

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re *Inter Partes* Review of:            )  
U.S. Patent No. 7,329,970                )  
Issued: Feb. 12, 2008                    )  
Application No.: 11/480,868             )  
Filing Date: July 6, 2006                )

For: **Touch Sensor And Location Indicator Circuits**

**FILED VIA PRPS**

**DECLARATION OF PAUL BEARD IN SUPPORT OF  
PETITION FOR *INTER PARTES* REVIEW  
OF U.S. PATENT NO. 7,329,970**

For ease of reference, Mr. Beard refers to this declaration as being in support of  
“’970 Petition” challenging claims 1, 3-5, 10-14, 19, 48, 49, 51, and 52.

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A. Ground 1: Claims 1, 3, 5, 10, 11, 12, 14, 19, 48, and 49 are invalid under 35 U.S.C. § 103 on the ground that they are rendered obvious by Beard in view of Rathmann.....52

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B. Ground 2: Claims 4, 13, 51, and 52 are invalid under 35 U.S.C. § 103 on the ground that they are all rendered obvious by Beard in view of Rathmann and Danielson .....88

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I, Paul Beard, resident of Bigfork, Montana, hereby declare as follows:

**I. INTRODUCTION AND QUALIFICATIONS**

1. I have been retained by Apple Inc. (“Apple”) to provide my opinion concerning the validity of U.S. Patent No. 7,329,970 (Ex. 1001, the “’970 patent”) in support of its Petition for *Inter Partes* Review of U.S. Patent No. 7,329,970 (“’970 Petition”). I have not previously been employed or retained by Apple in any capacity.

2. From 1980 to 1983, I attended the University of Manchester (U.K.) where I received a B.Sc. (Honors) degree in Electrical and Electronics Engineering.

3. From 1978 to 1989, I was employed by British Telecom (BT) in England. I received a series of promotions culminating in my eventual position as Head of Group for BT’s ISDN voice and data terminals. These terminals were portable electronic devices with microcontroller chips.

4. From 1989 to 1991, I was employed as a member of technical staff for VMX Inc., where I designed a world-wide approved subscriber line interface circuit.

5. From 1991 to 1994, I was the Vice President of Systems Engineering at DSP Group, where I architected a low-cost, fixed-point digital signal processing chip.

6. From 1994 to 1998, I was the Chief Architect and a Fellow of Norand Corporation, a developer of portable, wireless, pen-based data-entry devices that were battery-powered.

7. From 1998 to 2000, I founded a wireless (radio frequency) product development company called Alation Systems based on my invention of a new type of radio frequency modulation scheme. I sold Alation Systems to Cypress Semiconductor in 2000.

8. From 2000 to 2005, I was the Chief Technology Officer (CTO) of Wireless Systems at Cypress Semiconductor. I directly reported to the CEO, and was the only Engineering Fellow in the entire company. During my time at Cypress, I invented the technology underlying the 2.4 Ghz wireless mouse as described in U.S. Patent No. 8,442,437. Cypress's WirelessUSB line of radio frequency chips is based on this technology, and the technology is also widely used in portable, battery-powered electronic devices such as microphones, electronic toys, mice and keyboards.

9. WirelessUSB was a major commercial success, and received four international electronics product awards, including a prestigious EDN (Electrical Design News) innovation award. I also designed two Cypress radio and wireless integrated circuits (IC), the CYRF6951 and CYRF6961.

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