

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

**DECLARATION OF EREZ ZADOK, PH.D.
IN SUPPORT OF REPLY TO PATENT OWNER'S RESPONSE**

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I. Introduction

I, Dr. Erez Zadok, declare as follows:

1. I submit this declaration in support of Apple Inc.'s ("Petitioner") Reply to the Patent Owner Response to the Petition for *Inter Partes* Review of 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. This declaration supplements my October 11, 2016 declaration submitted as Exhibit 1003 in the above-referenced proceeding and is in response to Patent Owner's Response to Petition for *Inter Partes* Review ("Response") dated June 26, 2017, and the Declaration of Thomas A. Gafford, submitted as Exhibit 2002 and dated June 26, 2017. I understand that my curriculum vitae has been submitted into the record of this proceeding as Exhibit 1004.

3. In preparing this declaration, in addition to my knowledge and experience, I have reviewed and am familiar with the following references:

Japanese Patent Application Publication No. H4-15853 to Kawaguchi *et al.* ("Kawaguchi"). I understand that the original Japanese application has been provided as Ex. 1006 and that an English translation (which I reviewed) has been provided as Ex. 1005. I also

understand that the Patent Owner has provided a second English translation as Ex. 2004.

The SCSI Bus and IDE Interface—Protocols, Applications and Programming by Friedhelm Schmidt (“Schmidt”) (Ex. 1007);

Board’s Decision to Institute Trial (Paper 15);

Patent Owner’s Response to Petition for *Inter Partes* Review (Paper 17);

Declaration of Thomas A. Gafford (Exhibit 2002); and

Deposition Transcript of Mr. Gafford (Exhibit 1033).

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

II. Background of the Technology

A. A SCSI controller manages one or more logical units (LUNs).

5. The SCSI interface is a “device independent I/O bus, allowing a variety of devices to be linked to a communication system using a single bus.” (Ex. 1007, Schmidt, p. 79.) In other words, devices connected to a SCSI bus share the same physical medium of communication and can be addressed through the same SCSI bus. (*Id.*)

6. As Schmidt describes, “[a] computer system is connected to the SCSI bus through a host adapter,” whereas “[f]or a peripheral device the corresponding role is played by a controller.” (Schmidt, p. 79.) A normally configured SCSI bus

can support eight devices. (Schmidt, p. 79 (“Up to eight devices can be addressed using the SCSI bus”).) Each adapter and each controller is assigned a SCSI ID ranging from 0 to 7. It was common at the time of Schmidt that the SCSI controller itself (SCSI host adapter) was assigned the highest ID number, 7. (Schmidt, pp. 89–90 (“The controller itself has the SCSI ID”).)

7. The peripherals themselves are viewed as logical units with their own Logical Unit Numbers, or LUNs, associated with a given controller. (Schmidt, p. 90.) Given that SCSI supports 8 devices connected to the SCSI bus, a single SCSI controller can interface 8 LUNs to the SCSI bus. (Schmidt, p. 89, p. 131 (“A SCSI target is addressed using its SCSI ID [and] [w]ithin a single target up to eight LUNs...are accessible”).) I note that, at the time of Schmidt, it was common both for a hard disk to have its own controller (such that it is the only LUN associated with the controller), and for a controller to interface multiple hard disks. (Schmidt, pp. 90–91.) Figure 10.2 of Schmidt, reproduced below, illustrates both of these cases.

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