UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.
Petitioner,

v.

ANDREA ELECTRONICS INC.,
Patent Owner.

Patent No. 6,363,345

IPR2017-00626

Petitioner's Responsive Remand Brief

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I. Introduction

Andrea's main argument—that a skilled person would not have considered Hirsch and Martin together—was already rejected by the Board in its obviousness finding on claim 25. Andrea is barred from contesting that finding because it did not appeal it. Andrea is also wrong. The skilled person would have combined the references. For example, Hirsch teaches it can be combined with known technique and cites to Martin as one such known approach. Martin also provides unique benefits not found in Hirsch. Andrea has no persuasive response to these facts. Andrea also challenges whether Martin teaches the "future minimum" and "periodically" elements of the claims, but its arguments are based on mischaracterizations of Martin's teachings and the '345 patent's specification. Martin teaches those elements, and the Board should find claims 6-9 unpatentable.

II. A Skilled Person Had Reason to Combine Hirsch and Martin

Apple explained why the skilled person would have had reason to incorporate Martin's noise floor algorithm into Hirsch. Pet., 34-38. Hirsch states it performed well in stationary noise environments but is silent about non-stationary noise, indicating it did not perform well. Pet., 35-36; Ex. 1003, ¶¶128-32. Hirsch also states it can be combined with known techniques and cites to Martin. Ex. 1003, ¶125. Martin teaches its algorithm performed well in non-stationary environments and is well-suited for identifying noise. Pet., 35-37; Ex.

1006, abstract, 1095-96. These teachings would have motivated a skilled person to look for ways to incorporate Martin's algorithm into Hirsch to provide the same benefit—better performance in non-stationary noise environments. Pet., 35-36; Ex. 1003, ¶¶126-32. Apple also explained how the skilled person would have combined them: by using Martin's noise floor algorithm to set Hirsch's adaptive threshold for identifying noise. Pet., 35-36, 41-42. This is a simple substitution: instead of calculating the adaptive threshold as a multiple of the noise estimate, it would be calculated as a multiple of the noise floor. Pet., 36-37, 47; Reply, 19-20. Other parts of Hirsch would remain unchanged. *Id.*

Andrea argues that Hirsch teaches away from Martin, (Andrea Br., 3), but the Board rejected that argument when it found that Hirsch and Martin render claim 25 obvious. Final Written Decision (FWD), 13, 15-16. Andrea did not appeal that finding and cannot now contest it, as that finding that was necessary to the finding of obviousness. Pivoting, Andrea asserts that even if it does not teach away, Hirsch's description of Martin's "disadvantages" would have discouraged a skilled artisan from combining them. Andrea Br., 3-4. The Board specifically rejected that proposition when it found that Hirsch's reference to Martin would have led the skilled person to consider these references together, FWD, 13, and that person "would have recognized that techniques such as those shown in both Hirsch and Martin are routinely combined." FWD, 16 (quoting Pet., 34-35).

Next, Andrea asserts that the skilled person would not have combined the references because Hirsch intended his algorithm to work fast and including Martin, which is slower, would add delay. Andrea Br., 3. Andrea's assertion does not withstand scrutiny. First, Andrea ignores how the references are combined: using Martin's noise floor algorithm to calculate Hirsch's adaptive threshold. In that configuration, Hirsch would continue to calculate its noise estimate as the average of the noise values (*i.e.*, the values less than the adaptive threshold; values above the threshold are considered to be speech). Pet., 37; Reply, 18-19. Thus, the only possible "delay" is in updating the adaptive threshold—there is no delay in calculating noise estimates. Second, as Apple explained, the difference between Hirsch and Martin is 225 milliseconds, and a skilled person would have been motivated to try combining them, recognizing the tradeoff between running time and performance. Pet., 35-36; *see* Reply, 18-19.

Andrea also mischaracterizes Hirsch, again arguing Hirsch stops working after speech starts. Andrea Br., 2. But the Board rejected that argument when it found Hirsch anticipates claim 3, agreeing that Hirsch operates during continuous speech. FWD, 8; Pet., 29. Andrea did not appeal that decision, and it is final.

Andrea also asserts that Martin does not perform well in non-stationary environments because Martin says its algorithm is "capable of" estimating noise in those environments as opposed to performing well. Andrea Br., 5. But as Apple

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