

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE PATENT TRIAL AND APPEAL BOARD

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RARITAN AMERICAS, INC. D/B/A RARITAN COMPUTER, INC.,  
Petitioner

v.

SERVER TECHNOLOGY, INC.,  
Patent Owner

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Case IPR2015-01597

U.S. Patent No. 7,043,543  
Title: Vertical-Mount Electrical Power Distribution Plugstrip  
Filed: August 15, 2001  
Issued: May 9, 2006

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**DECLARATION OF DR. MARK HORENSTEIN  
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF  
U.S. PATENT NO. 7,043,543**

## **DECLARATION OF DR. MARK HORENSTEIN**

I, Mark Horenstein, hereby declare as follows:

Petitioner Raritan Americas, Inc. d/b/a Raritan Computer, Inc. has retained me to provide my opinions in support of their Petition for *Inter Partes* Review of U.S. Patent No. 7,043,543. I also provided a declaration in support of their recent Petition for *Inter Partes* review of the closely related U.S. Patent No. 7,702,771 on July 15, 2015 (Case IPR2015-01596). I am being compensated for my time at my standard rate of \$290 per hour. I have no interest in the outcome of this proceeding.

### **I. Background and Qualifications**

1. I am a Professor of Electrical Engineering at Boston University. A copy of my curriculum vitae and list of publications is attached as Exhibit A.
2. I have a Bachelor of Science degree from the Massachusetts Institute of Technology, a Master of Science degree from the University of California at Berkeley, and a Ph.D. from the Massachusetts Institute of Technology, all in Electrical Engineering.
3. I am currently a tenured professor at Boston University in the Department of Electrical and Computer Engineering. I have been on the faculty of Boston University since 1979, first as an Assistant Professor, then as an Associate Professor, and now as a full Professor. I also served as Associate Chair for

Undergraduate Programs in the ECE department for a total of twelve years (1990-1998; 2012-2015), and as Associate Dean for Graduate Programs and Research for nine years (1999-2008). I have an active program in teaching and research in areas relevant to power switching technology. I am a Registered Professional Engineer (Electrical) in the Commonwealth of Massachusetts.

4. Prior to my employment at Boston University, I worked for Spire Corporation in the areas of high-voltage systems and pulsed power.

5. As part of my work at Boston University, I have taught various courses to electrical engineering students over the years. These courses have included, among others, introduction to engineering, electric circuit theory, introductory and advanced electronics, electromagnetics, modern-active circuit design, and power electronics. I was also responsible for developing and teaching our department's first Senior Capstone Design course, which I taught for 10 years over the period 1990 to 2000. The course, by my design, continues to be based on a customer model in which the students design a product or system for an outside company or customer.

6. A large part of my graduate training involved the study and design of AC power distribution systems. I also have considerable experience in electrical wiring, having served as an apprentice to a Master Electrician during my college years. I have taught both undergraduate and graduate students. Since 1979 and

until the present day, literally thousands of students under my tutelage have graduated from Boston University with Bachelor's and Master's degrees in electrical engineering. These students fulfilled their degree requirements in part by taking courses taught by me.

7. As part of my work as a professor at Boston University, I have engaged in various research projects and outside interests. My research projects have included such areas as experimental electromagnetics and electrostatics, electrostatic safety, power-electronics applications, solar energy, and micro-electromechanical systems.

8. I have authored two books that are used by engineering students: *Design Concepts for Engineers, 5th Ed.*, Upper Saddle River, NJ: Prentice Hall, 2015; and *Microelectronic Circuits and Devices, 2nd Ed.*, Upper Saddle River, NJ: Prentice Hall, 1996. I have also authored chapters on industrial applications of electrostatics in two reference books, and I have published numerous journal articles in the field of electrical engineering. In addition, I am named as an inventor on five different patents, all of which are related in various ways to electrical engineering.

## **II. Materials Considered**

9. In forming my opinions, I have considered my knowledge, my experience, and the following documents, which I understand are exhibits to the

accompanying Petition for *Inter Partes* Review, as well as the other materials cited herein and/or in the Petition:

- U.S. Patent No. 7,043,543 to Ewing (Ex. 1001);
- U.S. Patent No. 7,702,771 to Ewing (Ex. 1002);
- U.S. Patent No. 5,949,974 to Ewing (Ex. 1012);
- MasterSwitch VM Power Distribution Unit User Guide, December 1999 (“MSVM User Guide”) (Ex. 1013);
- MasterSwitch VM Power Distribution Unit Installation and Quick Start Manual, December 1999 (“MSVM Quick Start”) (Ex. 1014);
- PowerNet SNMP Management Information Base (MIB) v3.1.0 Reference Guide, November, 1999 (“MSVM PowerNet Guide”) (Ex. 1015);
- U.S. Patent No. 6,741,442 to McNally (Ex. 1017);
- Baytech Remote Power Control Unit Owner’s Manual, BayTech Manual Publication #U140E125-05, January 2000 (“Baytech Manual”) (Ex. 1018);
- Baytech Vertical-Mount Data Center Power Control Press Release, October 13, 1999 (“Baytech Press Release”) (Ex. 1019);
- Download of Baytech RPC Series Webpage from web.archive.org, capturing webpage as of October 6, 2000 (“Baytech Webpage”) (Ex. 1020);
- U.S. Patent No. 5,650,771 to Lee (Ex. 1022);
- U.S. Patent No. 6,476,729 to Liu (Ex. 1023);
- U.S. Patent No. 5,595,494 to Wiebe (Ex. 1024);
- U.S. Patent No. 4,853,619 to Paulsen (Ex. 1025);
- Systems Enhancement Corporation PA-800 Manual, October 1, 1996 (Ex. 1026);
- Systems Enhancement Corporation PA-800 Manual, October 31, 1996 (Ex. 1027);
- APC Symmetra User’s Manual, rev. October, 1997 (Ex. 1028);

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