

05-09-2006

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

RI



Docket No. 2867-436

103233849

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

**1. Name of conveying party(ies)/Execution Date(s):**

Alexander Wayne Hietala  
Ryan Lee Bunch  
Scott Robert Humphreys  
Barry Travis Hunt, Jr.  
Stephen T. Janesch

Execution Date(s) 4/26/06, 4/28/06, 4/26/06, 4/28/06, 4/28/06

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

**3. Nature of conveyance:**

- ☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Government Interest Assignment  
☐ Executive Order 9424, Confirmatory License  
☐ Other \_\_\_\_\_

**2. Name and address of receiving party(ies)**

Name: RF Micro Devices, Inc.

Internal Address: \_\_\_\_\_

Street Address: 7628 Thorndike Road

City: Greensboro

State: NC

Country: USA Zip: 27409

Additional name(s) & address(es) attached? ☐ Yes ☒ No

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

A. Patent Application No.(s)

☒ This document is being filed together with a new application.

B. Patent No.(s)

05/04/2006 STEUMEL1 00000023 11415578

01 FC:802

40.00 DP

Additional numbers attached? ☐ Yes ☒ No

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

Name: Benjamin S. Withrow

Internal Address: Withrow & Terranova, PLLC

Street Address: P.O. Box 1287

City: Cary

State: NC Zip: 27512

Phone Number: 919-654-4520

Fax Number: 919-654-4521

Email Address: \_\_\_\_\_

**6. Total number of applications and patents involved:** 1

**7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00**

- ☒ Authorized to be charged by credit card  
☐ Authorized to be charged to deposit account  
☒ Enclosed  
☐ None required (government interest not affecting title)

**8. Payment Information**

a. Credit Card Last 4 Numbers 1002

Expiration Date 04/2007

b. Deposit Account Number 50-1732

Authorized User Name Withrow & Terranova

**9. Signature:**

Benjamin S. Withrow

Signature

May 2, 2006

Date

Name of Person Signing

Total number of pages including cover sheet, attachments, and documents: 5

Documents to be recorded (including cover sheet) should be faxed to (703) 306-5995, or mailed to:  
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450

PATENT  
REEL: 017859 FRAME: 0747

## ASSIGNMENT

This Assignment made by us, **Alexander Wayne Hietala**, a citizen of the United States of America, residing at 14017 S. 9<sup>th</sup> Street, City of Phoenix, County of Maricopa, State of Arizona; **Ryan Lee Bunch**, a citizen of the United States of America, residing at 4405 Eagle Rock Road, City of Greensboro, County of Guilford, State of North Carolina; **Scott Robert Humphreys**, a citizen of the United States of America, residing at 5702 Middlebury Place, City of Greensboro, County of Guilford, State of North Carolina; **Barry Travis Hunt, Jr.**, a citizen of the United States of America, residing at 3010 Amidon Drive, City of Greensboro, County of Guilford, State of North Carolina; and **Stephen T. Janesch**, a citizen of the United States of America, residing at 7702 Wilder Court, City of Greensboro, County of Guilford, State of North Carolina, hereinafter referred to as assignors.

WITNESSETH: That,

WHEREAS, we are the joint inventors of certain new and useful improvements in **FRACTIONAL-N BASED DIGITAL AFC SYSTEM WITH A TRANSLATIONAL PLL TRANSMITTER** for which we are about to make application for Letters Patent of the United States, and for which we have executed a declaration.

WHEREAS, **RF Micro Devices, Inc.**, a corporation duly organized and existing under the laws of the State of North Carolina and having a principal place of business at 7628 Thorndike Road, City of Greensboro, County of Guilford, State of North Carolina, hereinafter referred to as assignee, is desirous of acquiring the entire right, title and interest in and to said invention as described in the specification executed by us concurrently herewith, and any and all Letters Patent which shall be granted therefor;

NOW, THEREFORE, To All Whom It May Concern, be it known that for good and

valuable consideration, the receipt and sufficiency of which is hereby acknowledged, we, the said assignors, have sold, assigned, transferred and set over unto the said assignee, its successors and assigns, the entire right, title and interest in and to the above-mentioned application and invention and in and to any and all Letters Patent of the United States which may hereafter be granted therefor, and in any and to any and all continuations, continuations-in-part, substitutions, divisions or reissues of said Letters Patent, the same to be held and enjoyed by the said assignee, for its interest, and for its own use and behalf, and the use and behalf of its successors and assigns, 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 and enjoyed by us had this assignment and sale not been made.

And for the consideration aforesaid, we hereby covenant and agree to and with the said assignee, its successors and assigns, that at the time of the execution and delivery of these presents we are the joint and lawful owners of the entire right, title and interest in and to the invention, application and Letters Patent above-mentioned and that the same are unencumbered, and that we have good right and lawful authority to sell and convey the same in the manner herein set forth.

And for the consideration aforesaid, we hereby covenant and agree to and with the said assignee, its successors and assigns, that we will, whenever its counsel or the counsel of its successors and assigns, learned in the law, shall advise that an amendment, division, continuation, continuation-in-part, or substitution of, or any other proceeding in connection with said application, including interference proceedings, is lawful and desirable, sign all papers and drawings, take all rightful oaths, and do all acts necessary or required to be done for the procurement of valid Letters Patent for said invention, or for the reissue of the same without

charge to our said assignee, its successors or assigns, but at its or their expense.

We hereby request the Commissioner for Patents to issue the Letters Patent in accordance with this instrument.

For the consideration aforesaid, we have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto the said assignee, its successors, assigns or nominee, the entire right, title and interest in and to any and all Letters Patent for said invention which may be granted in countries foreign to the United States and in and to any applications for Letters Patent which may be filed for said invention in countries foreign to the United States and in and to the invention described in said application; and we hereby authorize and empower the said assignee, its successors, assigns or nominees to apply for Letters Patent or other form of protection on said invention in its own name or in the name of its successor, assignee, or nominee, in any and all countries where it may desire to file such application and where said application may be filed by another than the inventor; and we hereby covenant and agree to sign all papers and drawings, take all rightful oaths, and do all acts necessary or required to be done for procurement of Letters Patent, or other form of protection, for said invention or inventions in countries foreign to the United States, and for further investing or confirming the right and title therein to the assignee, its successors, assignee, or nominee, without charge to our said assignee, its successor, assignee or nominee, but at its or their expense.

IN WITNESS WHEREOF, we have hereunto set our hands and seals.

26 APR 2006

Date

  
Alexander Wayne Hietala

28 APR 2006

Date

  
Ryan Lee Bunch


26 APR 2006

Date

  
Scott Robert Humphreys

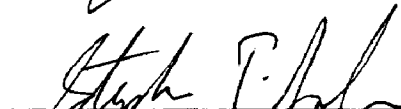
28 APR 2006

Date

  
Barry Travis Hunt, Jr.

4/28/2006

Date

  
Stephen T. Janesch