Filed on behalf of Petitioner
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

RPX Corporation,
Petitioner,

v.

Digital Audio Encoding Systems, LLC,
Patent Owner.

Case No. TBD
Patent No. 7,490,037

DECLARATION OF SCHUYLER QUACKENBUSH, PH.D.

RPX Exhibit 1102

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B. Ferriere Discloses Each Limitation of Claims 1-4, 9-11, 13, 17-21, 24, 25, 29, 31, and 32 of the '037 Patent, and Renders Claims 7, 12, 14, and 15 Obvious 32

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L. Goetz Discloses Each Limitation of Claims 1, 2, 10, 11, 13, 17, 20-22, 24-26, and 29 of the '037 Patent, and Renders Claims 8, 9, 12, 14, and 23 Obvious 128

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I, Schuyler Quackenbush, Ph.D., declare:

1. I have been retained by Petitioner RPX Corporation ("RPX"), to assess U.S. Patent No. 7,490,037 ("the '037 patent). I am being compensated for my time at a rate of $400 per hour, plus actual expenses. My compensation is not dependent in any way upon the outcome of RPX's petition.

2. I understand that this declaration is being submitted in connection with three petitions regarding the same '037 patent, and that while the exhibits to all three petitions are the same, they are required to have different numbering. Therefore, when I cite to an exhibit in this declaration, I provide all three of the exhibit's numbers, one for each petition. For example, the '037 patent is Ex. 1001 is one petition, Ex. 1101 in the second petition, and Ex. 1201 in the third petition; I therefore cite it as "Ex. 1001/1101/1201."

I. PERSONAL AND PROFESSIONAL BACKGROUND

3. I am currently the founder and CEO of Audio Research Labs, LLC, a media technology consulting company that has developed and sells products for subjective audio evaluation and for multi-channel audio mixing. I have been active in standardization of encoding formats for compressed media: I have participated in the ISO/IEC MPEG process since 1995 and am currently Chair of the MPEG Audio subgroup. I am also an adjunct professor at New York University's

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Steinhardt School, where I teach the graduate-level course "Introduction to Perceptual Audio Coding."

4. I received a Bachelor of Science in Engineering degree in Electrical Engineering from Princeton University in 1975. I received a Master of Science degree in Electrical Engineering from the Georgia Institute of Technology ("Georgia Tech") in 1980, specializing in Signal Processing. I received a Ph.D. in Electrical Engineering from Georgia Tech in 1985. The subject of my Ph.D. thesis was "Objective Measures of Speech Quality."

5. From 1986 to 2002, I worked at AT&T Bell Laboratories (Signal Processing Research Department) and AT&T Laboratories (Speech and Audio Research Department and Speech and Audio Coding Group), where I was an expert in audio coding and real-time signal processing. My primary research projects and responsibilities included developing algorithms and corresponding real-time implementations for error mitigation for streaming audio signals using MPEG-2 Advanced Audio Coding (AAC) on 3G cellular and IP channels, contributing to the AAC standard as AT&T's principal delegate to the MPEG Audio Subgroup, designing the audio encoder and decoder for a U.S. standardization of digital audio broadcast sponsored by the National Association of Broadcasters and the Electronics Industry Association, developing and implementing a streaming client/server music player using the AT&T audio

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