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(54) **OFDMA WITH ADAPTIVE SUBCARRIER-CLUSTER CONFIGURATION AND SELECTIVE LOADING**

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(51) **Int. Cl.**

H04B 17/00	(2006.01)
H04B 7/00	(2006.01)
H04Q 7/20	(2006.01)
H04Q 7/00	(2006.01)
H04Q 7/28	(2006.01)
H04M 1/00	(2006.01)
H04M 1/38	(2006.01)

(52) **U.S. Cl.** **455/450**; 455/67.11; 455/69; 455/452.2; 455/464; 455/509; 455/550.1; 455/556.2; 455/561; 370/329; 370/341

(58) **Field of Classification Search** 455/179.1, 455/188.1, 422.1, 516–517, 67.11, 561, 562.1, 455/132–135, 456.5–456.6, 455, 423–425, 455/63.1–63.2, 62–45, 41.2–41.3, 443–453, 455/463–464, 509–510, 553, 512–513, 524–526, 455/550.1, 168.1, 176.1, 69, 70, 266, 403, 455/500, 556.2; 370/203–210, 311, 346–347, 370/465–480, 312–314, 319–322, 328–330, 370/338, 341–344, 395.21, 395.41, 430, 370/437, 447, 449, 458, 461–462, 913; 375/311, 375/240, 240.07, 240.11

See application file for complete search history.

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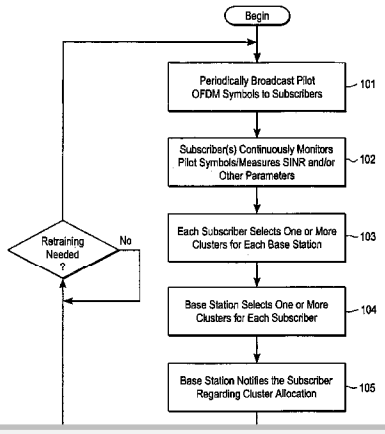
(57) **ABSTRACT**

A method and apparatus for subcarrier selection for systems is described. In one embodiment, the system employs orthogonal frequency division multiple access (OFDMA). In one embodiment, a method for subcarrier selection comprises each of multiple subscribers measuring channel and interference information for subcarriers based on pilot symbols received from a base station, at least one of subscribers selecting a set of candidate subcarriers, providing feedback information on the set of candidate subcarriers to the base station, and the one subscriber receiving an indication of subcarriers of the set of subcarriers selected by the base station for use by the one subscriber.

33 Claims, 7 Drawing Sheets



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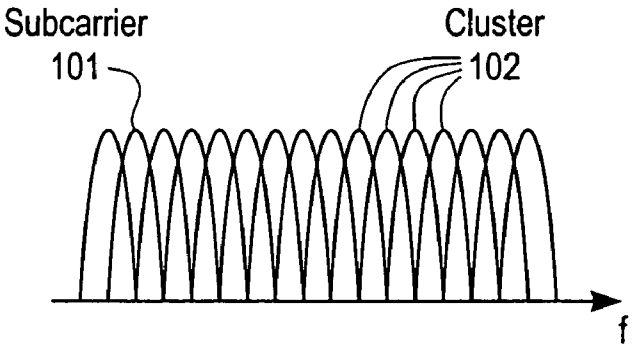
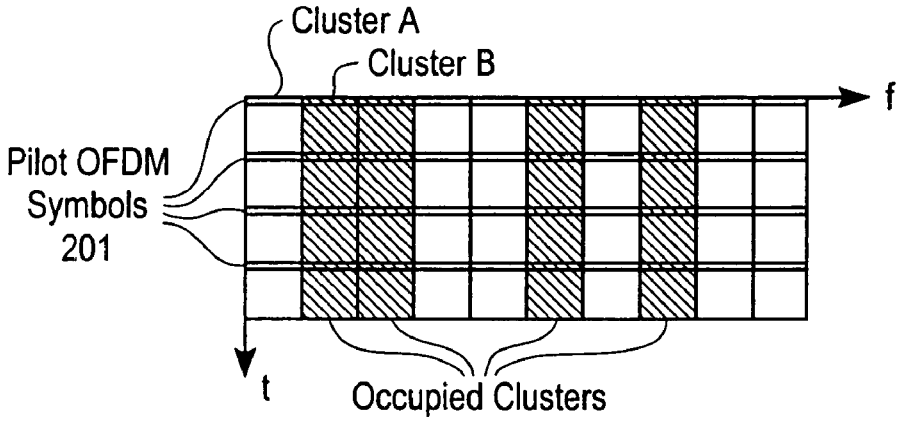
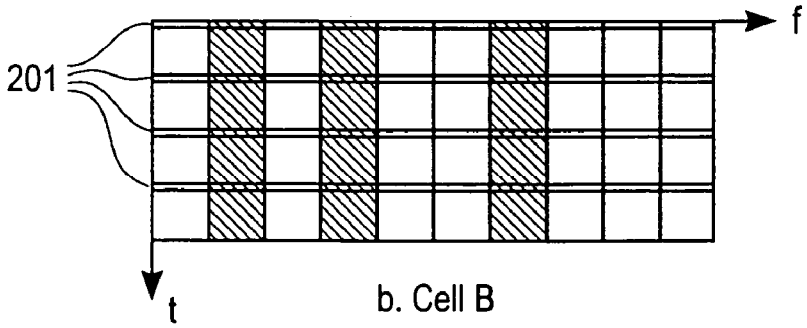


FIG. 1A



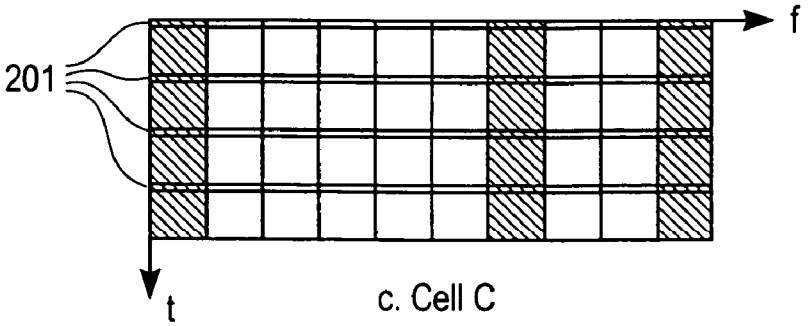
a. Cell A

(A)



b. Cell B

(B)



c. Cell C

(C)

FIG. 2

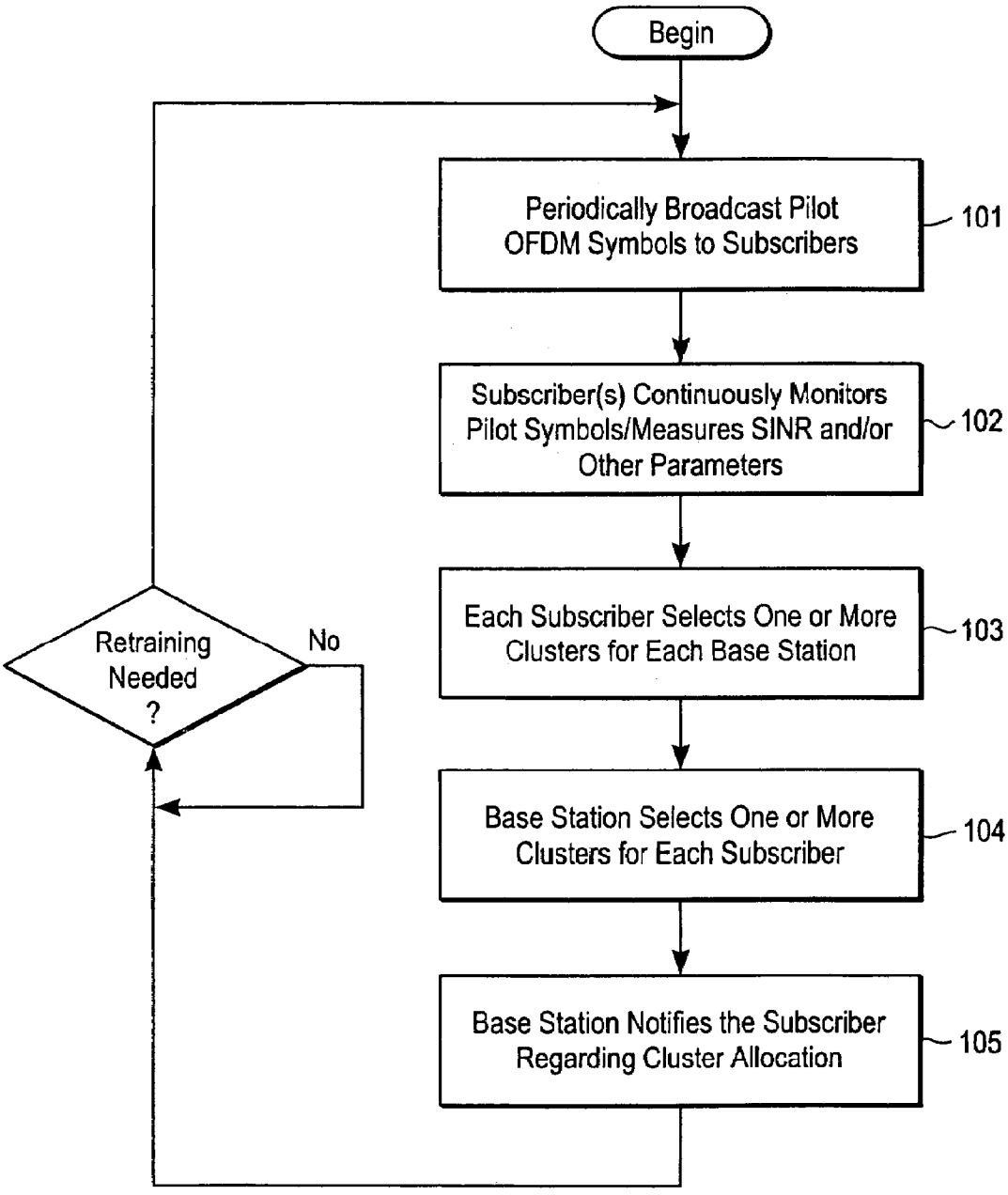


FIG. 1B

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