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Lansford et al.

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(54) **METHOD AND APPARATUS FOR WIRELESS COMMUNICATION BETWEEN ELECTRONIC DEVICES**

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(*) **Notice:** This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(51) **Int. Cl.⁷** **G05B 19/02**

(52) **U.S. Cl.** **340/825.22**

(58) **Field of Search** 340/825.03, 825.5, 340/7.34, 7.43, 2.1, 825.52, 925.73; 375/133, 134; 370/311, 342, 351, 329, 337, 480, 346, 347, 4.58, 278; 455/450, 426, 452.1, 507, 502

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,850,036	A	*	7/1989	Smith	.....	455/502
4,872,205	A	*	10/1989	Smith	.....	455/527
5,123,029	A	*	6/1992	Bantz et al.	.....	375/133
5,134,710	A	*	7/1992	Akerberg	.....	455/54.1
5,241,542	A	*	8/1993	Natarajan et al.	.....	370/311
5,414,731	A	*	5/1995	Antunes et al.	.....	375/134
5,581,548	A		12/1996	Ugland et al.	.....	370/330
5,818,828	A	*	10/1998	Packer et al.	.....	370/346
5,884,900	A	*	3/1999	van der Tuijn et al.	.....	370/342
5,887,022	A	*	3/1999	Lee et al.	.....	375/202
6,519,460	B1	*	2/2003	Haartsen	.....	455/452.1
6,600,726	B1	*	7/2003	Nevo et al.	.....	370/278
6,683,886	B1	*	1/2004	Eftimakis et al.	370/458

* cited by examiner

Primary Examiner—Brian Zimmerman

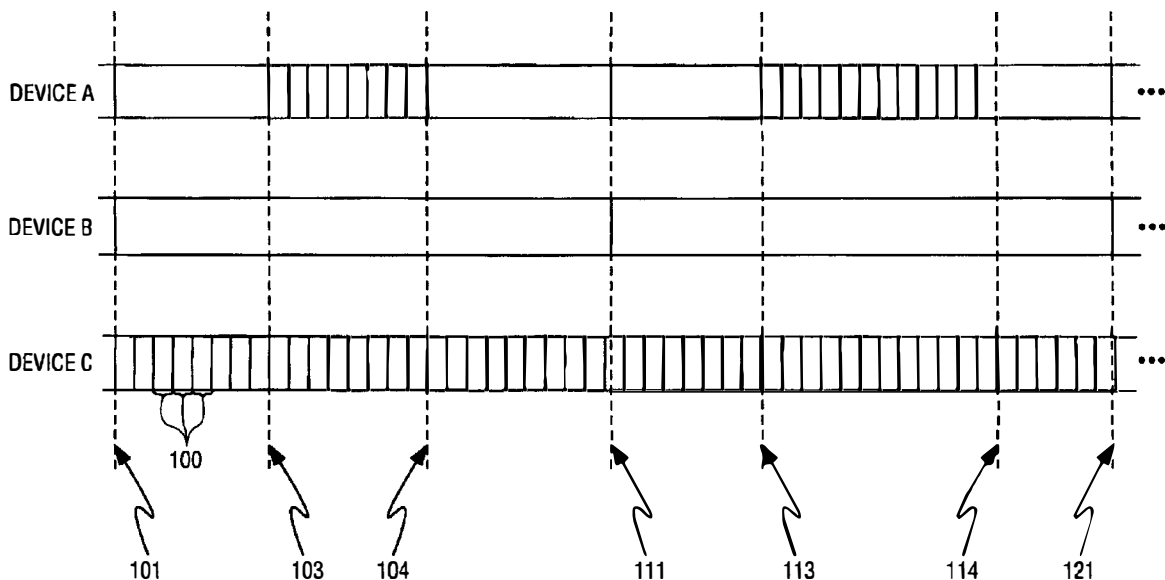
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(57) **ABSTRACT**

A first device operates at a first hopping frequency during a first period of time and operates at a second hopping frequency during a second period of time. A second device operates at the first hopping frequency and communicates with the first device during the first period of time. A third device operates at the second hopping frequency and communicates with the first device during the second period of time. The second period of time may be a contention-free period during which time the second device may not communicate with the first device.

11 Claims, 4 Drawing Sheets



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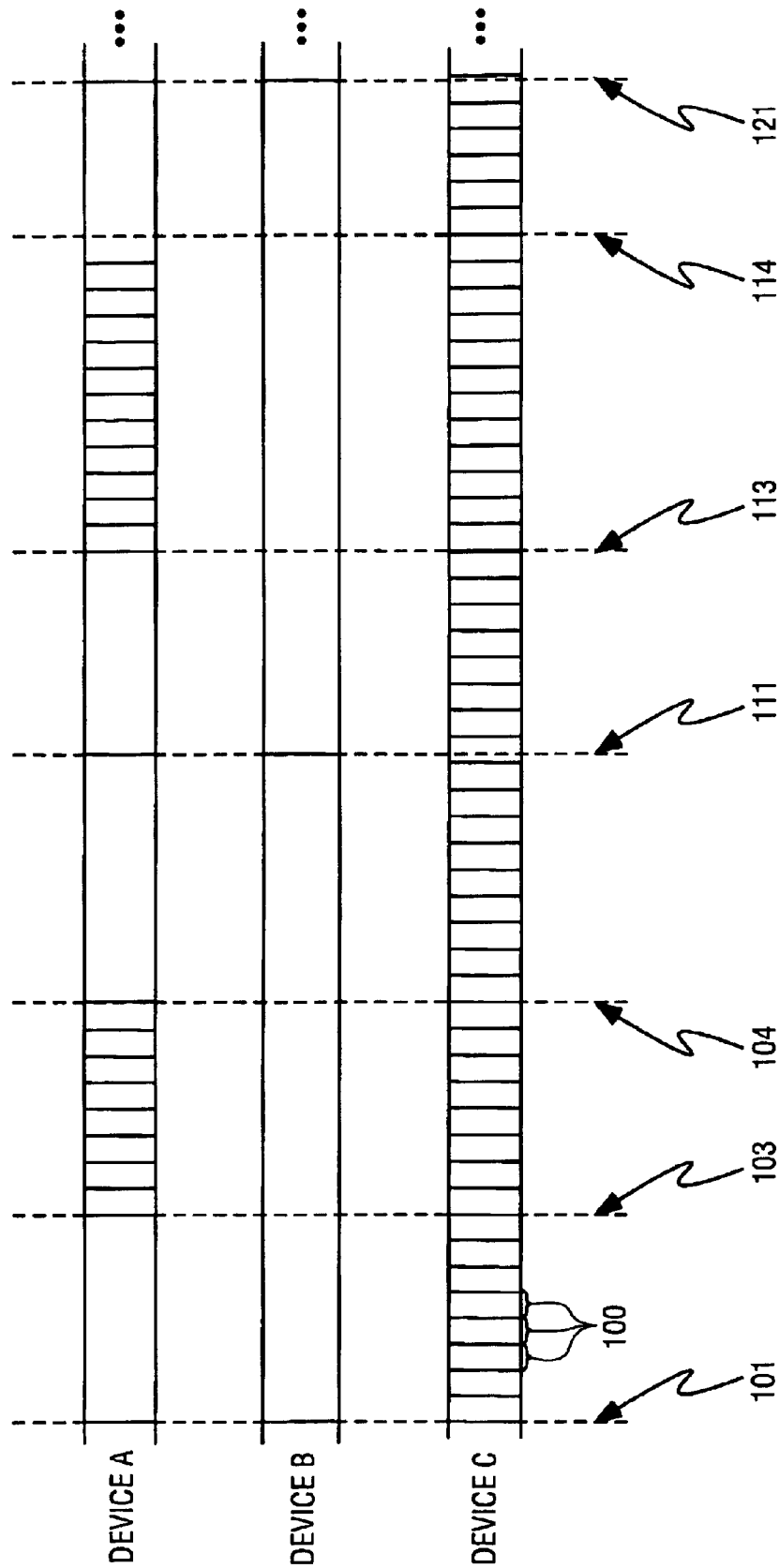


FIG. 1

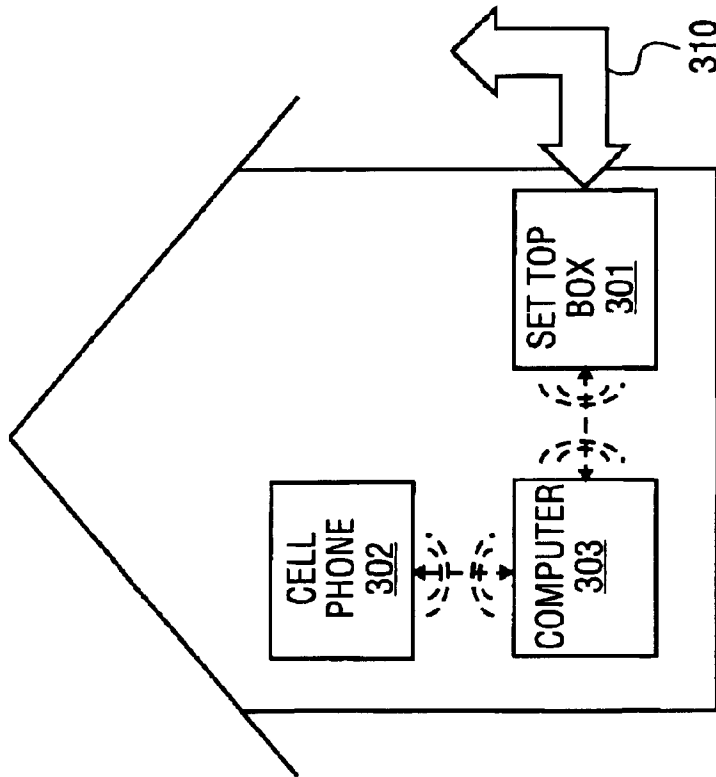


FIG. 3

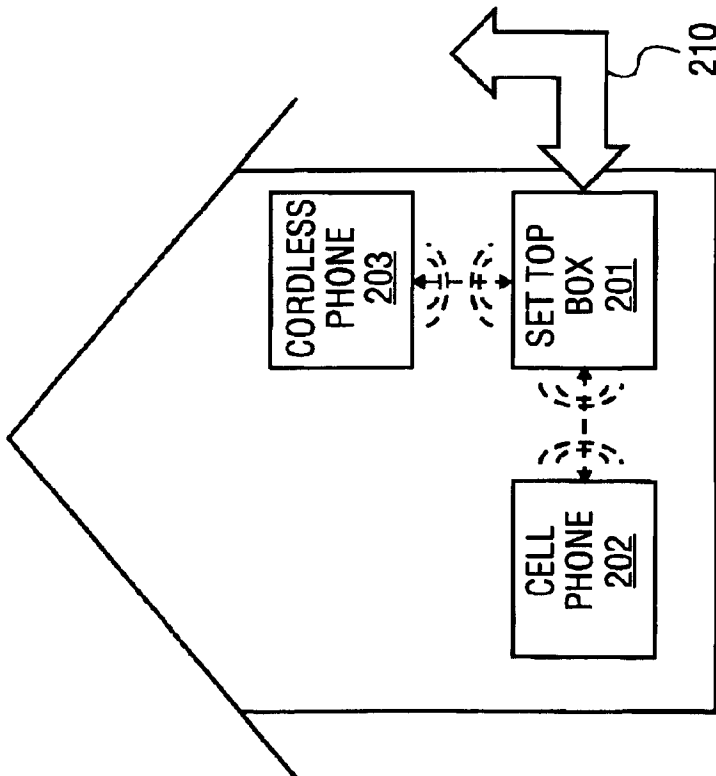


FIG. 2

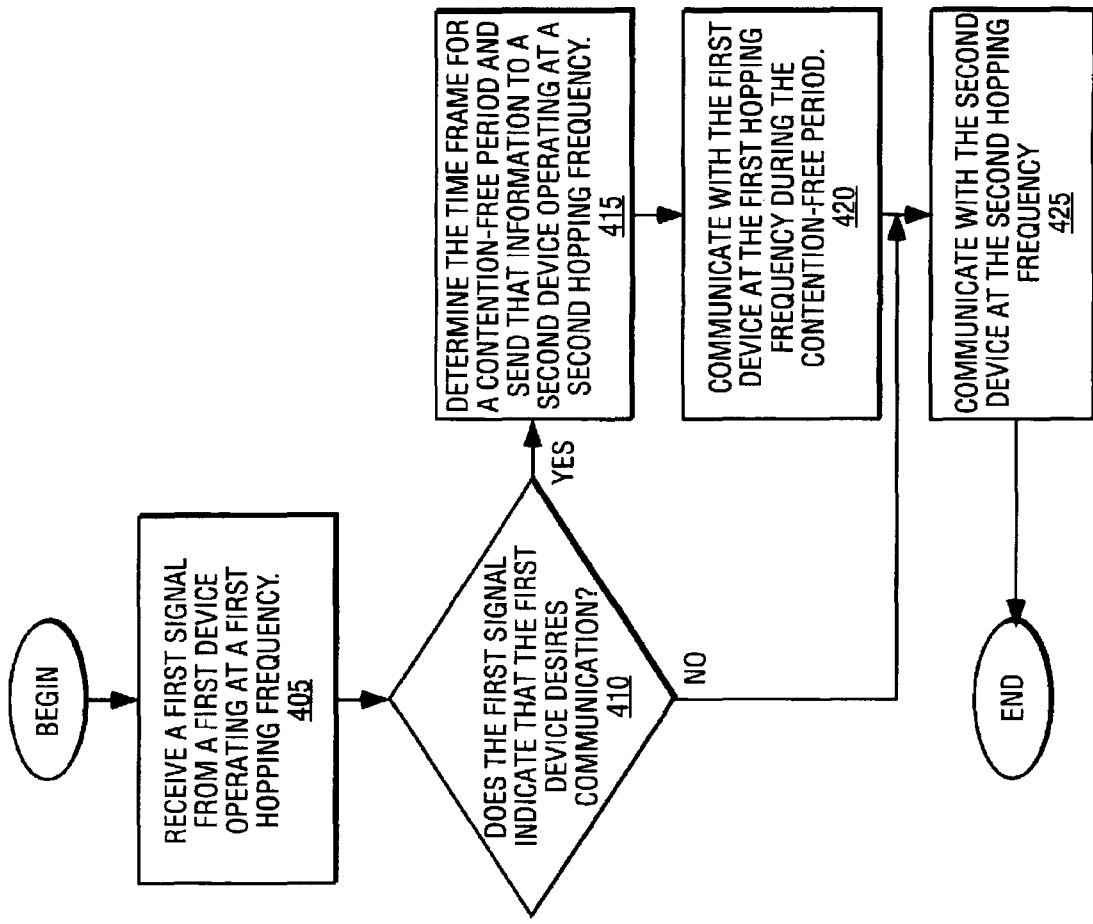


FIG. 4

500
↘

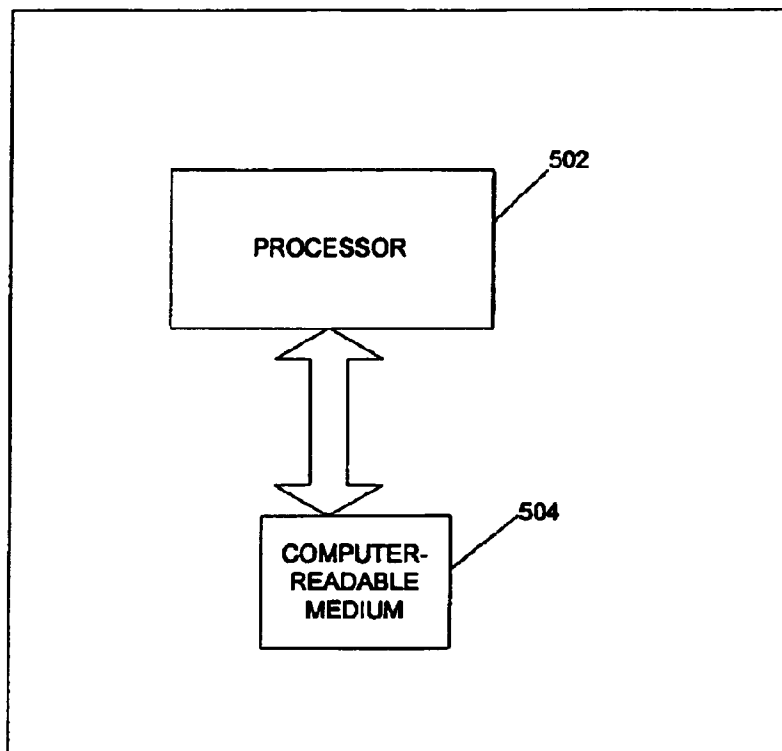


FIGURE 5

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