uct Code corresponding to the scanned retail item appended with the unit price at which the retail item was sold. Subsequently, a "SEARCH TABLE FOR KEY" subroutine is performed in which a data table in the RAM **32** is searched to determine if the key constructed during the previous subroutine exists in the RAM **32**. The data table in the RAM **32** contains keys previously constructed in accordance with the above-mentioned "COMPUTE KEY" subroutine. The data table is arranged in a conventional, well known binary tree structure that enables extremely rapid searches through the data table which may contain over 30,000 different keys corresponding to 30,000 different UPC/unit price combinations.

If the key is located in the data table, an "INCREMENT COUNT" subroutine is performed in which the quantity sold field in the RAM **32** associated with that key is incremented by the amount of the quantity sold field in the transaction being processed. Thereafter, the program returns to the "SNAP?" subroutine.

Alternatively, if the key for the transaction being processed was not located in the data table in the RAM **32**, an "INSERT TRANSACTION IN TABLE" subroutine is executed by which the computed key for the transaction is inserted in the appropriate place in the data table in the RAM **32** and the quantity sold field in the RAM **32** for that key is set to the amount of the quantity sold field in the transaction. The program then returns to the "SNAP?" subroutine.

Obviously, many modifications and variations of the present invention are possible in light of the above teachings. For example, retail sales transactions determined to be complete, as discussed hereinabove, may be formatted and stored initially in the RAM **32** and subsequently in the DASD **34** in many different desired formats. Importantly, complete retail sales transactions may be organized for use in "market basket" analyses by grouping together retail sales transactions corresponding to all of the purchases made by each customer during a single trip through the check-out line in the retail store. All retail sales transactions occurring prior to the determination of the total amount owed by a customer for the purchase of the retail items presented to a checker during a trip through a check-out line in the retail store can be grouped together by the CPU **30** and the RAM **32** for subsequent transfer to the DASD **34** in the in-store device **12**. From this information, an average "market basket" in the form of the types or quantities of retail items purchased or in the form of the cost of the items purchased can be determined for each retail store or, if desired, for a designated group of retail stores in the market research system **10**. Alternatively, a unique identification code either scanned or keyed into the scanner/register **18** can be used as a key to identify a "market basket", i.e., the items purchased and their cost, of each cooperating panelist in the market research system **10**.

Furthermore, the operation of the in-store device **12** including the formatting and storing of complete retail sales transactions by the in-store device **12** may be updated or modified during a communications session between the in-store device **12** and the remotely located central site **24**. The market research system **10** is highly flexible in that the market research test area, i.e., the area in which the cooperating retail stores of the system **10** are located, may be selected as desired. For example, the market research test area may involve a single geographic locality, such as a city, county or state, or a single geographic region, such as a portion of a country, or an entire country, such as the United States of America, or even several countries, such as the United States of America and Canada. Thus, it is to be understood that, within the scope of the appended claims, the invention may be practiced otherwise than as specifically described hereinabove.

What is claimed and is desired to be secured by Letters Patent is:

1. A market research system comprising:

a plurality of cooperating retail stores in a market research test area, each of said stores having at least partially automated first means for processing retail sales transactions in the normal operation of said retail store,

non-invasive automated second means disposed in each of said stores for monitoring said first means in a substantially totally passive manner and for collecting market research data based on said retail sales transactions, said second means including sensor means for monitoring and for detecting said processed retail sales transactions and processor means coupled to said sensor means for processing said detected retail sales transactions,

said first means operating independently of said second means, said second means operating responsive to said first means without requiring any responsive operation by said first means and without requiring any modification of said first means, and

automated third means remotely located from said plurality of retail stores for receiving said market research data from said plurality of retail stores and for storing said market research data for subsequent use by market researchers.

2. A market research system as recited in claim **1** wherein said sensor means for monitoring said first means includes an antenna.

3. A market research system as recited in claim **2** wherein said first means generates first electrical signals relating to said retail sales transactions and wherein said antenna is physically disposed in the vicinity of said first means for enabling at least portions of said first electrical signals to be detected by said antenna.

4. A market research system as recited in claim **3** wherein said second processor means further includes microprocessor means for processing and storing retail sales transaction data detected by said antenna, said microprocessor means being otherwise adapted to process and store said retail sales transaction data independently of said first means.

5. A market research system as recited in claim **4** wherein said second means further includes adapter means for adapting said second means to a particular first means in said store in which said second means is disposed for enabling said microprocessor to process said retail sales transaction data detected by said antenna.

6. A market research system as recited in claim **4** wherein said second means further comprises communications modem means for enabling said second means to transfer said market research data to said third means.

7. A market research system as recited in claim **4** wherein said third means further comprises means for remotely reprogramming said microprocessor.

8. A market research system as recited in claim **1** further comprising means for transferring said market research data from said second means to said third means.