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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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APPLE INC.,  
Petitioner,

v.

ANDREA ELECTRONICS CORPORATION,  
Patent Owner.

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Case IPR2017-00626  
Patent 6,363,345

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**PATENT OWNER'S OPENING REMAND BRIEF**

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## I. INTRODUCTION

This case was remanded to consider Apple's Reply argument that claims 6-9 are obvious in view of the *Hirsch* and *Martin* combination.<sup>1</sup> That argument should be rejected and for multiple reasons. First, a skilled artisan would not be motivated to combine these references. *Hirsch* specifically identifies *Martin* and expressly explains the "disadvantage" of *Martin*'s approach, thus teaching away from it. Apple's combination is motivated only by hindsight. And far from a "simple modification," the combination would defeat *Hirsch*'s purpose, by eliminating its algorithm—*i.e.*, its core teaching. The alleged benefits of this radical transformation of *Hirsch* are not substantiated in *Hirsch*, *Martin*, or anywhere else. Second, even if one were to disregard the teaching away, the combination of *Hirsch* and *Martin* fails to teach or make obvious all limitations of claims 6-9. Apple can neither show that *Martin*'s multiple sub-window teachings disclose the claimed "future minimum," nor show that *Martin*'s multiple sub-window teachings disclose the "periodically" limitation recited in claims 6-9 as that term has been construed by the Board and affirmed by the Federal Circuit.

## II. THE ORDINARY ARTISAN WOULD NOT HAVE BEEN MOTIVATED TO COMBINE *HIRSCH* AND *MARTIN*

The Board already rejected Apple's attempt to combine *Hirsch* with *Martin*.

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<sup>1</sup> The defined terms herein have the meanings ascribed to them in the POR.

See FD at 13. In its Petition, Apple modified *Martin*'s multiple sub-window approach to create a single sub-window scenario that it could try to map to claims 6-9. Apple resorted to this modification because it could not plausibly argue that *Martin*'s multiple sub-window teachings rendered the claims obvious. See *id.* at 12. The Board correctly found Apple's modifications to be "directly contrary" to *Martin*'s teachings. *Id.* at 12-13.

In Reply, Apple then attempts to combine *Hirsch* with *Martin*'s multiple sub-window approach. The Board should also reject this new argument, for *Hirsch* clearly discourages *Martin*'s multiple sub-window approach. *Hirsch* expressly identifies *Martin*, and it teaches away from use of *Martin*'s complex estimate.

*Hirsch* teaches a noise estimation technique that uses an adaptive threshold to detect the onset of speech thereby allowing noise to be estimated based on the signal directly before the onset of speech. EX1005 at 153. *Hirsch*'s noise estimation algorithm improves upon the prior noise estimation algorithms by removing the need for explicit speech pauses and relatively long past segments of noisy speech. *Id.* *Hirsch* avoids the need for these long past segments through a simple recursive accumulation of the signal power until the signal power exceeds the adaptive threshold. *Id.* at 153-154. When the threshold is exceeded, *Hirsch* stops the recursive accumulation of signal power, thus providing an estimate of the noise level. *Id.* In other words, *Hirsch*'s noise estimate is derived by measuring

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