. Name and address of receiving party(ies)
Name: National Semiconductor Corporation
Internal Address: _____
Street Address: _____

2900 Semiconductor Drive

City: Santa Clara

State: CA Zip: 95051-8090

Additional name(s) & address(es) attached: Yes No

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the new application is: _____

A. Patent Application No.(s):
10/443,458

B. Patent No.(s): _____

Additional numbers attached? Yes No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: John W. Branch
DARBY & DARBY P.C.
Internal Address: Atty. Dkt.: 08211/000S039-US0
Street Address:
P.O. Box 5257

City: New York State: NY Zip: 10150-5257

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41) \$ 40.00

Enclosed
 Authorized to be charged to deposit account
 Authorized to be charged to credit card (Form 2038 enclosed)

8. Deposit account number: 04-0100

(Attach duplicate copy of this page if paying by deposit account)

DO NOT USE THIS SPACE

9. 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.

Flynn Barrison - 53,970
Name of Person Signing


Signature

June 29, 2004
Date

Total number of pages including cover sheet, attachments, and documents: _____

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office, facsimile no. (703) 306-5895, on the date shown below.

Dated: 6/30/04

Signature: Marilyn Perry

CH \$40.00 040100 10443458

10-29-2003



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Form PTO-1595 (Rev. 03/01) OMB No. 0651-0027 (exp. 5/31/2002)

RECOR

DEPARTMENT OF COMMERCE U.S. Patent and Trademark Office

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof

1. Name of conveying party(ies):

Christopher A. Ludden (08/01/2003), Richard A. Erhart (10/07/2003), Mark D. Kuhns (08/11/2003), and Alam Arif (10/06/2003)

Additional name(s) of conveying party(ies) attached? [] Yes [X] No

2. Name and address of receiving party(ies)

Name: National Semiconductor

Internal Address:

Street Address: 2900 Semiconductor Drive

City: Santa Clara

State: CA Zip: 95051-8090

Additional name(s) & address(es) attached: [] Yes [X] No

3. Nature of Conveyance:

[X] Assignment [] Merger [] Security Agreement [] Change of Name [] Other

Execution Date: see Box 1, conveying parties

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the new application is:

A. Patent Application No.(s): 10/443,458

B. Patent No.(s):

Additional numbers attached? [] Yes [X] No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: John W. Branch DARBY & DARBY P.C. Internal Address: Atty. Dkt.: 08211/000S039-US0 Street Address: P.O. Box 5257

City: New York State: NY Zip: 10150-5257

6. Total number of applications and patents involved:

7. Total fee (37 CFR 3.41) \$ 40.00

[X] Enclosed [] Authorized to be charged to deposit account [] Authorized to be charged to credit card (Form 2038 enclosed)

8. Deposit account number: 04-0100

(Attach duplicate copy of this page if paying by deposit account)

DO NOT USE THIS SPACE

9. 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.

John W. Branch - 41,633 Name of Person Signing

Signature

October 24, 2003 Date

Total number of pages including cover sheet, attachments, and documents: 17

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as First Class Mail, in an envelope addressed to: MS Assignment Recordation Services, Director of the US Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: October 24, 2003

Signature:

PATENT (Attach)

Handwritten date: 10/21/03

Vertical stamp: 703 OCT 27 AM 9:47 OPR/FINANCE

10/28/2003 ECOPER 00000199 10442458

01 FC:8021

M&G 50019.210US01/P05518

ASSIGNMENT

WHEREAS, we, Christopher A. Ludden, residing at 30 Widewaters Ln., Pittsford, New York 14534, Richard Alexander Erhart, residing at 1747 E. Carver Rd., Tempe, Arizona 85284, Mark D. Kuhns, residing at 6953 W. Redfield Rd., Peoria, Arizona 85381 and Arif Alam, residing at 1111 N. Mission Park Blvd., Apt. # 2037, Chandler, Arizona 85224, made certain new and useful inventions and improvements for which we filed an application for Letters Patent of the United States on May 21, 2003, application No. 10/443,458 which is entitled CLOCK DESKEW PROTOCOL USING A DELAY-LOCKED LOOP.

AND WHEREAS, National Semiconductor Corporation, a corporation organized and existing under and by virtue of the laws of the State of Delaware, and having an office and place of business at 2900 Semiconductor Drive, Santa Clara, California 95051-8090 (hereinafter "Assignee") is desirous of acquiring the entire right, title and interest in and to said inventions, improvements and application and in and to the Letters Patent to be obtained therefor;

NOW THEREFORE, to all whom it may concern, be it known that for good and valuable considerations, the receipt and sufficiency whereof is hereby acknowledged, we have sold, assigned, and transferred, and by these presents do sell, assign and transfer unto said Assignee, its successors or assigns, the entire right, title and interest for all countries in and to all inventions and improvements disclosed in the aforesaid application, and in and to the application, all divisions, continuations, or renewals thereof, all Letters Patent which may be granted therefrom, and all reissues or extensions of such patents, and in and to any and all applications which have been or shall be filed in any foreign countries for Letters Patent on the inventions and improvements, including an assignment of all rights under the provisions of the International Convention, and all Letters Patent of foreign countries which may be granted therefrom; and we do hereby authorize and request the Commissioner of Patents and Trademarks to issue any and all United States Letters Patent for the aforesaid inventions and improvements to the Assignee as the assignee of the entire right, title and interest in and to the same, for the use of the Assignee, its successors and assigns.

AND, for the consideration aforesaid, we do hereby agree that we and our executors and legal representatives will make, execute and deliver any and all other instruments in writing including any and all further application papers, affidavits, assignments and other documents, and will communicate to said Assignee, its successors and representatives all facts known to us relating to said improvements and

the history thereof and will testify in all legal proceedings and generally do all things which may be necessary or desirable more effectually to secure to and vest in said Assignee, its successors or assigns the entire right, title and interest in and to the improvements, inventions, applications, Letters Patent, rights, titles, benefits, privileges and advantages hereby sold, assigned and conveyed, or intended so to be.

AND, furthermore we covenant and agree with said Assignee, its successors and assigns, that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by us and that full right to convey the same as herein expressed is possessed by us.

IN TESTIMONY WHEREOF, I have hereunto set my hand this 1st day of August, 2003.

Christopher A. Ludden
Christopher A. Ludden

STATE OF New York)
) ss.
COUNTY OF Maurose)

On this 1st day of August, 2003, before me personally appeared Christopher A. Ludden to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

Julie M. McDonald
Notary Public

JULIE M. McDONALD
Notary Public, State of New York
No. 01MC6076701
Qualified In Ontario County
Commission Expires July 1, 2004

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2003.

Richard Alexander Erhart

STATE OF _____)
) ss.
COUNTY OF _____)

On this _____ day of _____, 2003, before me personally appeared Richard Alexander Erhart to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

Notary Public

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2003.

Mark D. Kuhns

STATE OF _____)
) ss.
COUNTY OF _____)

On this _____ day of _____, 2003, before me personally appeared Mark D. Kuhns to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

Notary Public

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2003.

Arif Alam

STATE OF _____)
) ss.
COUNTY OF _____)

On this _____ day of _____, 2003, before me personally appeared Arif Alam to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

Notary Public

M&G 50019.210US01/P05518

ASSIGNMENT

WHEREAS, we, Christopher A. Ludden, residing at 30 Widewaters Ln., Pittsford, New York 14534, Richard Alexander Erhart, residing at 1747 E. Carver Rd., Tempe, Arizona 85284, Mark D. Kuhns, residing at 6953 W. Redfield Rd., Peoria, Arizona 85381 and Arif Alam, residing at 1111 N. Mission Park Blvd., Apt. # 2037, Chandler, Arizona 85224, made certain new and useful inventions and improvements for which we filed an application for Letters Patent of the United States on May 21, 2003, application No. 10/443,458 which is entitled CLOCK DESKEW PROTOCOL USING A DELAY-LOCKED LOOP.

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NOW THEREFORE, to all whom it may concern, be it known that for good and valuable considerations, the receipt and sufficiency whereof is hereby acknowledged, we have sold, assigned, and transferred, and by these presents do sell, assign and transfer unto said Assignee, its successors or assigns, the entire right, title and interest for all countries in and to all inventions and improvements disclosed in the aforesaid application, and in and to the application, all divisions, continuations, or renewals thereof, all Letters Patent which may be granted therefrom, and all reissues or extensions of such patents, and in and to any and all applications which have been or shall be filed in any foreign countries for Letters Patent on the inventions and improvements, including an assignment of all rights under the provisions of the International Convention, and all Letters Patent of foreign countries which may be granted therefrom; and we do hereby authorize and request the Commissioner of Patents and Trademarks to issue any and all United States Letters Patent for the aforesaid inventions and improvements to the Assignee as the assignee of the entire right, title and interest in and to the same, for the use of the Assignee, its successors and assigns.

AND, for the consideration aforesaid, we do hereby agree that we and our executors and legal representatives will make, execute and deliver any and all other instruments in writing including any and all further application papers, affidavits, assignments and other documents, and will communicate to said Assignee, its successors and representatives all facts known to us relating to said improvements and

the history thereof and will testify in all legal proceedings and generally do all things which may be necessary or desirable more effectually to secure to and vest in said Assignee, its successors or assigns the entire right, title and interest in and to the improvements, inventions, applications, Letters Patent, rights, titles, benefits, privileges and advantages hereby sold, assigned and conveyed, or intended so to be.

AND, furthermore we covenant and agree with said Assignee, its successors and assigns, that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by us and that full right to convey the same as herein expressed is possessed by us.

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2003.

Christopher A. Ludden

STATE OF _____)
) ss.
COUNTY OF _____)

On this _____ day of _____, 2003, before me personally appeared Christopher A. Ludden to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

Notary Public

IN TESTIMONY WHEREOF, I have hereunto set my hand this 7th day of October, 2003.

Richard Alexander Erhart
Richard Alexander Erhart

STATE OF Arizona)
) ss.
COUNTY OF Maricopa)

On this 7 day of October, 2003, before me personally appeared Richard Alexander Erhart to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]



Mark D. Kuhns
Notary Public - Arizona
Maricopa County
My Commission Expires
July 15, 2005

Traci M. Smith
Notary Public

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2003.

Mark D. Kuhns

STATE OF _____)
) ss.
COUNTY OF _____)

On this _____ day of _____, 2003, before me personally appeared Mark D. Kuhns to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

Notary Public

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2003.

Arif Alam

STATE OF _____)
COUNTY OF _____) ss.

On this _____ day of _____, 2003, before me personally appeared Arif Alam to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

Notary Public

M&G 50019.210US01/P05518

ASSIGNMENT

WHEREAS, we, Christopher A. Ludden, residing at 30 Widewaters Ln., Pittsford, New York 14534, Richard Alexander Erhart, residing at 1747 E. Carver Rd., Tempe, Arizona 85284, Mark D. Kuhns, residing at 6953 W. Redfield Rd., Peoria, Arizona 85381 and Arif Alam, residing at 1111 N. Mission Park Blvd., Apt. # 2037, Chandler, Arizona 85224, made certain new and useful inventions and improvements for which we filed an application for Letters Patent of the United States on May 21, 2003, application No. 10/443,458 which is entitled CLOCK DESKEW PROTOCOL USING A DELAY-LOCKED LOOP.

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NOW THEREFORE, to all whom it may concern, be it known that for good and valuable considerations, the receipt and sufficiency whereof is hereby acknowledged, we have sold, assigned, and transferred, and by these presents do sell, assign and transfer unto said Assignee, its successors or assigns, the entire right, title and interest for all countries in and to all inventions and improvements disclosed in the aforesaid application, and in and to the application, all divisions, continuations, or renewals thereof, all Letters Patent which may be granted therefrom, and all reissues or extensions of such patents, and in and to any and all applications which have been or shall be filed in any foreign countries for Letters Patent on the inventions and improvements, including an assignment of all rights under the provisions of the International Convention, and all Letters Patent of foreign countries which may be granted therefrom; and we do hereby authorize and request the Commissioner of Patents and Trademarks to issue any and all United States Letters Patent for the aforesaid inventions and improvements to the Assignee as the assignee of the entire right, title and interest in and to the same, for the use of the Assignee, its successors and assigns.

AND, for the consideration aforesaid, we do hereby agree that we and our executors and legal representatives will make, execute and deliver any and all other instruments in writing including any and all further application papers, affidavits, assignments and other documents, and will communicate to said Assignee, its successors and representatives all facts known to us relating to said improvements and

the history thereof and will testify in all legal proceedings and generally do all things which may be necessary or desirable more effectually to secure to and vest in said Assignee, its successors or assigns the entire right, title and interest in and to the improvements, inventions, applications, Letters Patent, rights, titles, benefits, privileges and advantages hereby sold, assigned and conveyed, or intended so to be.

AND, furthermore we covenant and agree with said Assignee, its successors and assigns, that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by us and that full right to convey the same as herein expressed is possessed by us.

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2003.

Christopher A. Ludden

STATE OF _____)
) ss.
COUNTY OF _____)

On this _____ day of _____, 2003, before me personally appeared Christopher A. Ludden to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

Notary Public

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2003.

Richard Alexander Erhart

STATE OF _____)
) ss.
COUNTY OF _____)

On this _____ day of _____, 2003, before me personally appeared Richard Alexander Erhart to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

Notary Public

IN TESTIMONY WHEREOF, I have hereunto set my hand this 11 day of August, 2003.

Mark D. Kuhns

Mark D. Kuhns

STATE OF Arizona)
) ss.
COUNTY OF Maricopa)

On this 11 day of August, 2003, before me personally appeared Mark D. Kuhns to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

Ene Corupe

Notary Public



IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2003.

Arif Alam

STATE OF _____)
) ss.
COUNTY OF _____)

On this _____ day of _____, 2003, before me personally appeared Arif Alam to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

Notary Public

M&G 50019.210US01/P05518

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the history thereof and will testify in all legal proceedings and generally do all things which may be necessary or desirable more effectually to secure to and vest in said Assignee, its successors or assigns the entire right, title and interest in and to the improvements, inventions, applications, Letters Patent, rights, titles, benefits, privileges and advantages hereby sold, assigned and conveyed, or intended so to be.

AND, furthermore we covenant and agree with said Assignee, its successors and assigns, that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by us and that full right to convey the same as herein expressed is possessed by us.

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2003.

Christopher A. Ludden

STATE OF _____)
COUNTY OF _____) ss.

On this _____ day of _____, 2003, before me personally appeared Christopher A. Ludden to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

Notary Public

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2003.

Richard Alexander Erhart

STATE OF _____)
COUNTY OF _____) ss.

On this _____ day of _____, 2003, before me personally appeared Richard Alexander Erhart to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

Notary Public

IN TESTIMONY WHEREOF, I have hereunto set my hand this _____ day of _____, 2003.

Mark D. Kuhns

STATE OF _____)
COUNTY OF _____) ss.

On this _____ day of _____, 2003, before me personally appeared Mark D. Kuhns to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

Notary Public

IN TESTIMONY WHEREOF, I have hereunto set my hand this 6 day of October, 2003.

Arif Alam
Arif Alam

STATE OF Arizona)
COUNTY OF Maricopa) ss.

On this 6th day of October, 2003, before me personally appeared Arif Alam to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

Seth J. Adams
Notary Public

