

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

**DECLARATION OF EREZ ZADOK, PH.D.
IN SUPPORT OF PETITION FOR INTER PARTES REVIEW OF
U.S. PATENT 6,470,399**

Apple 1003
IPR2016-01843

TABLE OF CONTENTS

I.	Introduction.....	1
II.	Qualifications.....	3
III.	My Understanding of Claim Construction	9
IV.	My Understanding of Obviousness	9
V.	Level of Ordinary Skill in the Art	11
VI.	The '399 Patent.....	12
A.	Overview.....	12
B.	Claims 1, 11, and 14	16
C.	Claims 3 and 5	16
VII.	Background of the Technologies Disclosed in the '399 Patent	16
A.	Device Emulation	17
B.	Hard Disk Interface Technologies	22
C.	Operating Systems and File Systems	27
VIII.	Claim Construction.....	31
IX.	Ground 1: The Combination of Ard, Schmidt, and Webb Renders Claims 1, 3, 5, 11, and 14 Obvious.....	32
A.	Overview of Ard.....	32
B.	Overview of Schmidt.....	34
C.	Overview of Webb.....	35
D.	The Combination of Ard, Schmidt, and Webb Renders Claims 1, 11, and 14 Obvious.....	36
1.	The Combination of Ard, Schmidt, and Webb Discloses the Preamble of Independent Claims 1, 11, and 14	36
a)	The Combination of Ard, Schmidt, and Webb Discloses an Interface Device and a Method “ <i>for communication between a host device, ... and a data transmit/receive device</i> ”	38
b)	The Combination of Ard, Schmidt, and Webb Discloses the Host Device Limitations of the Preamble	40
c)	The Combination of Ard, Schmidt, and Webb Discloses the Data Transmit/Receive Device Limitations of the Preamble	42

2.	The Combination of Ard, Schmidt, and Webb Discloses the Architectural Elements of the Interface Device.....	44
a)	The Combination of Ard, Schmidt, and Webb Discloses the Interface Devices comprises “a processor” and “a memory”	45
b)	The Combination of Ard, Schmidt, and Webb Discloses the “ <i>first connecting device</i> ” Limitations.....	47
c)	The Combination of Ard, Schmidt, and Webb Teaches the “second connecting device” Limitations Including the Sample-and-Hold Circuit and Analog-to-Digital Converter	49
3.	The Combination of Ard, Schmidt, and Webb Discloses the Recognition Limitations of the Independent Claims	54
a)	The Combination of Ard, Schmidt, and Webb Discloses the Command Interpreter, and the Inquiry and Response Elements of the Recognition Limitations of Claims 1, 11, and 14.....	56
b)	The Combination of Ard, Schmidt, and Webb Teaches “whereupon the host device communicates with the interface device by means of the [driver]”	63
4.	The Combination of Ard, Schmidt, and Webb Discloses the Transfer Limitations of the Independent Claims	66
E.	The Combination of Ard, Schmidt, and Webb Renders Claim 3 Obvious ...	73
X.	Ground 2: The Combination of Ard, Schmidt, and Johnson Renders Claim 5 Obvious.....	74
A.	Overview of Johnson	74
B.	The Combination of Ard, Schmidt, and Johnson Discloses that “ <i>the processor is a digital signal processor</i> ” as Recited in Claim 5	75
XI.	Adequacy of the German Priority Application.....	77
XII.	Conclusion	79

I. Introduction

I, Dr. Erez Zadok, declare as follows:

1. I have been retained on behalf of Apple Inc. for the above-captioned *inter partes* review proceeding. I understand that this proceeding involves U.S. Patent No. 6,470,399 (“the ’399 patent”) titled “Flexible Interface for Communication Between a Host and an Analog I/O Device Connected to the Interface Regardless the Type of the I/O Device” by Michael Tasler, and that the ’399 patent is currently assigned to Papst Licensing GmbH & Co. KG.

2. In preparing this declaration, I have reviewed and am familiar with the following references:

- **U.S. Patent No. 5,915,106** to Ard (“Ard”), titled “Method and System for Operating a Scanner Which Emulates a Disk Drive,” provided as Ex. 1046 is prior art under at least 35 U.S.C. §§102(e) because it was filed on March 20, 1997, before the March 3, 1998 priority date of the ’399 patent.

- **The SCSI Bus and IDE Interface—Protocols, Applications and Programming** by Friedhelm Schmidt (“Schmidt”), and published in 1995. I understand that Schmidt is prior art to the ’399 patent and has been provided as Ex. 1007. (*See* Ex. 1024.)

- **U.S. Patent No. 5,489,772** to Webb *et al.* (“Webb”), titled “Variable Optical Sampling Rate Dependent on Requested Scan Resolution” (Ex. 1048), is

prior art under at least 35 U.S.C. §§ 102(a), 102(b), and 102(e) because it was filed on November 14, 1994, and issued February 6, 1996, more than one year before the March 3, 1998 priority date of the '399 patent.

- **U.S. Patent No. 5,303,064** to Johnson *et al.* (“Johnson”), titled “Image Scanner with Calibration Mechanism to Obtain Full Dynamic Range and Compensated Linear Output,” provided as Ex. 1047, is prior art under at least 35 U.S.C. §§102(a), 102(b), and 102(e) because it was filed on February 20, 1991, and issued April 12, 1994, more than one year before the March 3, 1998 priority date of the '399 patent.

3. I have also considered all other materials cited herein.

4. The '399 patent describes an interface device that “simulates, both in terms of hardware and software, the way in which a conventional input/output device functions, preferably that of a hard disk drive.” (Ex. 1001, '399 patent, 5:6–9.) I am familiar with the technology described in the '399 patent as of its March 3, 1998 filing date and its claimed March 4, 1997 priority date.

5. I have been asked to provide my independent technical review, analysis, insights, and opinions regarding the '399 patent and the references that form the basis for the two grounds of rejection set forth in the Petition for *Inter Partes* Review of the '399 patent.

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.