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**Young et al.**

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(54) **EXPANDING AN EFFECTIVE VOCABULARY OF A SPEECH RECOGNITION SYSTEM**

(Continued)

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(57) **ABSTRACT**

(21) Appl. No.: **09/390,370**

The invention provides techniques for creating and using fragmented word models to increase the effective size of an active vocabulary of a speech recognition system. The active vocabulary represents all words and word fragments that the speech recognition system is able to recognize. Each word may be represented by a combination of acoustic models. As such, the active vocabulary represents the combinations of acoustic models that the speech recognition system may compare to a user's speech to identify acoustic models that best match the user's speech. The effective size of the active vocabulary may be increased by dividing words into constituent components or fragments (for example, prefixes, suffixes, separators, infixes, and roots) and including each component as a separate entry in the active vocabulary. Thus, for example, a list of words and their plural forms (for example, "book, books, cook, cooks, hook, hooks, look and looks") may be represented in the active vocabulary using the words (for example, "book, cook, hook and look") and an entry representing the suffix that makes the words plural (for example, "+s", where the "+" preceding the "s" indicates that "+s" is a suffix). For a large list of words, and ignoring the entry associated with the suffix, this technique may reduce the number of vocabulary entries needed to represent the list of words considerably.

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**G10L 15/00** (2006.01)  
**G10L 15/06** (2006.01)

(52) **U.S. Cl.** ..... **704/255; 704/243**

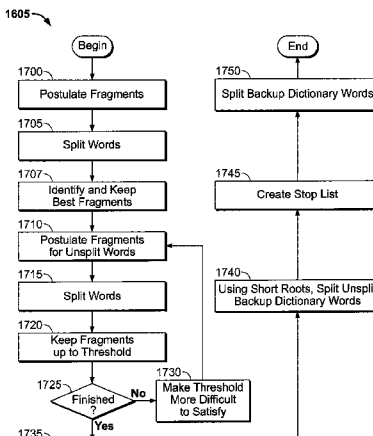
(58) **Field of Classification Search** ..... **704/243–245, 704/255–257, 4, 9–10**  
See application file for complete search history.

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**43 Claims, 31 Drawing Sheets**



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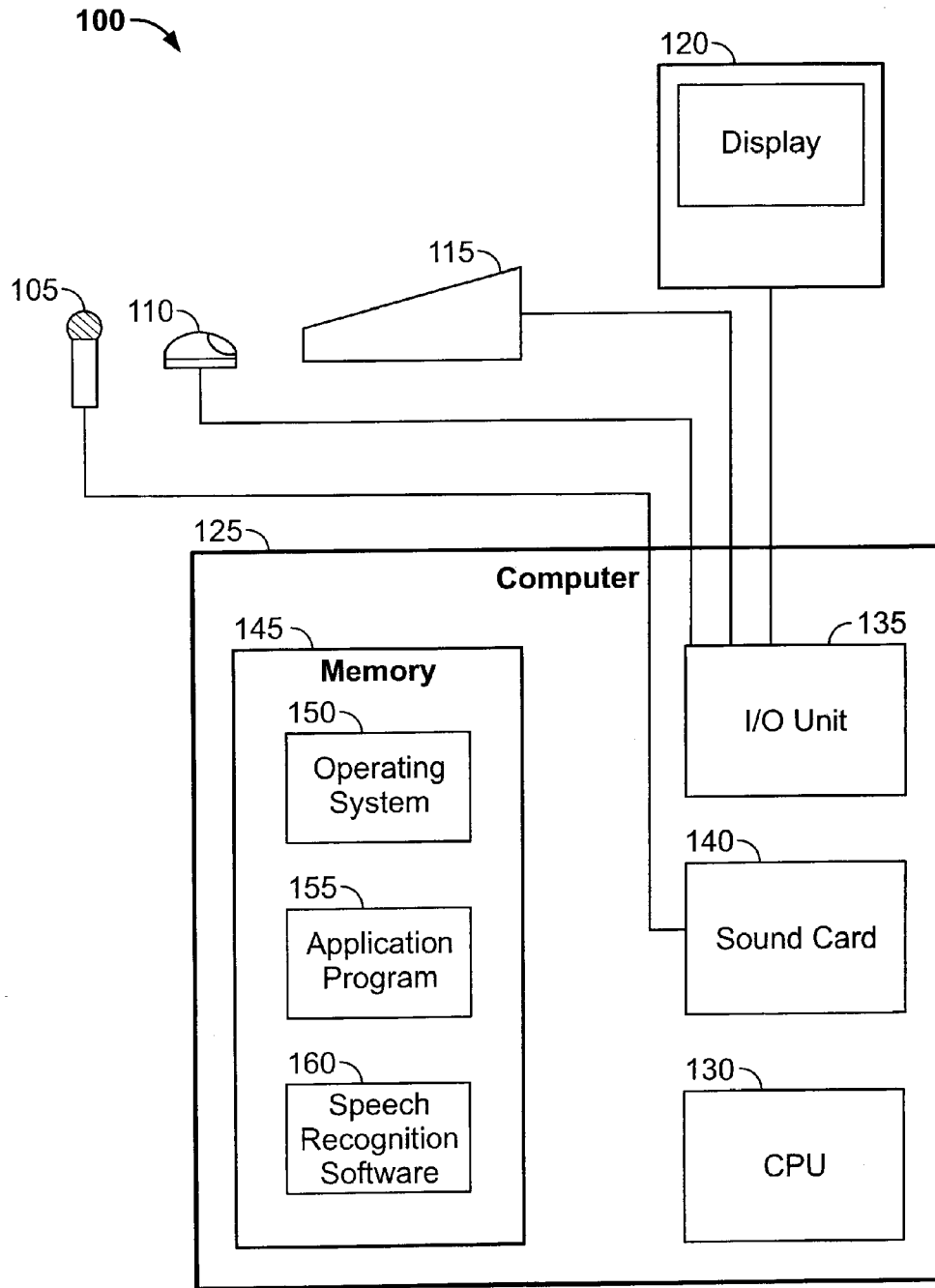


FIG. 1  
(Prior Art)

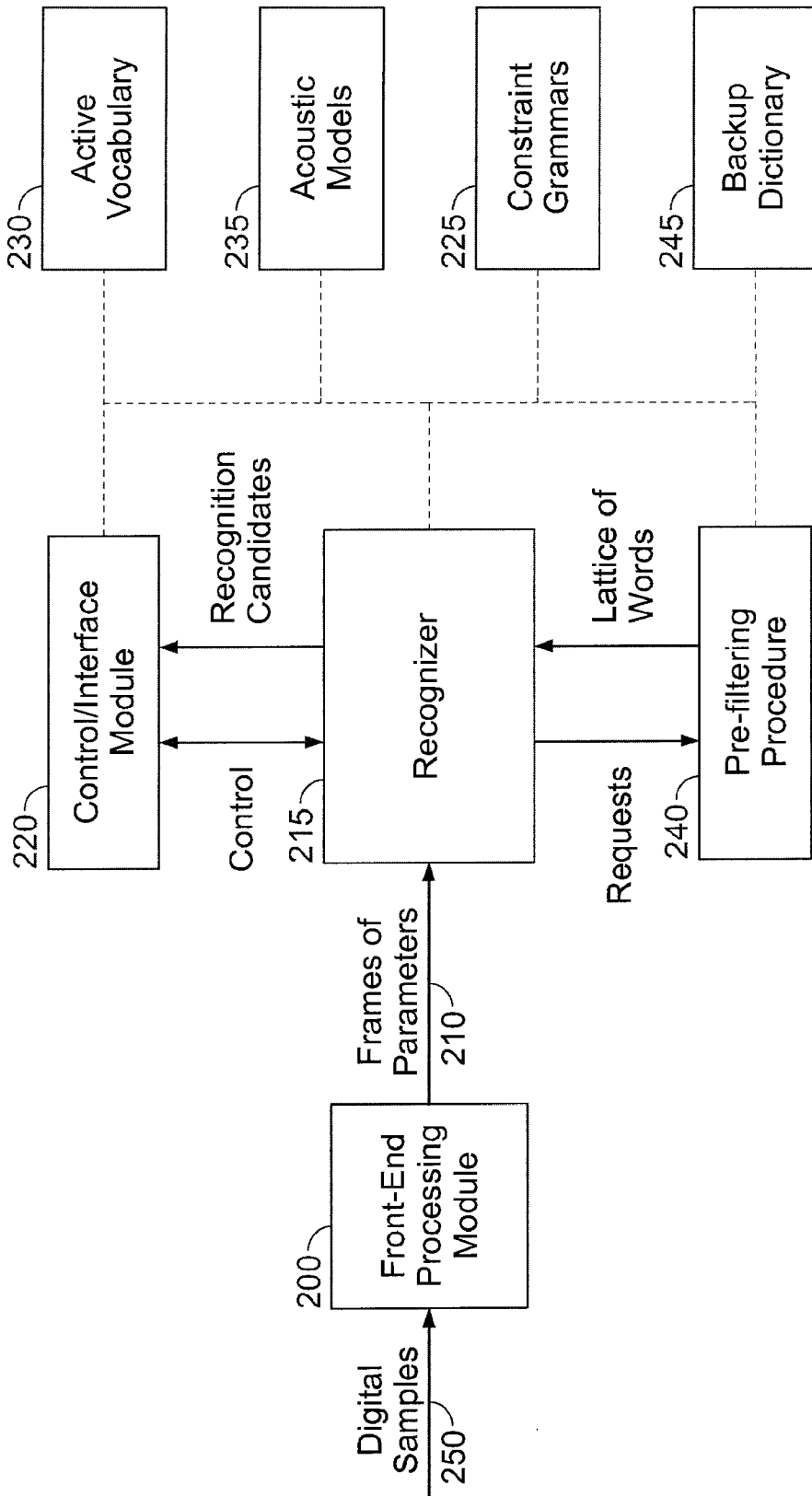
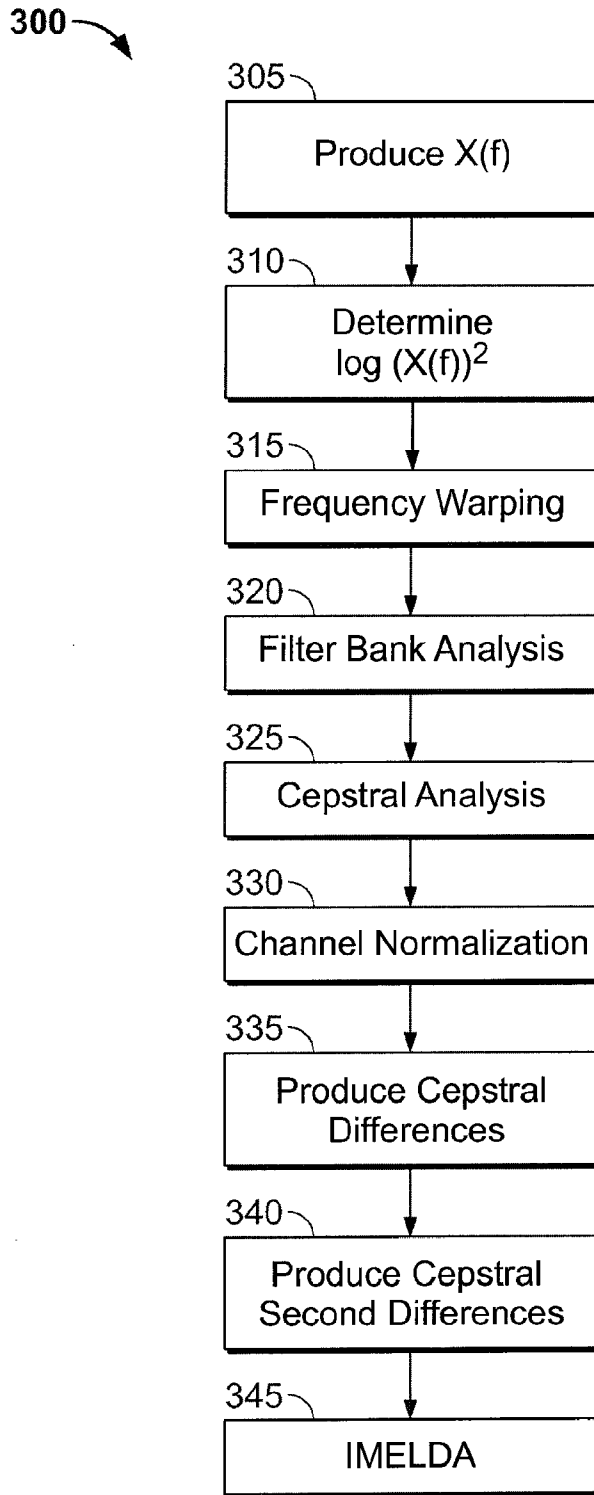


FIG. 2  
(Prior Art)



**FIG. 3**  
**(Prior Art)**

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