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United States Patent [19]

Kato et al.

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[45] Date of Patent: Jul. 11, 2000

[54] **METHODS AND APPARATUS FOR DOWNLOADING DATA BETWEEN AN INFORMATION PROCESSING DEVICE AND AN EXTERNAL DEVICE VIA A WIRELESS COMMUNICATIONS TECHNIQUE**

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[73] Assignee: **International Business Machines Corporation**, Armonk, N.Y.

[21] Appl. No.: **09/005,962**

[22] Filed: **Jan. 12, 1998**

[30] **Foreign Application Priority Data**

Jun. 2, 1997 [JP] Japan 9-143596

[51] **Int. Cl.**[7] **G06F 13/00**

[52] **U.S. Cl.** **709/227**; 709/217; 709/232; 709/250; 455/556

[58] **Field of Search** 709/201, 202, 709/203, 217, 219, 218, 227, 230, 232, 250, 300, 302; 707/10, 104; 455/422, 433, 435, 73, 556, 557

[56] **References Cited**

U.S. PATENT DOCUMENTS

5,247,380	9/1993	Lee et al.	359/118
5,440,559	8/1995	Gaskill	370/314
5,564,070	10/1996	Want et al.	455/507
5,781,723	7/1998	Yee et al.	713/200
5,845,282	12/1998	Alley et al.	707/10
5,862,321	1/1999	Lamming et al.	395/200.3

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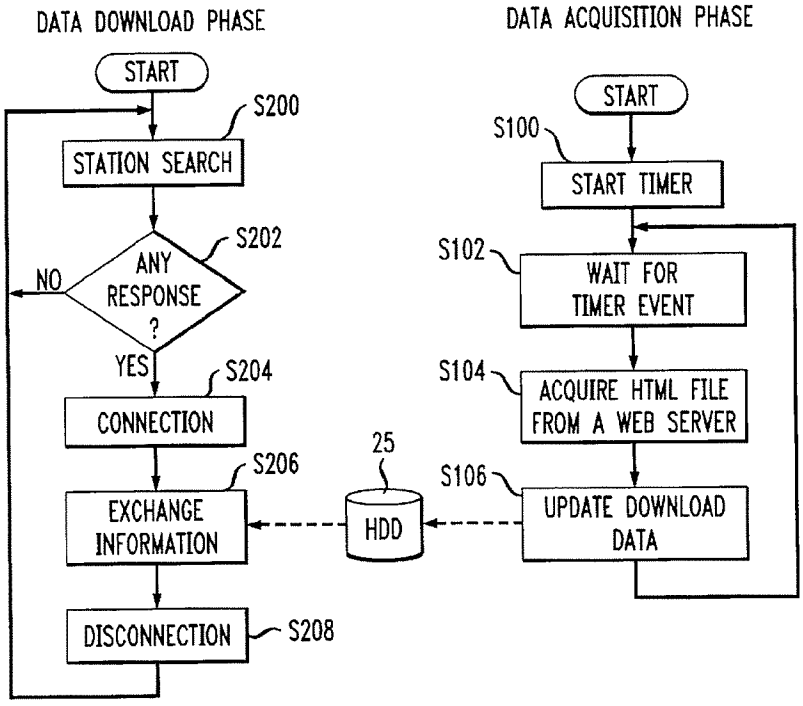
Attorney, Agent, or Firm—Ryan & Mason, L.L.P.; Paul J. Otterstedt

[57] **ABSTRACT**

To provide an improved information processing apparatus and a method for controlling the same, which enables to smoothly transfer data, such as processed results obtained from execution of an application program, an HTML file acquired from a Web server in accordance with the TCP/IP protocol or the like, to an external device (PDA) by using an infrared communication function. The disclosed information processing apparatus periodically accesses a predetermined server machine (e.g., a Web server) to acquire a desired file (e.g., an HTML file). This file acquisition operation is carried out without the involvement of operations of an infrared transceiver. In other words, the information processing apparatus attempts to continually perform caching of the most recent download data. As a result, when the PDA as an external device is set into an infrared communication mode and a user simply holds the PDA to a station discoverable region of the information processing apparatus, a connection between them is established, thereby enabling the PDA to receive the most recent data.

17 Claims, 5 Drawing Sheets



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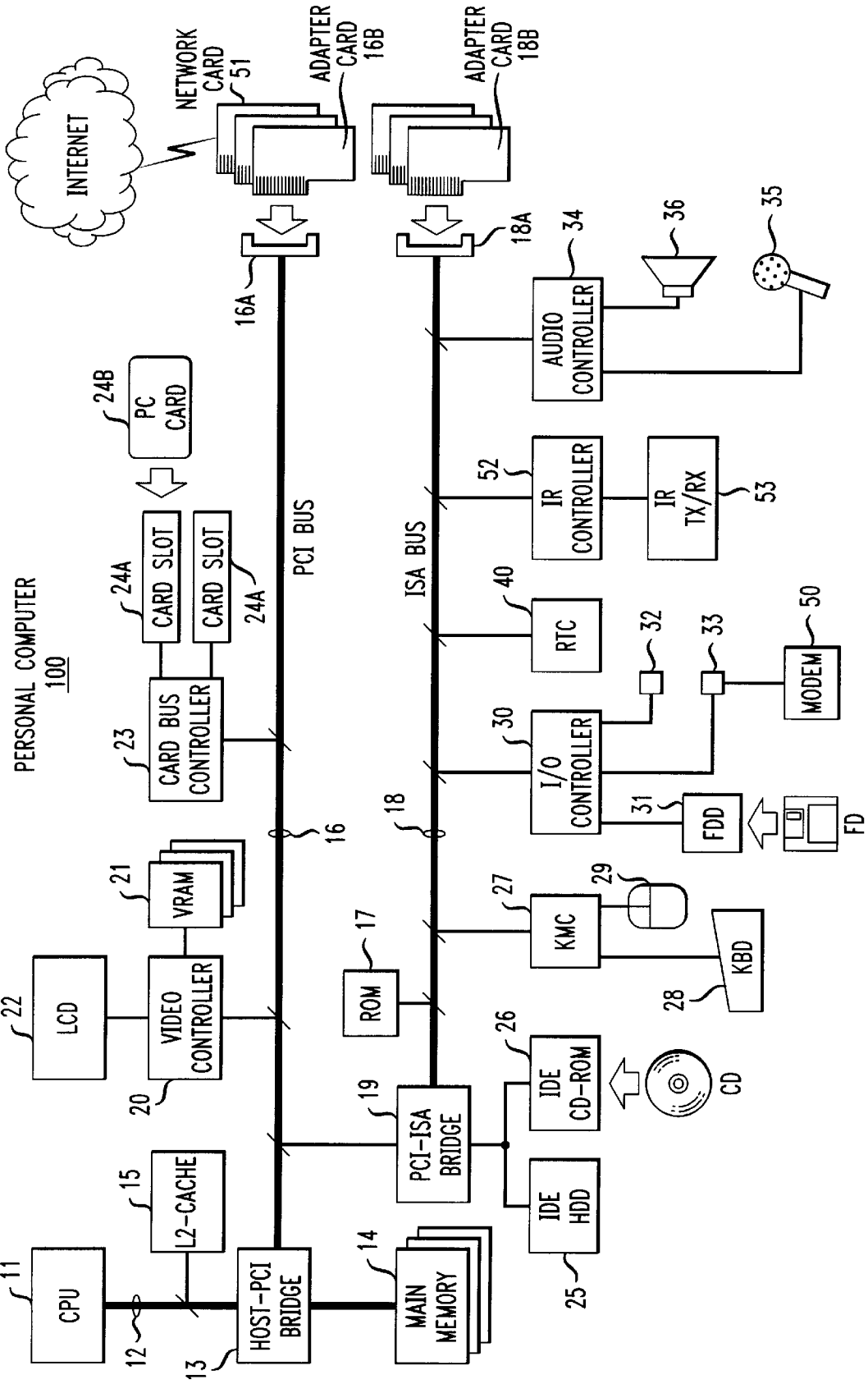

FIG. 1

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FIG. 2

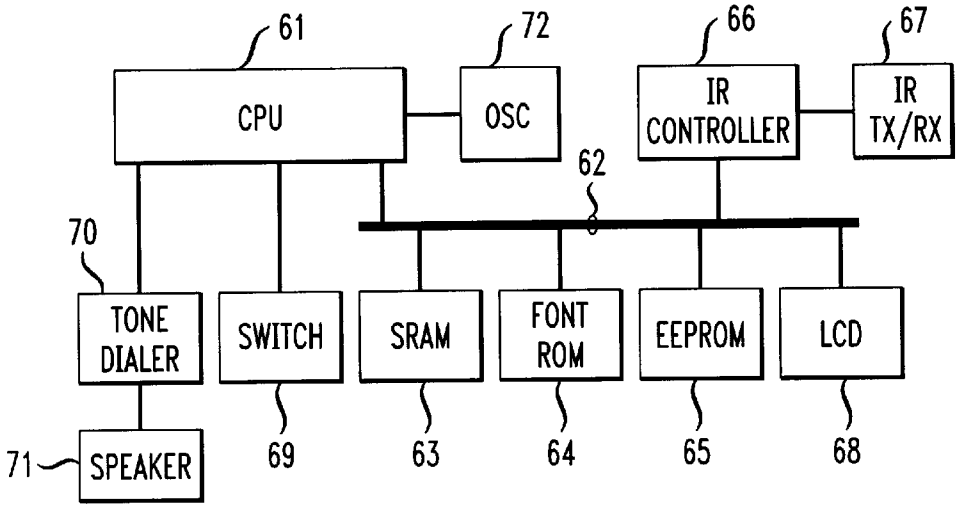

FIG. 3

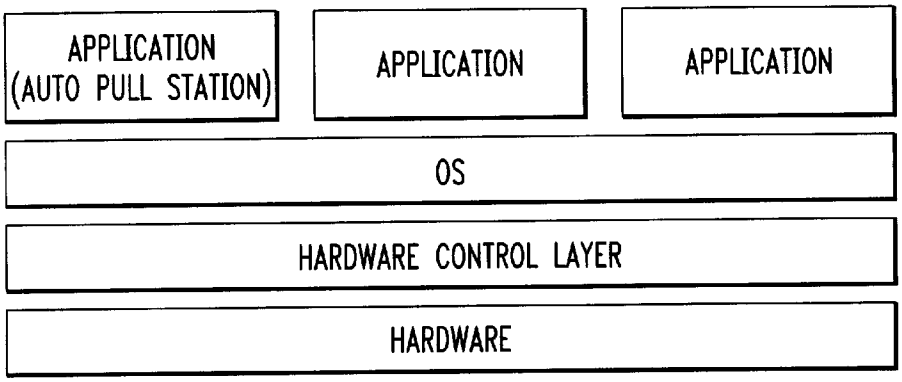

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FIG. 4

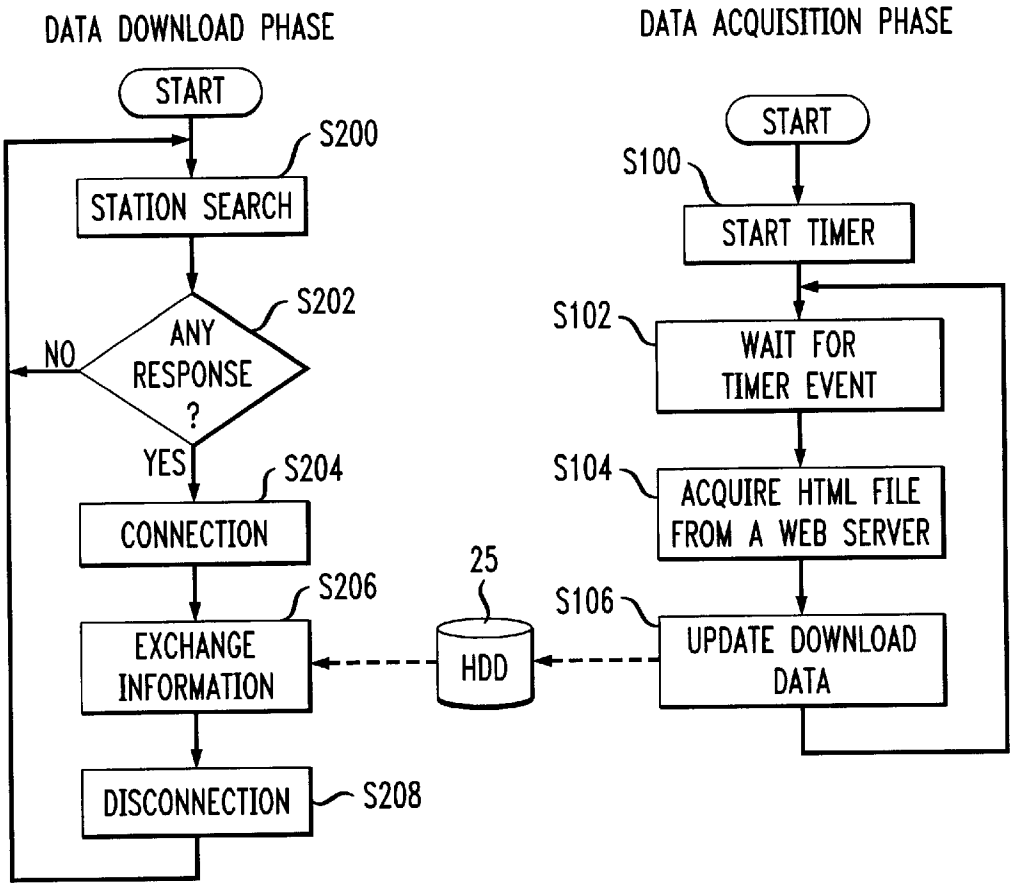

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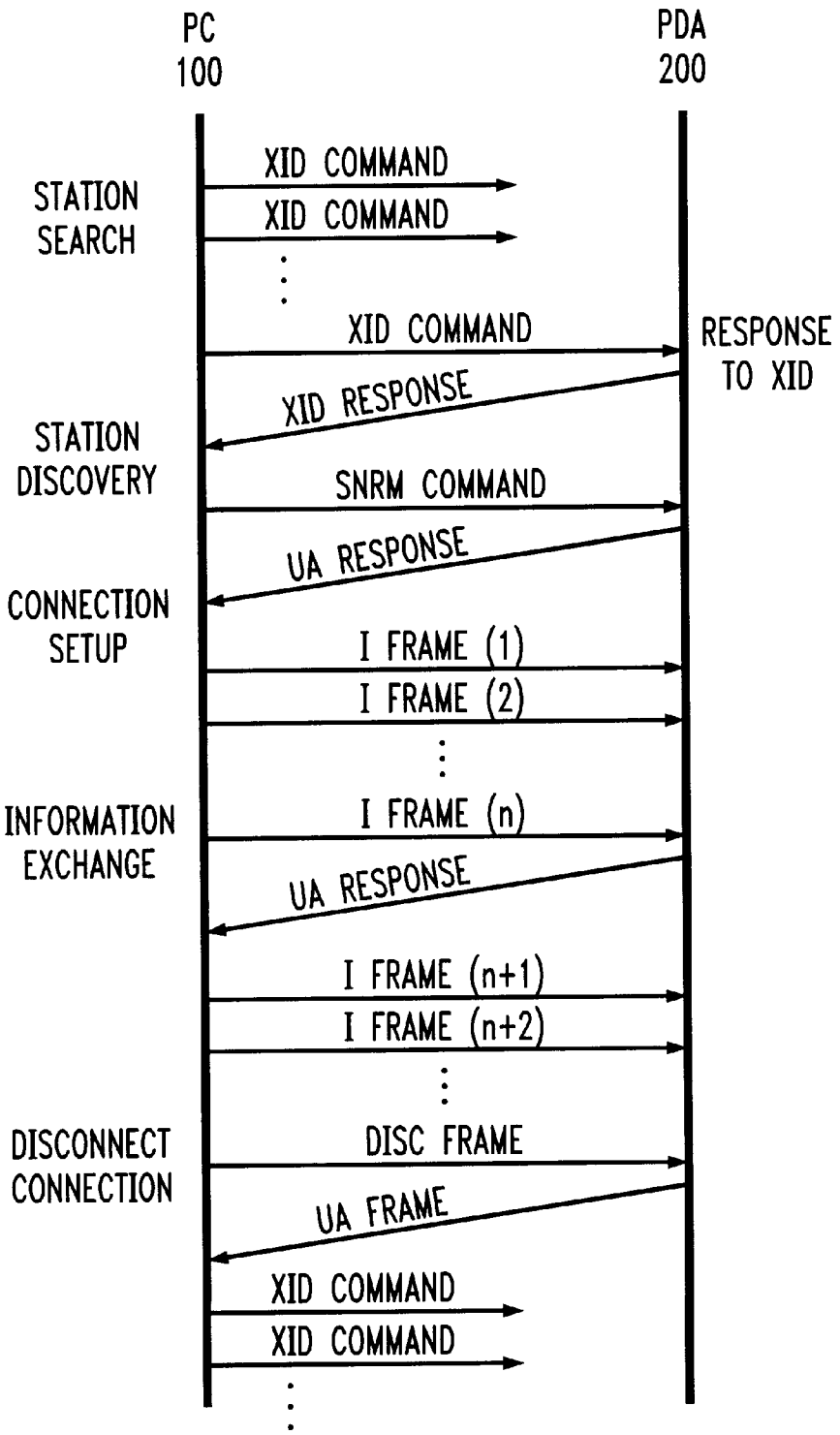
FIG. 5



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