

04-24-2002

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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):

Clifton Quan  
Brian M. Pierce

04/11/02

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

3. Nature of conveyance:

- Assignment  Merger
- Security Agreement  Change of Name
- Other \_\_\_\_\_

03/26/2002 and 4/4/2002

Execution Date: \_\_\_\_\_

2. Name and address of receiving party(ies)

Name: Raytheon Company

Internal Address: Intellectual Property and Licensing

Street Address: \_\_\_\_\_

141 Spring Street

City: Lexington State: MA Zip: 02421-7899

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

4. Application number(s) or patent number(s): **Internal Docket No. PD-00W054**

If this document is being filed together with a new application, the execution date of the application is: 04/11/2002

A. Patent Application No. (s)

B. Patent No. (s)

Additional numbers attached?  Yes  No

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

Name: Raytheon Company

Internal Address: Leonard A. Alkov

Street Address: P.O. Box 902 (E1/E150)

City: El Segundo State: CA Zip: 90245-0902

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

8. Deposit account number:

50-0616

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

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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.

Leonard A. Alkov, 30,021

Name of Person Signing

*Leonard A. Alkov*  
Signature

04/11/2002

Date

Total number of pages including cover sheet, attachments, and documents: 3

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

J1046 U.S. PTO  
10/12/06  
04/11/02

1018096  
04/23/2002 LWFELLER 0000253-5006 JB  
40.00 CH  
01 FC:501

PATENT REEL: 012807 FRAME: 0811

## ASSIGNMENT

WHEREAS, I, as below named joint inventor of the city and state as stated below next to my name, have invented "RF MEMS Switch Loop 180° Phase Bit Radiator Circuit" for which application for Letters Patent of the United States has been executed by me on this day; and

WHEREAS, RAYTHEON COMPANY, a Delaware Corporation, having its principal place of business in Lexington, Massachusetts, is desirous of acquiring the entire and exclusive right, title and interest in, to and under said invention, said application and any and all Letters Patent that may be granted therefor in the United States and throughout the world;

NOW, THEREFORE, in consideration of the obligations voluntarily assumed by me and set forth in an invention agreement between me and my employer, effective the date as stated below next to my name, and other good and valuable consideration, receipt of which is hereby acknowledged, I do hereby sell, assign and transfer to RAYTHEON COMPANY, its successors, assigns or other legal representatives, the entire and exclusive right, title and interest in and to said invention invented by me, to said application and any and all applications which are continuations, continuations-in-part, divisions or substitutes of said application and any and all Letters Patent that may be granted therefor in the United States and throughout the world on any of said applications and to any and all reexaminations, reissues, renewals or extensions of said Letters Patent in the United States and throughout the world for the full term or terms for which said Letters patent may be granted in the United States and throughout the world; authorize and request The Commissioner of Patents and Trademarks of the United States and all foreign countries to issue all such Letters Patent to said RAYTHEON COMPANY, its successors, assigns or other legal representatives; convenient that no assignment, sale, agreement, transfer or encumbrance has been, or will be, made or entered into which would conflict with this assignment, sale and transfer; and agree to communicate to RAYTHEON COMPANY, its successors, assigns or other legal representatives, upon request and at no cost or expense to me, any facts known by me respecting said invention, do all lawful acts, including the execution and delivery of all papers and proper oaths and giving of testimony that is deemed necessary or desirable by RAYTHEON COMPANY, its successors, assigns or other legal representatives with regard to said invention for protecting, obtaining, maintaining and enforcing any and all of said Letters Patent in the United States and throughout the world for said invention and for perfecting, affirming, recording and maintaining the title of RAYTHEON COMPANY, its successors, assigns or other legal representatives, and generally cooperate to the fullest extent in all matters pertaining to said invention, and any and all of said Letters Patent and the title thereto in RAYTHEON COMPANY, its successors, assigns or other legal representatives.

IN WITNESS WHEREOF, we have executed this instrument.

Full Name of Inventor Clifton Quan	Inventor Signature <i>Clifton Quan</i>	Date Signed 3-26-02
Residence (City and State) 5521 No. Florinda Avenue, Arcadia, CA 91006		Invention Agreement Date June 19, 1978

STATE OF California )  
COUNTY OF Los Angeles )

SS:

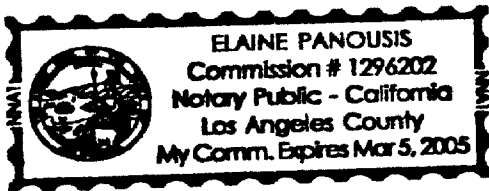
On 3-26-02 before me, Elaine Panousis, a Notary Public in and for said State,  
personally appeared Clifton Quan

personally known to me or  proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/hers/their authorized capacity(ies), and that by his/hers/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Notary Public

*Elaine Panousis*



Full Name of Inventor Brian M. Pierce	Inventor Signature <i>Brian M Pierce</i>	Date Signed 4 APRIL 2002
Residence (City and State) 22501 Sheffield Drive, Moreno Valley, CA 92557		Invention Agreement Date n/a

STATE OF California )  
COUNTY OF VENTURA )

SS:

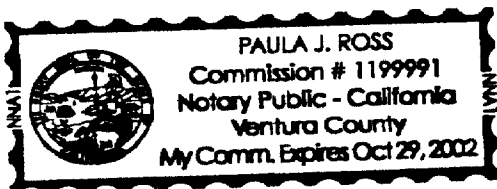
On April 4, 2002 before me, PAULA J. ROSS, a Notary Public in and for said State,  
personally appeared BRIAN M. PIERCE *Brian M Pierce*

personally known to me or  proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/hers/their authorized capacity(ies), and that by his/hers/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Notary Public

*Paula J. Ross*



RECORDED: 04/11/2002

PATENT  
REEL: 012807 FRAME: 0813