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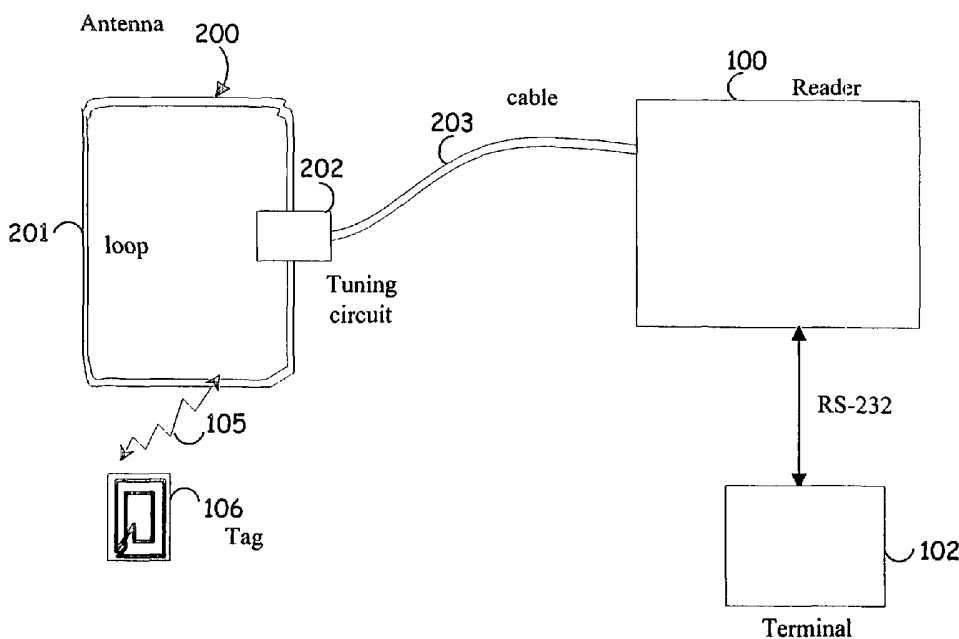
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[Continued on next page]

(54) Title: INTELLIGENT STATION USING MULTIPLE RF ANTENNAE AND INVENTORY CONTROL SYSTEM AND METHOD INCORPORATING SAME



(57) Abstract: An inventory control system and method (fig. 3A) that tracks inventories of items with RFID tags (501 & 502), includes a reader unit (120) and an intelligent station (124) that tracks RFID tags to determine item information of items to be inventoried. The reader unit transmits and receives RF signals. The intelligent station transmission cable (221 & 222) through a first switch, and one or more additional RF cable through additional switches (527). An inventory control processing unit (550) receives item information from the intelligent stations to update inventory information regarding the items to be inventoried.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/00554

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H01Q 11/12, 21/00; G08B 13/14
 US CL : 340/10.1, 572.1, 572.5, 572.7, 572.8; 343/700, 873, 893,

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 U.S. : 340/10.1, 572.1, 572.5, 572.7, 572.8; 343/700, 873, 893,

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
 none

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 WEST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,4613,85 A (ARMSTRONG) 24 October 1995(24.10.1995), see entire document.	1-61 and 85 - 91
Y	US 5,777,561 A (CHIEU et al) 07 July 1998 (07.07.1998), see entire document.	1 - 61 and 85 - 91
Y	US 5,602,556 A (BOWERS) 11 February 1997(11.02.1997), see entire document.	1 - 61 and 85 - 91
Y	US 5,963,173 A (LIAN et al) 05 October 1999(05.10.1999), see entire document.	1 - 61 and 85 - 91

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	"T"
"A" document defining the general state of the art which is not considered to be of particular relevance	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 27 May 2003 (27.05.2003)	Date of mailing of the international search report 12 NOV 2003
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/00554

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claim Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claim Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claim Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
Please See Continuation Sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
 2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
 3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

 4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1 - 61 and 85 - 91
- Remark on Protest** The additional search fees were accompanied by the applicant's protest.
 No protest accompanied the payment of additional search fees.

BOX II. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claim(s) 1 - 61 and 85 - 91 are drawn to an intelligent station that tracks RFID tags which are classified in class 340 subclasses 5.1 and 539.

Group II, claim(s) 62 - 84 are drawn to an inventory control system that tracks inventories of items with RFID tags which are classified in class 340 subclass 5.92 and class 705 subclass 28.

Group III, claim(s) 92 - 96 are drawn to a method of making a radio frequency antenna which are classified in class 343 subclasses 895 and 873.