Inter Partes Review of USPN RE42,368 Declaration of Joseph E. Ford, Ph.D. (Exhibit 1037)

DECLARATION OF JOSEPH E. FORD, Ph.D.

Mail Stop "PATENT BOARD" Patent Trial and Appeal Board U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450



TABLE OF CONTENTS

I.	INTRODUCTION							
	A.	Background						
	B.	Qualifications						
		1.	Education	2				
		2.	Career History	2				
		3.	Publications	3				
		4.	Other Relevant Qualifications	3				
II.	THE	'368 F	PATENT	3				
III.		OF DOCUMENTS CONSIDERED IN FORMULATING MY NION4						
IV.	TECHNICAL BACKGROUND							
	A.	Optical switching for telecommunications						
		1.	Fiber cross-connects					
		2.	Wavelength switches	8				
	B.	Free-space optical systems						
		1.	Basic properties of lenses	10				
		2.	Gaussian light beams	12				
		3.	The "Fourier lens"	15				
		4.	Concave mirrors as focusing elements	16				
		5.	Wavelength-dispersive elements	17				
V.	STATE OF THE ART AT THE TIME OF THE ALLEGED INVENTION							
	A.	Transparent optical switching prior to the alleged invention						
	B.	Reconfigurable Optical Add-Drop Multiplexers2						
	C.	Wavelength Selective Switches						
	D.	MEMS Mirrors						
VI.	PERS	SON C	F ORDINARY SKILL IN THE ART	28				
VII.	OVERVIEW OF THE '368 PATENT2							
	A.	Operation of the disclosed system of the '368 Patent						
			•					



Inter Partes Review of USPN RE42,368 Declaration of Joseph E. Ford, Ph.D.

VIII.	III. THE CLAIMS OF THE '368 PATENT							
IX.	LEGAL STANDARDS							
	A.	Antic	Anticipation					
	B.	Obvi	Obviousness					
X.	CLA	IM CC	1 CONSTRUCTION38					
XI.	ANALYSIS OF INVALIDITY							
	A.	Summary of Analysis						
	B.	Point 1: Claims 1–6, 9–12 and 15–22 Are Disclosed by Smith						
		1.	Operation of the disclosed system of Smith	41				
		2.	Claim 1 preamble	47				
		3.	Claim 1 – input port	47				
		4.	Claim 1 – output and other ports	47				
		5.	Claim 1 – wavelength selective device	47				
		6.	Claim 1 – beam-deflecting elements	48				
		7.	Claim 2	48				
		8.	Claim 3	49				
		9.	Claim 4	49				
		10.	Claim 5	. 50				
		11.	Claim 6					
		12.	Claim 9	. 50				
		13.	Claim 10	.51				
		14.	Claim 11	.51				
		15.	Claim 12	.51				
		16.	Claim 15	. 52				
		17.	Claim 16	. 52				
		18.	Claim 17	. 52				
		19.	Claim 18	. 53				
		20.	Claim 19	. 53				
		21.	Claim 20	54				



Inter Partes Review of USPN RE42,368 Declaration of Joseph E. Ford, Ph.D.

		22.	Claim 21	54	
		23.	Claim 22	54	
	C.		2: Claims 1, 2, 5, 6, 9–12, and 15–21 Are Not Innovative w of Bouevitch and Carr	55	
		1.	Operation of the disclosed system of Bouevitch	55	
		2.	Carr reference	59	
		3.	Combination of Bouevitch with Carr	60	
	D.		3: Claims 1–4, 17 and 22 Are Not Innovative in View of vitch and Sparks	88	
	E.	Point 4: Claims 1–6, 9–12 and 15–22 Are Not Innovative in View of the Combination of Smith and Tew			
	F.	Point 5: Claims 1, 2, 5, 6, 9–12 and 15–21 Are Not Innovative in View of the Combination of Bouevitch, Carr and Tew			
	G.		6: Claims 1–4, 17 and 22 Are Not Innovative in View of ombination of Bouevitch, Sparks and Tew	108	
XII.	CON	CONCLUSION			
XIII	PROFESSIONAL HISTORY 1				



I, Joseph E. Ford, hereby declare as follows:

I. <u>INTRODUCTION</u>

A. Background

- 1. [Intentionally left blank].
- 2. I have been retained to act as an expert witness on behalf of Fujitsu Network Communications, Inc. ("FNC" or "Petitioner") in connection with the above captioned Petition for *Inter Partes* Review of U.S. Patent No. RE42,368 ("Petition"). I understand that this proceeding involves U.S. Patent No. RE42,368 ("the '368 Patent"), titled "Reconfigurable Optical Add-Drop Multiplexers with Servo-Control and Dynamic Spectral Management Capabilities." The '368 Patent is provided as Exhibit 1001.
- 3. I understand that Petitioner challenges the validity of Claims 1-6, 9-12 and 15-22 of the '368 Patent (the "challenged claims").
- 4. I have reviewed and am familiar with the '368 Patent as well as its prosecution history. The '368 prosecution history is provided as Exhibit 1002. Additionally, I have reviewed materials identified in Section III.
- 5. As set forth below, I am familiar with the technology at issue as of both the August 23, 2001 filing date of the application which led to the '368 Patent, and the March 19, 2001 priority date corresponding to the filing of Provisional Patent Application No. 60/277,217. I have been asked to provide my



DOCKET

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.

