

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of: Bernard Hunt
U.S. Patent No.: 6,868,079 Attorney Docket No.: 39521-0060IP1
Issue Date: March 15, 2005
Appl. Serial No.: 09/455,124
Filing Date: December 6, 1999
Title: Radio Communication System With Request Re-
Transmission Until Acknowledged

DECLARATION OF DR. PAUL G. STEFFES

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I, Paul G. Steffes, Ph.D., of Atlanta, Georgia, declare that:

I. QUALIFICATIONS AND BACKGROUND INFORMATION

1. I am currently a Professor and former Associate Chair for Research in the School of Electrical and Computer Engineering at the Georgia Institute of Technology ("Georgia Tech"). I began teaching at Georgia Tech in 1982 and have served on the academic faculty at Georgia Tech for over 36 years.

2. I received a Ph.D. degree in Electrical Engineering from Stanford University in 1982, and S.M. and S.B. degrees in Electrical Engineering from Massachusetts Institute of Technology in 1977, as shown in my *curriculum vitae*. See Exhibit-1004.

3. I have worked extensively in the area of radio systems and communications and initiated the graduate course in satellite communications at Georgia Tech. I have lectured on the topic of satellite communications for about 20 years. I have also taught courses in antennas, radio wave propagation, electromagnetics, and electromagnetic design. I believe that my technical area of my knowledge pertains directly to the technical material in this proceeding

4. In addition to my teaching duties described above, I have been a principal investigator for numerous research activities and programs, including:

- National Science Foundation Grant, “A Spectrum Study and Demonstration of the Role of “Smart Radios” in the Protection of Passive Scientific Radio Services”;
- NASA Planetary Atmospheres Program, “Laboratory Evaluation and Application of Microwave Absorption Properties under Simulated Conditions for Planetary Atmospheres”;
- GTE Spacenet Program, “Satellite Interference Location System (SILS)”;
- NASA Pioneer Venus Guest Investigator Program, “Pioneer Venus Radio Occultation (ORO) Data Reduction: Profiles of 13 cm Absorptivity”;
- NASA High Resolution Microwave Survey;
- NASA Advanced Communications Technology Satellite Propagation Experiments Program;
- Science Team Member and Mission Co-Investigator for the NASA Juno (Jovian Polar Orbiter) Mission (2006-2021)

5. I have been elected a Fellow of the Institute of Electrical and Electronics Engineers (IEEE, the leading international organization in Electrical and Electronics Engineering). Additionally, I have been elected a Fellow of the American Association for the Advancement of Science (AAAS).

6. I have served as Chairman of the National Academy of Sciences Committee on Radio Frequencies.

7. I have received the following awards:

- IEEE Judith Resnik Award for Space Engineering
- The NASA Group Achievement Award (3X times)
- The Metro Atlanta Young Engineer of the Year Award
- Named a Lifetime National Associate of the National Academy of Sciences
- Georgia Tech School of Electrical and Computer Engineering Distinguished Faculty Achievement Award

8. I am the author or co-author of sixty-two refereed journal articles, which are listed in Exhibit-1004.

9. I have been the presenter or co-presenter of 162 conference presentations with published proceedings or abstract, which are also shown in Exhibit-1004.

10. In writing this Declaration, I have considered the following: my own knowledge and experience, including my work experience in the fields of satellite and terrestrial radio communications systems; my experience in teaching those subjects; and my experience in working with others involved in those fields. In

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