

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

JOHNSON SAFETY, INC.,
Petitioner, v.
VOXX INTERNATIONAL CORPORATION
Patent Owner.

Patent No. 7, 245,274
Filing Date: May 15, 2003
Issue Date: July 17, 2007

Title: HEADREST MOUNTABLE VIDEO SYSTEM

Inter Partes Review No. IPR2016-01070

DECLARATION OF MICHAEL NRANIAN

I, Michael Nranian, declare as follows:

Introduction

1) Voxx International, Inc. (“Voxx”) retained me as an independent expert consultant in this proceeding before the United States Patent and Trademark Office. I am being compensated at my standard rate of \$350.00 per hour for the time I spend. No part of my compensation depends on the outcome of this proceeding, and I have no other interest in this proceeding.

2) I understand that this proceeding involves U.S. Patent No. 7,245,274 (the “’274 Patent”) (Ex. 1001). The ’274 Patent is directed to a “headrest mountable video system” and

issued on July 17, 2007, and was filed on May 15, 2003 as application 10/438,724. The '274 Patent describes a video system capable of playing various types of digital media, coupled to a headrest of a vehicle, with the video system allowing for a screen to pivot away from a base unit. *See* Ex. 1001, 3:3–5, 3:15–20, 3:28–34.

3) I base the statements in this Declaration on the information available to me as of the date I signed this Declaration. To ensure that my opinions are complete and accurate, I reserve the right to supplement or amend this report if additional facts and information that affect my opinions become available. Specifically, the information included the '274 Patent, the 10/438,724 Application, and the declaration Mr. Tranchina, and all the filings in IPR2016-01070.

4) I reserve the right to supplement or amend the Declaration or opinions in response to additional discovery or other events, or to rebut expert reports submitted by JSI. If the PTAB further addresses additional claim construction issues, I intend to reconsider the proceeding and amend my opinions in accordance with the PTAB's guidance on interpreting the claim terms.

Qualifications

5) I summarize my qualifications for forming the opinions set forth in this Declaration below and provide full details in my Curriculum Vitae attached hereto as Exhibit A. Exhibit A also includes a list of the cases in which I have testified at deposition, hearing, or trial during the past four years. I have not had any publications that have been released to the public in the last ten years.

6) I base the opinions stated in this Declaration on my own personal knowledge and professional judgment; if called as a witness, I am prepared to testify competently about them.

7) My academic background is in engineering. I received a Bachelor of Science Degree in Chemical Engineering from Wayne State University in 1984. I received a Master of Science in Electrical Engineering from Wayne State University in 1991. I received another Bachelor of Science Degree from Wayne State University in 1993, this time in Electrical and Computer Engineering. I also received a Juris Doctor Degree from Wayne State University in 1999. I also received a Master of Business Administration from the University of Michigan in 2002. I also am a licensed Professional Engineer, Certified Project Management Professional, as well as a Lean Six Sigma Black Belt certified through the American Society for Quality and the International Quality Federation.

8) In a recent previous position, I worked as a contractor for the U.S. Army, for the Chief Scientist's Office, in the Tank and Automotive Research, Development and Engineering Center (TARDEC) in Warren, Michigan. My recent position is in computer engineering science and technology and cyber security for U.S. Army ground system vehicles at this same location.

9) Prior to my employment with the Army, I worked as a design engineer and engineering manager in the automotive industry from 1985 to 2007. This included experience at Ford, General Motors, and Allied Signal. I worked at Allied Signal from 1992 to 1993, General Motors from 1993 to 1995, and Ford Motor Company from 1985 to 1992, and from 1995 to 2007.

10) While at Allied Signal and General Motors I worked as a Senior Project Engineer, where my work included the design and development of automotive vehicle electrical systems and architectures, electrical and data communication protocols, vehicle system and component level diagnostics and parameter information retrieval from vehicle modules and systems, safety

and airbag sensing systems and electrical systems, sensor fusion technologies and assessments, safety component and system diagnostics, user and occupant audio and visual interfaces and displays, electromechanical/transducer and accelerometer based sensing systems, and the associated warnings and displays for the above. This also included vehicle crash and safety system component and system development, as well as electrical system architectures including message, data, status, and warning prioritization and the transmission and display of information to vehicle users and occupants across different types of communication channels (including CAN, LIN, and other vehicle network architectures and busses). My responsibilities included vehicle hardware and software, mounting, storage, and packaging of displays and user interfaces, positioning of displays and diagnostic information transmittal, attachments, removal, and replacement of displays and information systems, vehicle safety, human machine interfaces, and vehicle interface design. I conducted numerous system and component evaluations, laboratory tests, supplier and technology assessments, quality and reliability evaluations, as well as barrier and sled tests, and developed corporate standards and specifications, design validation plans and reports and failure modes and effects analyses to design and develop automotive systems, the diagnostics of these systems, as well as the associated information and warning displays. My responsibilities also included ensuring compliance with Federal Motor Vehicle Safety Standards, ECE regulations, Industry Standards, Corporate Standards, and Due-Care Requirements

11) My areas of my work included seats, vehicle interiors, headliners, displays and diagnostics, occupant kinematics and ergonomics, sensors, display of information, warnings, and diagnostics, as well as vehicle crash performance and occupant injury mitigation, active and passive sensing systems which can be used in the vehicle interior or exterior, including the design and development of sensing components and systems that incorporate electromagnetic

wave sensing (including but not limited to vision, camera, radar, LIDAR, infrared ultraviolet, and night vision) as well as acoustical sensing. Areas of my work also specifically included automotive vehicle safety systems, airbags, seatbelts, interior and exterior occupant protection systems, sensing systems, electrical systems and architectures, electrical and data communication protocols, vehicle system diagnostics, warnings, vision systems, occupant and infant/child seat sensing and detection systems, out of position occupant detection, electrical and safety system diagnostics, occupant ergonomic evaluations, user and occupant audio and visual interfaces and displays, infrared, vision, camera, sonar, acoustic, radar, LIDAR, sensing and detection technologies and systems.

12) I conducted numerous system and component evaluations, laboratory tests, supplier and technology assessments, quality and reliability evaluations, as well as developed design validation plans and reports and failure modes and effects analyses to design and develop automotive safety, seat, and automotive interior occupant injury mitigation systems, sensing, and electrical systems, including the integration of sensor fusion technologies, and the components and systems for information and diagnostics storage and communication and retrieval, computer, microprocessor and interface architectures, and automotive electrical system architectures and communication protocols. I also ran numerous crash and sled tests involving automotive interior system testing, development, and design.

13) My responsibilities also included technology assessments and proper supplier and sourcing evaluation and selection, quoting and bidding, and the overall source selection for numerous technologies. My responsibilities also included ensuring compliance with Federal

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