UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE, INC.,
Petitioner

v.

SAINT LAWRENCE COMMUNICATIONS, LLC,
Patent Owner

Case IPR2017-01244
U.S. Patent 6,807,524

SAINT LAWRENCE COMMUNICATIONS, LLC'S PATENT OWNER PRELIMINARY RESPONSE PURSUANT TO 37 C.F.R. § 42.107(a)

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1. The Combination Of Salami and Kroon Would Not Have Taught "a signal preemphasis filter responsive to the wideband speech signal for enhancing a high frequency content of the wideband speech signal to thereby produce a preemphasised signal," Or "a perceptual weighting filter, responsive to said preemphasised signal and said synthesis filter coefficients, for filtering said preemphasised signal in relation to said synthesis filter coefficients to thereby produce said perceptually weighted signal," As Recited By Independent Claim 1 And As Similarly Recited In Each Of The Other Challenged Independent Claims (8, 15, 29, and 36). 32

2. The Combination Of Salami and Kroon Would Not Have Taught A "perceptual weighting filter having a transfer function with fixed

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denominator whereby weighting of said wideband speech signal in a formant region is substantially decoupled from a spectral tilt of said wideband speech signal," As Recited By Independent Claim 1 And As Similarly Recited In Each Of The Other Challenged Independent Claims (8, 15, 29, and 36). 37

3. The Combination Of Salami and Kroon Would Not Have Taught A "pitch codebook search device responsive to said perceptually weighted signal for producing pitch codebook parameters and an innovative search target vector," As Recited By Independent Claim 15. 43

4. The Combination Of Salami and Kroon Would Not Have Taught "an innovative codebook search device, responsive to said synthesis filter coefficients and to said innovative search target vector, for producing innovative codebook parameters," As Recited By Independent Claim 15. 45

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3. The Combination of Salami, Kroon, and Makamura Would Not Have Taught "A perceptual weighting device … wherein said signal pre-emphasis filter has a transfer function of the form: $P(z) = 1 - \mu z^{-1}$ wherein μ is a pre-emphasis factor having a value located between 0 and 1," As Recited In Claim 2 And As Similarly Recited In Claim 9. 55

4. A POSITA Would Not Have Combined The Teachings Of Salami, Kroon, Lim And The Alleged APA To Achieve The Invention Recited In Any Of

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The Challenged Dependent Claims 4-6, 11-14, 18-21, 32-35, 39, 40 And 42 And Reasonably Expect Success. 55

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PATENT OWNER'S EXHIBIT LIST

Exhibit Number	Description
2001	P. Mermelstein, "G.722, A new CCITT Coding Standard for Digital Transmission of Wideband Audio Signals," IEEE Comm. Mag., Vol. 26, No. 1, pp. 8-15, Jan. 1988.
2002	Fuemmeler et. al, "Techniques for the Regeneration of Wideband Speech from Narrowband Speech," EURASIP Journal on Applied Signal Processing 2001:0, 1-9 (Sep. 2001).
2003	C.H. Ritz et. al., "Lossless Wideband Speech Coding," 10th Australian Int'l. Conference on Speech Science & Technology, p. 249 (Dec. 2004).
2004	Expert Declaration of Dr. Gottesman
2005	"Discrete-Time Signal Processing," by Alan V. Oppenheim, Ronald W. Schafer
2006	https://www.mathworks.com/help/matlab/math/random-numbers-with-specific-mean-and-variance.html
2007	Transcript of Deposition of Dr. Johnson
2008	O. Gottesman and A. Gersho, "Enhanced Waveform Interpolative Coding at Low Bit Rate," in IEEE Transactions on Speech and Audio Processing, vol. 9, November 2001, pp. 786-798
2009	O. Gottesman and A. Gersho, "Enhancing Waveform Interpolative Coding with Weighted REW Parametric Quantization," in IEEE Workshop on Speech Coding Proceedings, pp. 50-52, September 2000, Wisconsin, USA
2010	O. Gottesman and A. Gersho, "High Quality Enhanced Waveform Interpolative Coding at 2.8 kbps," in Proc. IEEE ICASSP'2000, vol. III, pp. 1363-1366, June 5-9, 2000, Istanbul, Turkey.

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