

United States Patent [19]

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Bowers et al.

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[54] **ANTICOLLISION PROTOCOL FOR READING MULTIPLE RFID TAGS**
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[21] Appl. No.: **796,645**

[22] Filed: **Feb. 7, 1997**

[51] Int. Cl.⁶ **H04Q 5/22; G08B 13/14**

[52] U.S. Cl. **340/825.54; 340/572**

[58] Field of Search **340/825.54, 825.5, 340/572, 505; 370/445, 447; 235/375**

Primary Examiner—Brian Zimmerman
Assistant Examiner—Edward Merz
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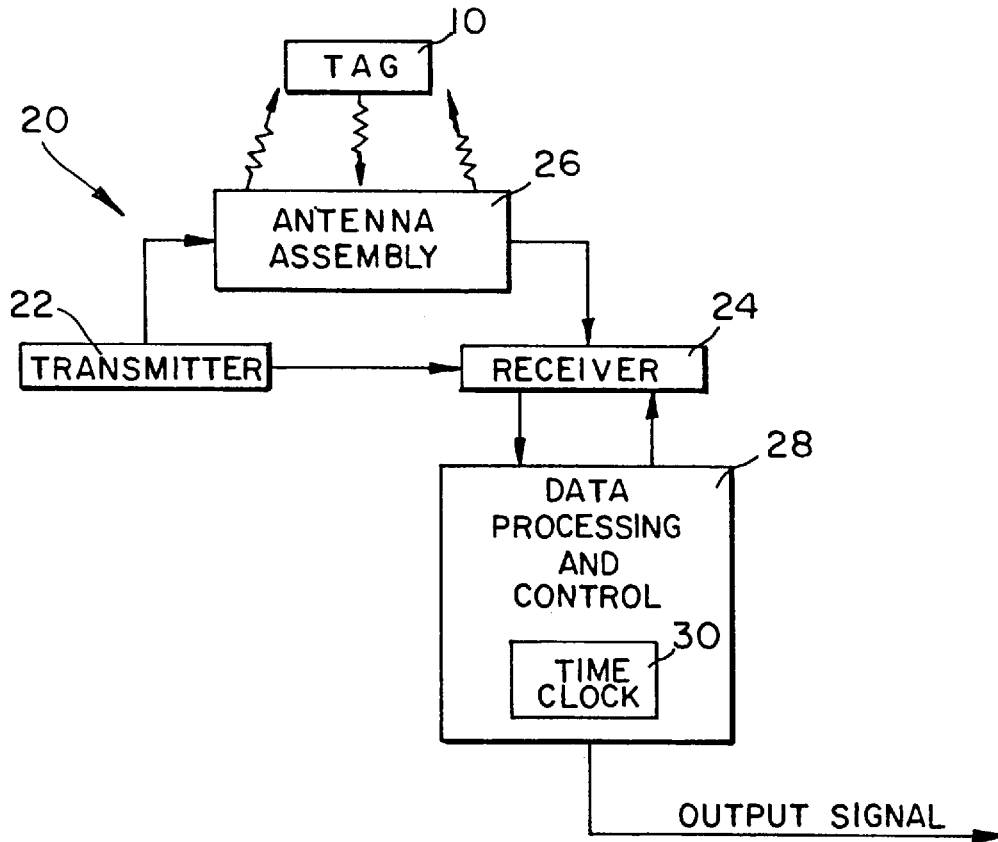
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[57] **ABSTRACT**

A method of reading multiple RFID tags located in a field of an interrogating antenna is based on periodic transmissions from the tags with large, non-transmission intervals between transmissions. The non-transmission intervals are fixed for a given tag, but are random between tags due to manufacturing tolerances in electrical components from which the tag is constructed, such that no coordination of transmissions from the interrogating antenna is required.

31 Claims, 6 Drawing Sheets



SCHRADER
 EXH. 1005

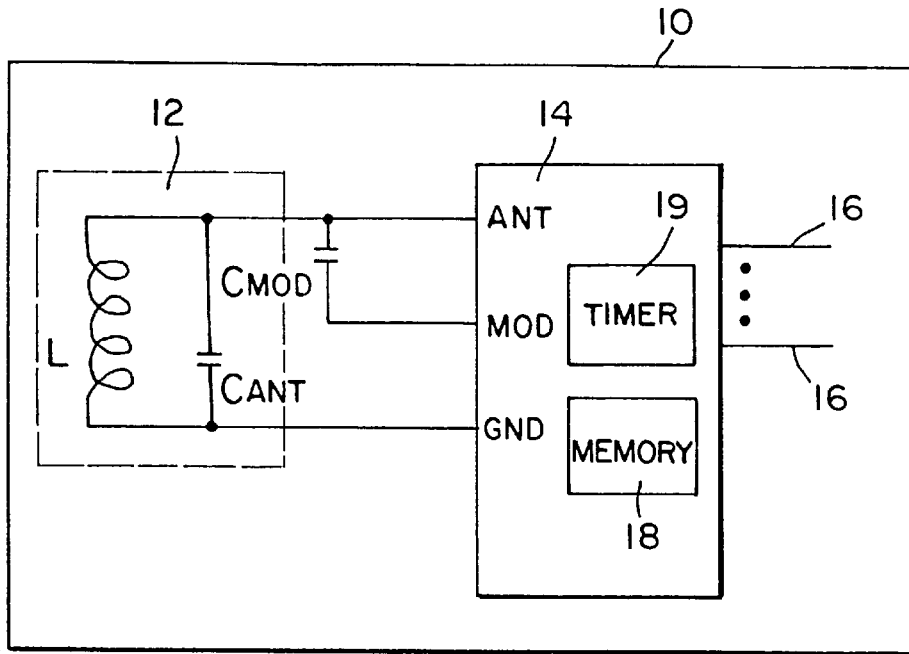


FIG. 1

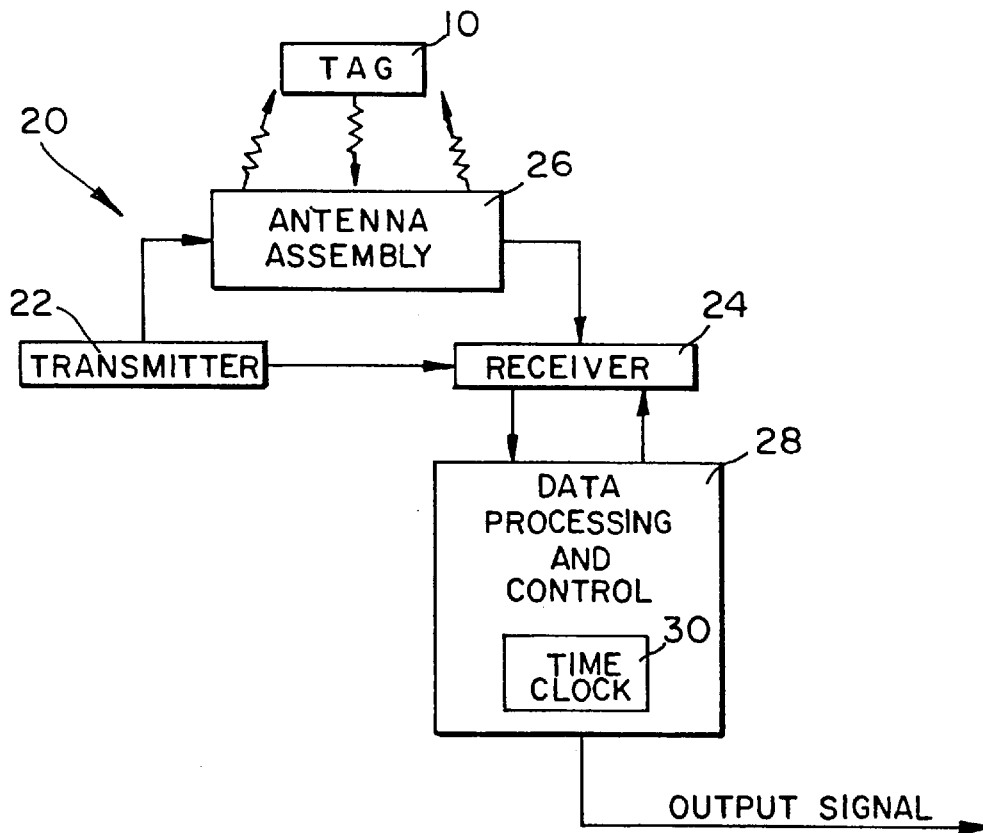


FIG. 2

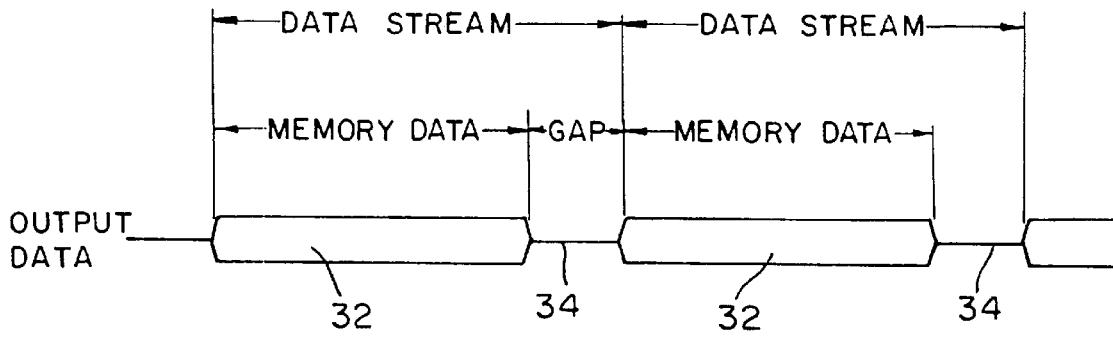


FIG. 3a

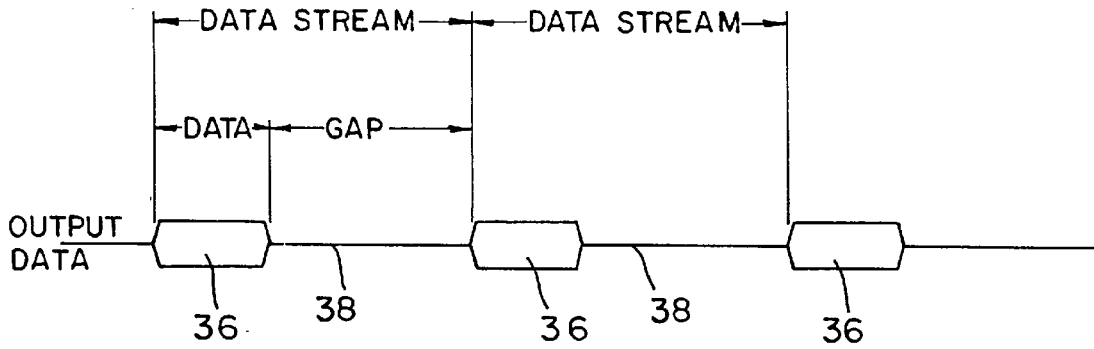


FIG. 3b

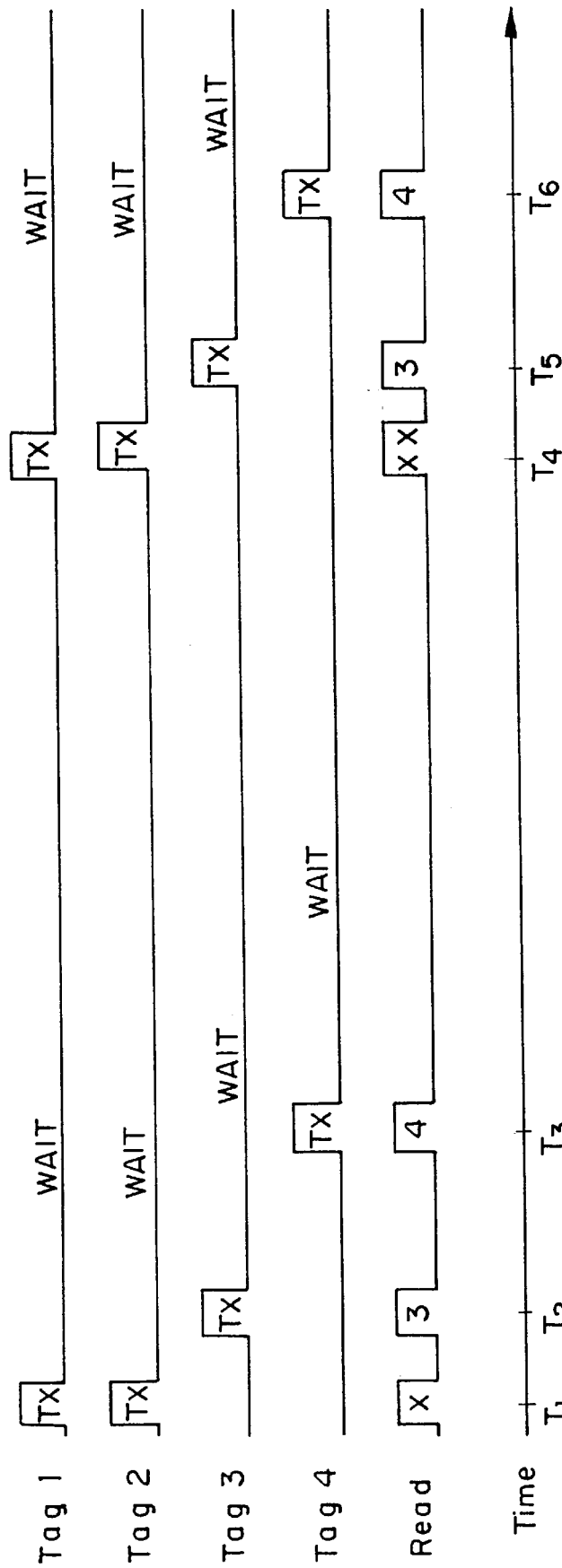


FIG. 4a

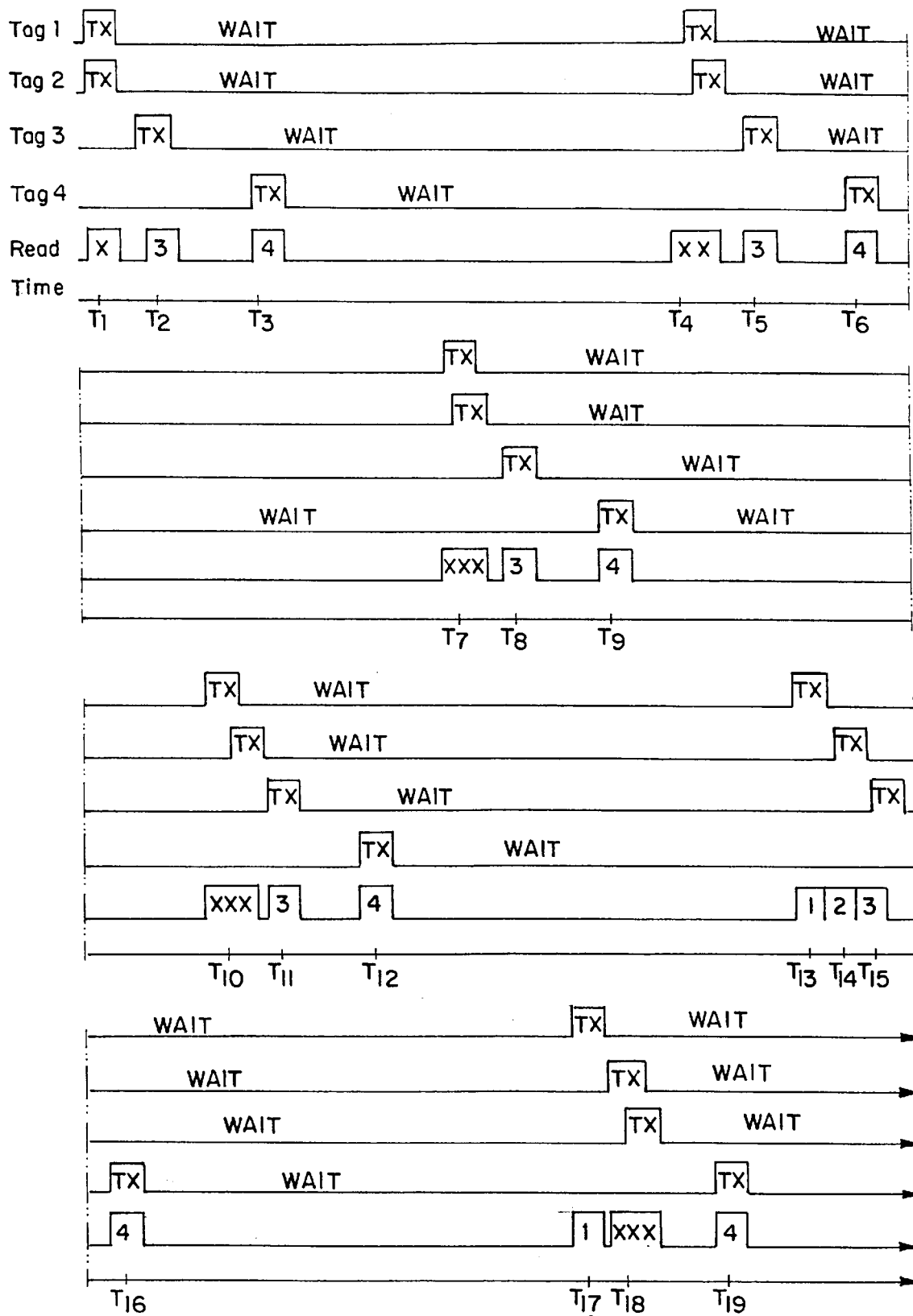


FIG. 4b

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