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United States Patent [19]  
Frodigh et al.

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- [54] **ADAPTIVE CHANNEL ALLOCATION IN A FREQUENCY DIVISION MULTIPLEXED SYSTEM**
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- [73] Assignee: **Telefonaktiebolaget L M Ericsson publ.**, Stockholm, Sweden
- [21] Appl. No.: **493,489**
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- [51] Int. Cl.<sup>6</sup> ..... **H04J 1/16**
- [52] U.S. Cl. .... **370/252; 370/333; 455/63**
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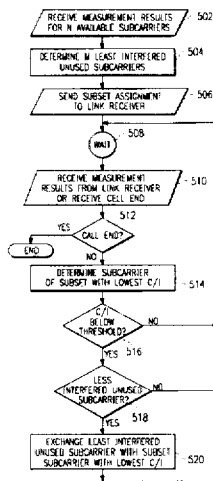
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[57] **ABSTRACT**

A method and system of adaptive channel allocation in a frequency division multiplexed system is provided. In the method and system a subset of M subcarriers is chosen from a larger set of N subcarriers available for communications on a link. As communications take place on the link, signal quality (C/I) measurements on the subcarriers of the subset of M subcarriers and interference (I) measurements on the subcarriers of the group of N subcarriers are periodically performed. The C/I and I measurements are then used to reconfigure the subset of M subcarriers to reduce co-channel interference on the link.

**22 Claims, 8 Drawing Sheets**



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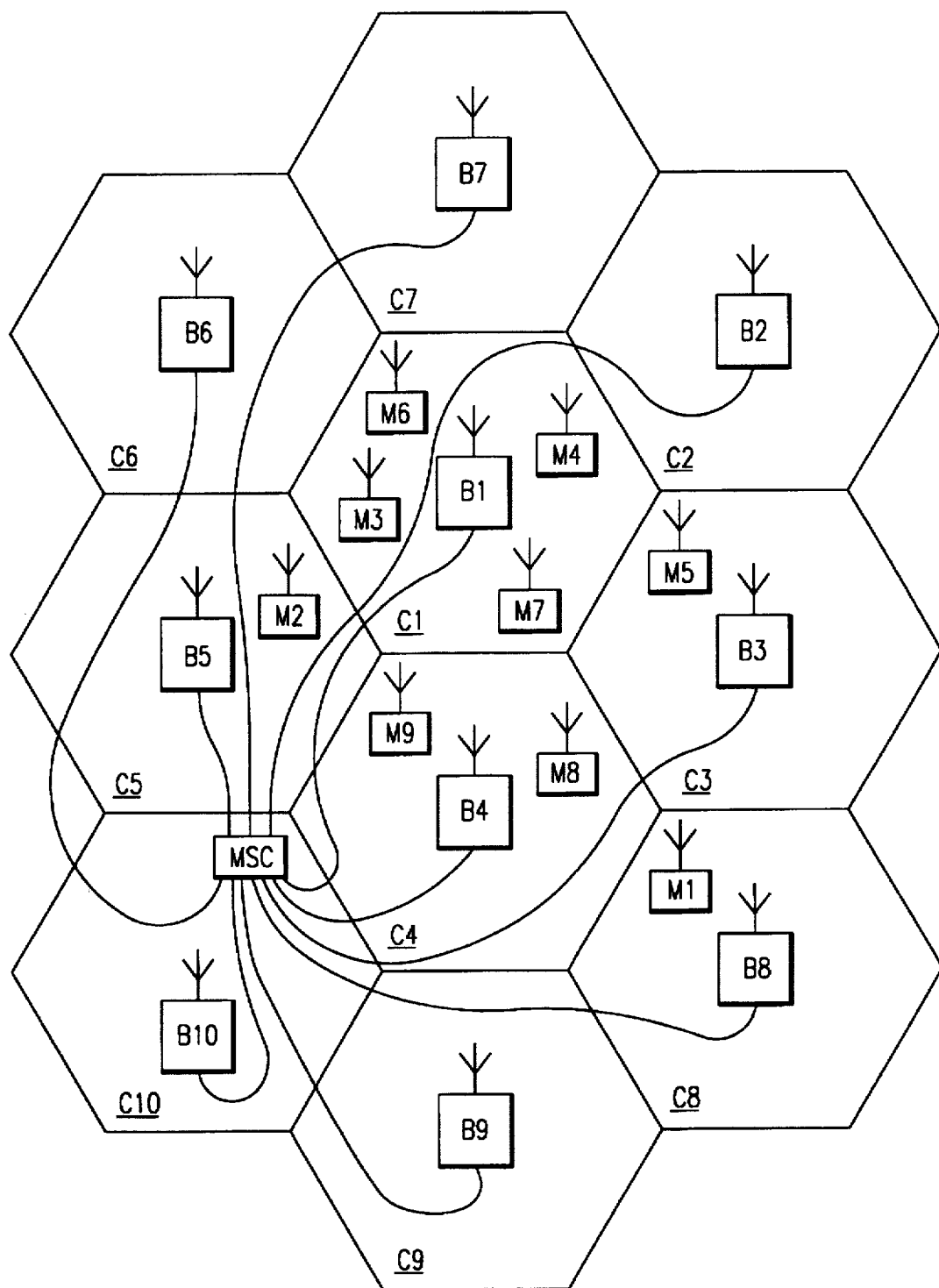
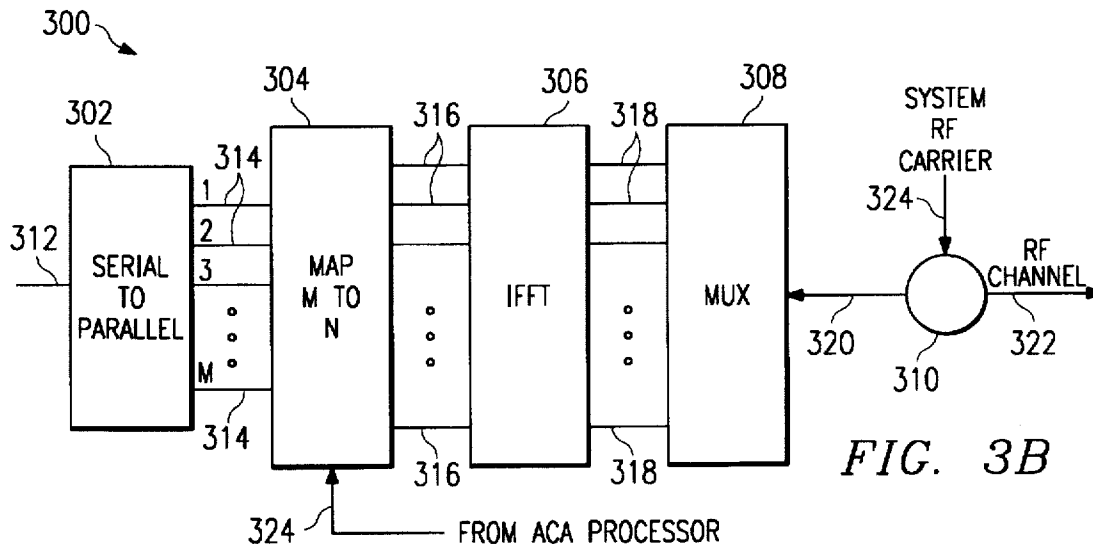
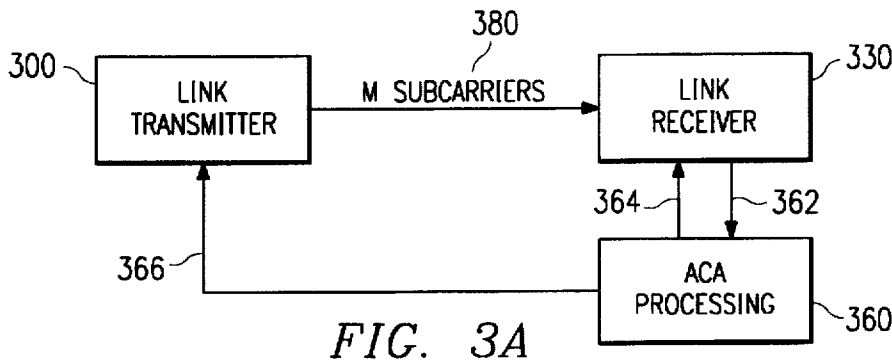
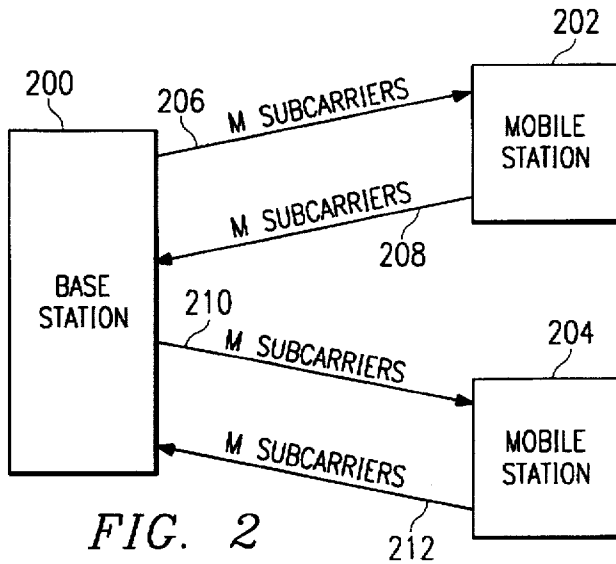


FIG. 1



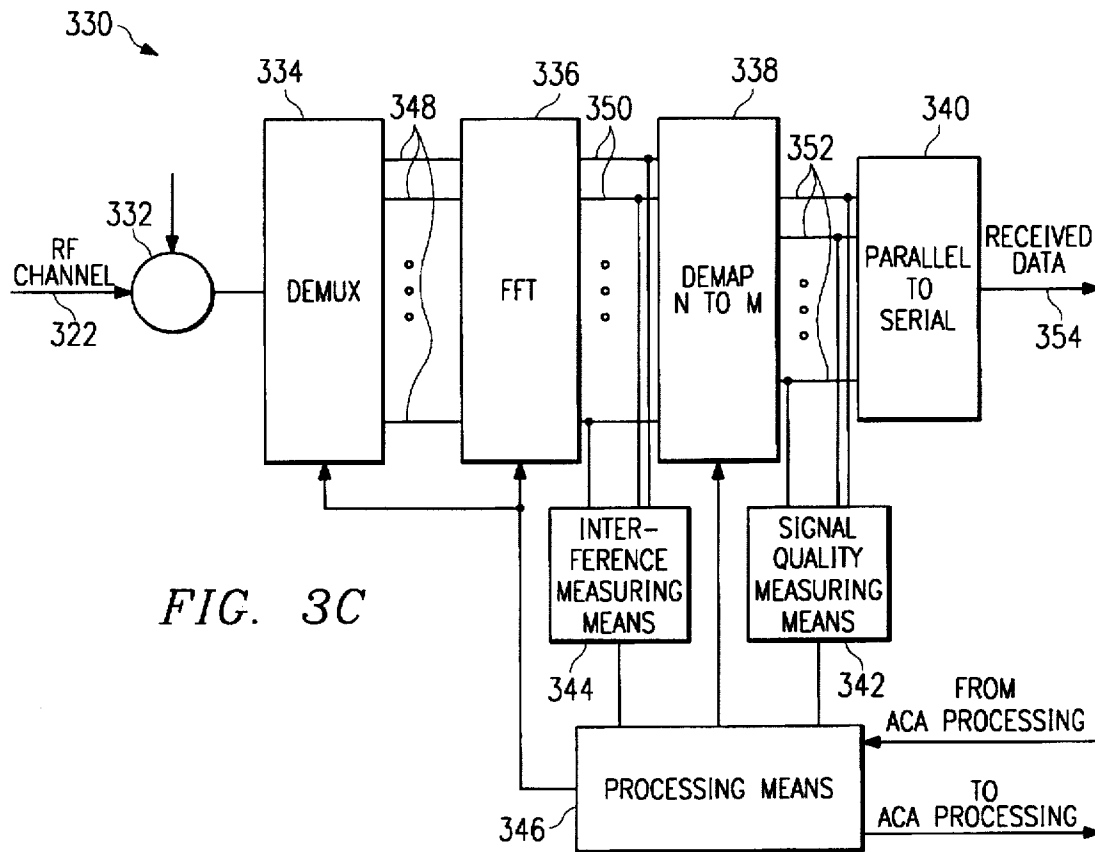


FIG. 3C

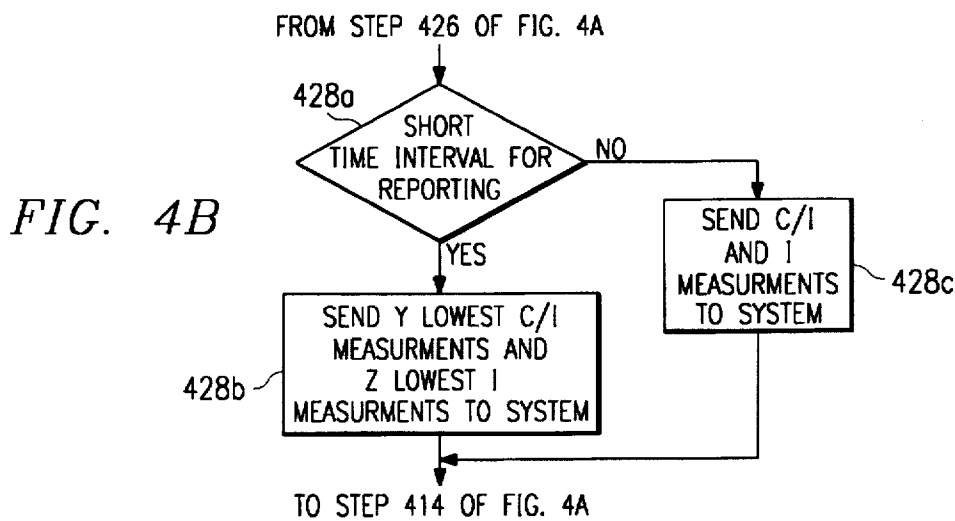


FIG. 4B

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