

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.
Petitioner

v.

UUSI, LLC d/b/a NARTRON
Patent Owner

Case IPR2016-00908
Patent No. 5,796,183

**DECLARATION OF DR. DARRAN CAIRNS
IN SUPPORT OF PATENT OWNER RESPONSE**

Before THOMAS L. GIANNETTI, CARL M. DEFRANCO, and
KAMRAN JIVANI, *Administrative Patent Judges*.

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	BACKGROUND AND QUALIFICATIONS.....	1
III.	MATERIALS REVIEWED.....	3
IV.	PERSON OF ORDINARY SKILL IN THE ART.....	4
V.	OVERVIEW OF THE '183 PATENT	5
VI.	PROPER CLAIM CONSTRUCTION	11
A.	“closely spaced array of input touch terminals of a keypad” / “small sized input touch terminals of a keypad”	13
VII.	REFERENCES RELIED ON BY PETITIONER	17
A.	The Problem Solved by the ‘183 Patent	18
B.	<i>Ingraham I</i>	20
C.	<i>Caldwell</i>	27
D.	<i>Gerpheide</i>	36
VIII.	RESPONSE TO GROUND I.....	40
A.	A Skilled Artisan Would Not Have Had A Motivation to Combine <i>Ingraham I, Caldwell and Gerpheide</i>	40
1.	No Motivation to Combine <i>Caldwell</i> with <i>Ingraham I</i>	40
2.	No Motivation to Combine <i>Gerpheide</i> with <i>Caldwell</i> and <i>Ingraham I</i>	43
B.	A Skilled Artisan Would Not Have Expected Success In Combining the Asserted References.....	48
1.	No Expectation of Success in Combining <i>Caldwell</i> with <i>Ingraham I</i>	48
2.	No Expectation of Success in Combining <i>Gerpheide</i> with <i>Caldwell</i> and <i>Ingraham I</i>	50
C.	Petitioner Does Not Show That All Elements Exist In The Art When The Claimed Invention Is Viewed As A Whole.....	52
1.	Claim Element 40(a): an oscillator providing a periodic output signal having a predefined frequency	52

2.	Claim Element 40(b): a microcontroller using the periodic output signal from the oscillator, the microcontroller selectively providing signal output frequencies to a plurality of small sized input touch terminals of a keypad	53
3.	Claim Element 40(c): plurality of small sized input touch terminals/closely spaced array of small sized input touch terminals	58
4.	Claim Element 40(d): a detector circuit coupled to said oscillator for receiving said periodic output signal from said oscillator, and coupled to said input touch terminals, said detector circuit being responsive to signals from said oscillator via said microcontroller and a presence of an operator’s body capacitance to ground coupled to said touch terminals when proximal or touched by the operator to provide a control output signal	61
5.	Claim Element 40(e): wherein said predefined frequency of said oscillator and said signal output frequencies are selected to decrease a first impedance of said dielectric substrate relative to a second impedance of any contaminate . . . and wherein said detector circuit compares a sensed body capacitance change to ground proximate an input touch terminal to a threshold level to prevent inadvertent generation of the control output signal	64
D.	The Remaining Arguments Also Fail Under Petitioner’s Flawed Analysis of Claim 40.	67
1.	Independent Claim 61.	67
2.	Independent Claim 83.	68
3.	Independent Claim 94.	68
4.	Dependent Claims 41, 43, 45, 64-67, 69, 85, 86, 88, 90, 91, 96, 97, 99, 101, 102.	68
IX.	RESPONSE TO GROUND II	71
A.	A Skilled Artisan Would Not Have Had A Motivation to Combine <i>Ingraham I</i>, <i>Caldwell</i>, <i>Gerpheide</i>, and <i>Wheeler</i>.	71
B.	A Skilled Artisan Would Not Have Expected Any Success In Combining The Asserted References.	73

C. Petitioner Does Not Show That All Elements Of The Claims At Issue In The Combined Art.....73

X. CONCLUSION75

I, Darran Cairns, declare as follows:

I. INTRODUCTION

1. I have been retained by UUSI, LLC d/b/a/ Nartron (“Patent Owner” or “Nartron”) as an independent expert consultant in this proceeding before the Patent Trial and Appeal Board (“PTAB” or “Board”).

2. I am being compensated at a rate of \$490/hour for my work. I have no other interest in this proceeding.

3. My compensation is in no way contingent on the nature of my findings, the presentation of my findings in testimony, or the outcome of this proceeding.

4. I have been asked to consider the allegations made in the Petition for Inter Partes Review of U.S. Patent No. 5,796,183 (“the ’183 Patent”) (the “Petition”), the declaration of Dr. Subramanian in support of that Petition, and the asserted prior art. My opinions are set forth below.

II. BACKGROUND AND QUALIFICATIONS

5. I am the CEO of Tailored Surfaces, a technology development and consulting company focused on functional coatings for the technology industry, and an Adjunct Associate Professor of Mechanical and Aerospace Engineering at West Virginia University, where I have served on the faculty since 2006. I was an Associate Professor with Tenure at West Virginia University until August 2014.

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.