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Zhuang

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(54) **METHOD AND APPARATUS FOR ACCESSING A WIRELESS COMMUNICATION SYSTEM**

(75) Inventor: **Xiangyang Zhuang**, Hoffman Estates, IL (US)

(73) Assignee: **Motorola, Inc.**, Schaumburg, IL (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 313 days.

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(51) **Int. Cl.**
H04W 4/00 (2006.01)

(52) **U.S. Cl.** 370/329; 370/203; 370/210

(58) **Field of Classification Search** 370/329, 370/203, 208, 210, 330, 336, 394

See application file for complete search history.

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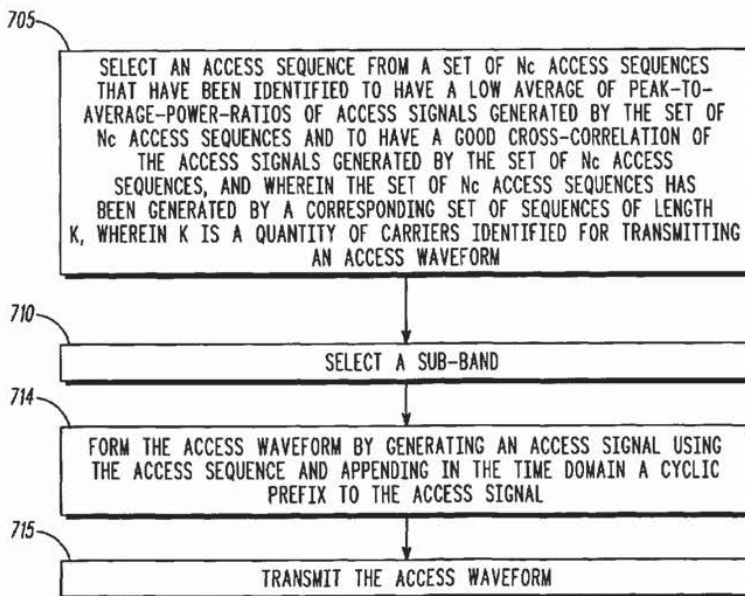
Primary Examiner—George Eng

Assistant Examiner—Marcos L Torres

(57) **ABSTRACT**

Access to a wireless communication system (100) by a subscriber station (101-103) is facilitated by selecting (705) an access sequence from a set of sequences that have been identified to have a low average of peak-to-average-power-ratios of access signals generated by the set of sequences and also based on a good cross-correlation of the access signals; forming (714) the access waveform by generating an access signal using the access sequence and appending in the time domain a cyclic prefix to the access signal; and transmitting (715) the access waveform. In some implementations, the access waveform is cyclically shifted (820) before the cyclic prefix is appended, and in some implementations, the signal is transmitted (710, 810) in a randomly selected sub-band of an access interval.

21 Claims, 6 Drawing Sheets



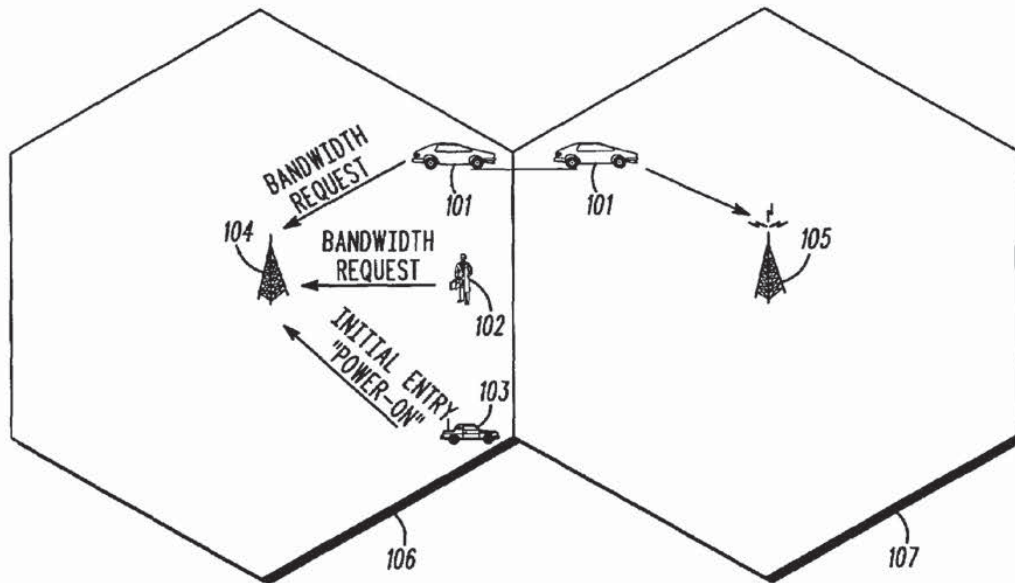


FIG. 1

100

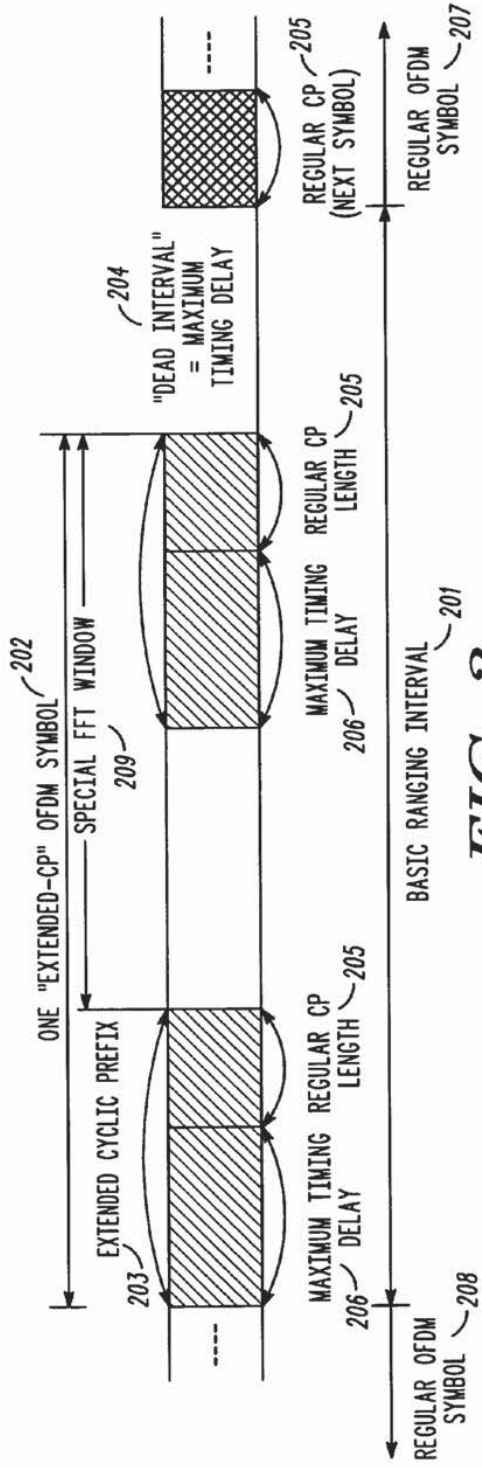


FIG. 2

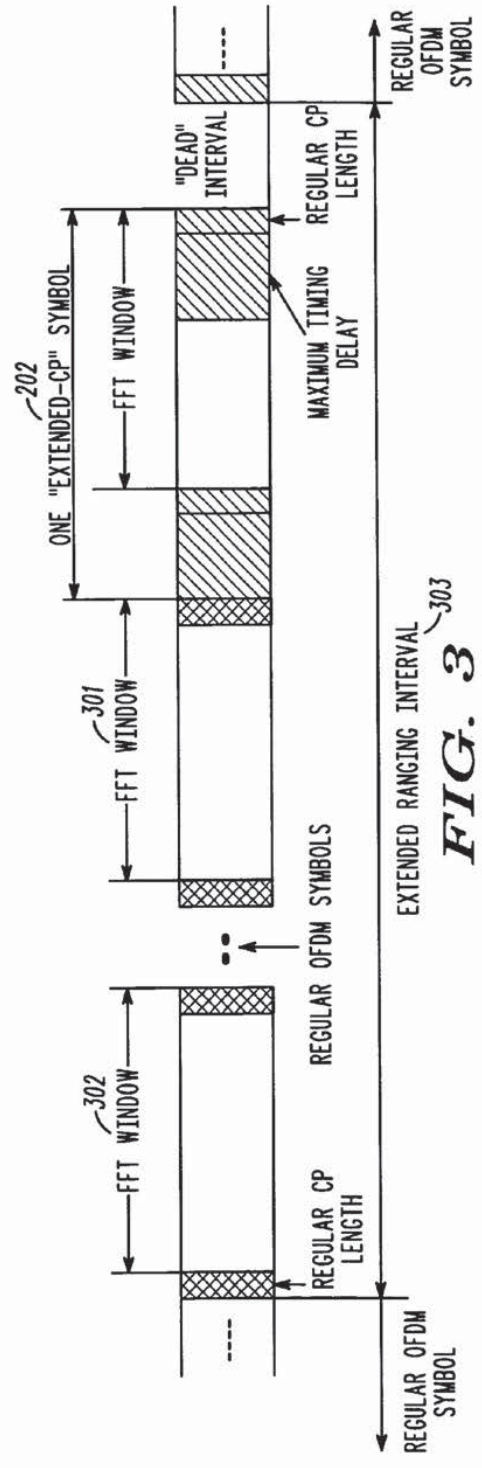


FIG. 3

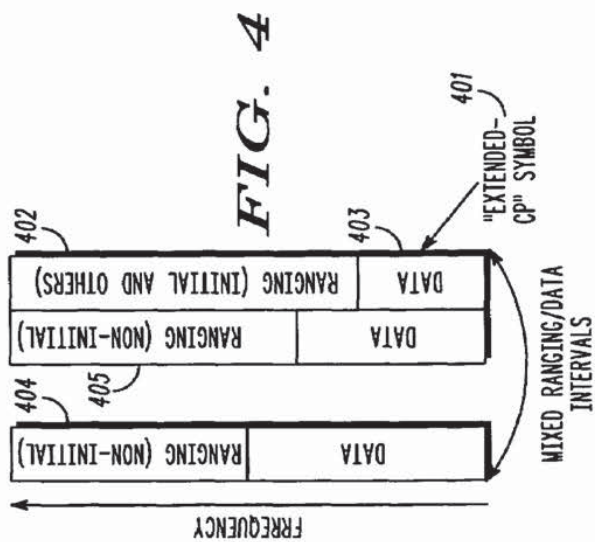
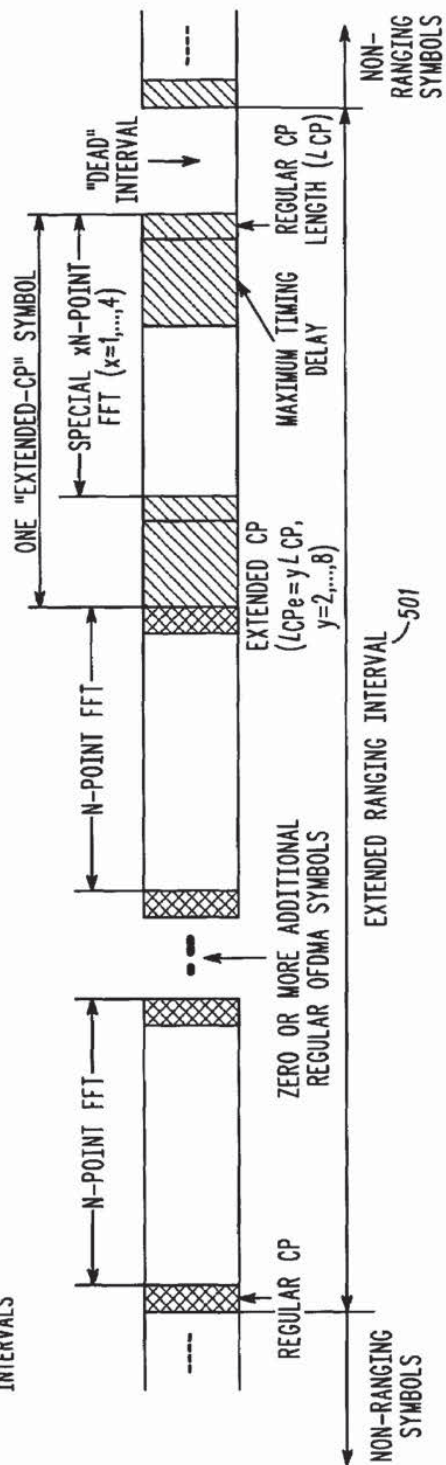


FIG. 5



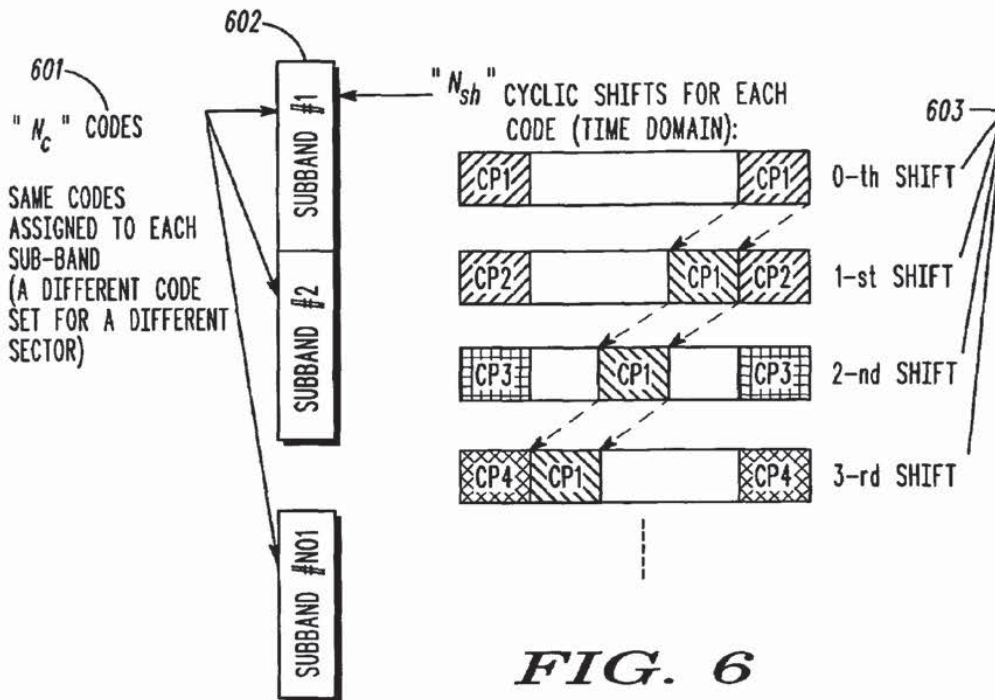


FIG. 6

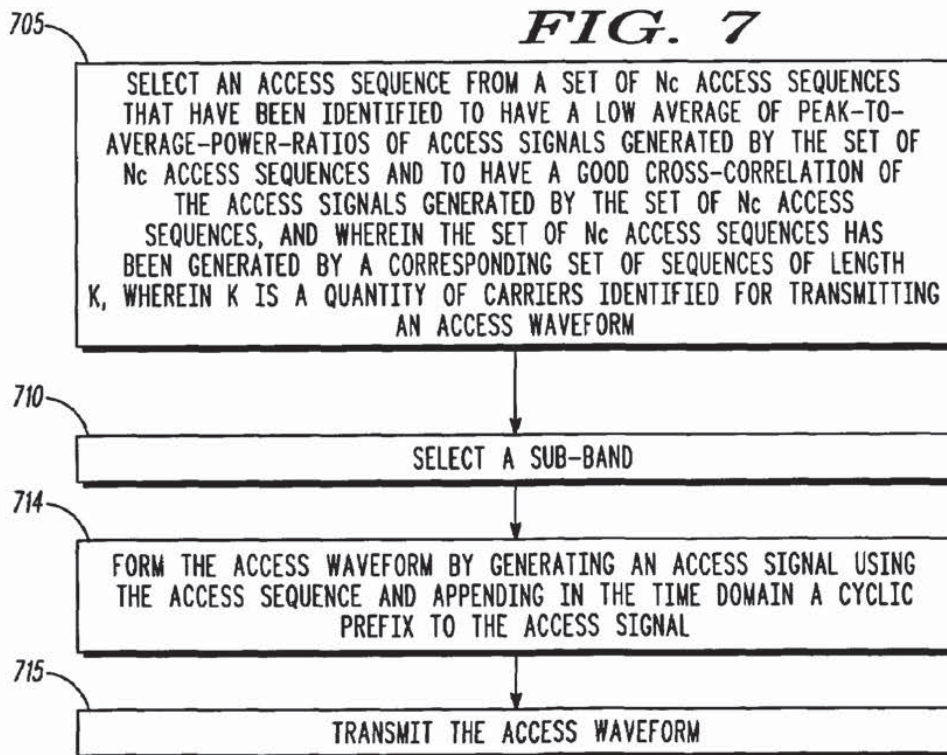


FIG. 7

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