

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PARROT S.A. and PARROT, INC.
Petitioners

v.

DRONE TECHNOLOGIES, INC.
Patent Owner

Case IPR2014-00730
U.S. Patent No. 7,584,071

**DECLARATION OF ROBERT H. STURGES, JR., PH.D., P.E. IN
RESPONSE TO THE PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 7,584,071**

February 11, 2014

**Drone Technologies, Inc. – EXHIBIT 2013
Parrot S.A. and Parrot, Inc. v. Drone Technologies, Inc.**

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I. Introduction

1. I have been engaged by counsel for Patent Owner, Drone Technologies, Inc. (“Patent Owner”) to provide my expertise in this *inter partes* review (“IPR”) proceeding, in which Parrot S.A. and Parrot, Inc. (together “Petitioners”) have challenged the validity of Patent Owner’s U.S. Patent No. 7,584,071 (“the ’071 Patent”). All statements are either made of my own knowledge are true, or are statements made on information and belief that are believed to be true.

2. Specifically, I have been asked to evaluate prior art cited and the invalidity arguments set forth in (1) the “Petition for *Inter Partes* Review of U.S. Patent No. 7,584,071 under 35 U.S.C. §§ 311-319 and 37 C.F.R. § 42.100 et seq.” dated May 6, 2014 (“Petition”); (2) the accompanying declaration of Dr. Raffaello D’Andrea regarding the ’071 Patent (“D’Andrea Declaration”); and (3) the decision to institute *inter partes* review of the ’071 Patent (“Decision to Institute”) issued by the Patent Trial and Appeal Board (“PTAB”) on October 28, 2014.

Here, I offer my opinion as to whether Petitioners have proven, by a preponderance of the evidence, that the claims of the ’071 Patent are invalid. For the reasons set forth herein, I conclude that they have not.

II. Qualifications

3. I am a Professor in the Departments of Mechanical Engineering and Industrial & Systems Engineering at Virginia Tech.

4. I have been in the Mechanical Engineering field for over 40 years. My academic credentials include a Ph. D. in Mechanical Engineering from Carnegie Mellon University, and Masters and Bachelors of Science degrees from M.I.T. I am also a licensed Professional Engineer in the State of Pennsylvania.

5. I have approximately 18 years industrial experience working as a mechanical engineer, first with the Charles Stark Draper Laboratories in Cambridge, Mass, and later with the Westinghouse Electric Corporation.

6. In 1987, I moved from industry to academia. I spent about nine years as a member of the faculty of the Department of Mechanical Engineering at Carnegie Mellon University. In 1997, I joined the faculty of Virginia Polytechnic Institute and State University (Virginia Tech) in a joint position in the Departments of Mechanical Engineering and Industrial & Systems Engineering at Virginia Tech, where I am currently a Professor and Director of the Robotics and Automation Laboratory.

7. One of the focal points of my teaching and research is robotic controls, and I have done extensive research and work in the area of mobile robotic

systems including sensing and navigation. I am the sole author of a new textbook on practical field robotics, which covers mobile robot sensing and control in depth.

8. I am a named inventor in 16 U.S. Patents and have authored over 190 journal and conference publications, two book chapters, and a new book. A complete list of my patents and publications is set forth in my curriculum vitae, which is attached at Attachment A.

III. Materials Considered

9. In preparing this declaration, I considered the Petitions, the art cited therein, Dr. D'Andrea's declaration and testimony, the PTAB decision to institute trial, and any other materials that are referenced below.

IV. Relevant Legal Standards

A. Field of the invention

10. The field of the invention for the '071 Patent relates to a remote-controlled motion apparatus that includes a remote-controlled device and a remote controller. '071 Patent, col. 1, lines 17-20. Described generally, the field of the invention for the '071 Patent is a control system used for controlling the motion of a remote-controlled vehicle.

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