



(12) **United States Patent**
Hulst et al.

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(54) **DATA STORAGE AND ACCESS SYSTEMS**

5,457,746 A 10/1995 Dolphin
5,588,146 A 12/1996 Leroux
5,677,953 A 10/1997 Dolphin
5,703,951 A 12/1997 Dolphin
5,754,654 A * 5/1998 Hiroya et al. 705/76
5,794,202 A 8/1998 Kim

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FOREIGN PATENT DOCUMENTS

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Related U.S. Application Data

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and Crew LLP

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(57) **ABSTRACT**

(30) **Foreign Application Priority Data**

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Data storage and access systems are described for down-
loading and paying for data such as audio and video data,
text, software, games and other types of data. A portable data
carrier has an interface for sending and receiving data,
non-volatile data memory for storing received content data
and non-volatile payment validation memory for providing
payment validation data to an external device. The carrier
may also store a record of access made to the stored content,
and content use rules for controlling access to the stored
content. Preferred embodiments store further access control
data and supplementary data such as hot links to web sites
and/or advertising data. A complementary data access ter-
minal, data supply computer system and data access device
are also described. The combination of payment data and
stored content data and, in preferred embodiments, use rule
data, helps reduce the risk of unauthorized access to data
such as compressed music and video data, especially over
the Internet.

(51) **Int. Cl.**
G06K 5/00 (2006.01)

(52) **U.S. Cl.** **230/380; 235/382; 235/492;**
235/451

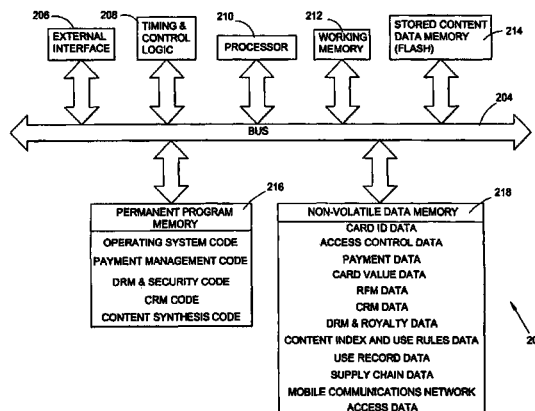
(58) **Field of Classification Search** **235/380,**
235/382, 492, 451; 711/100, 101, 103
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,226,145 A 7/1993 Moronaga et al.
5,367,150 A 11/1994 Kitta et al.
5,406,619 A * 4/1995 Akhteruzzaman
et al. 379/93.02

18 Claims, 17 Drawing Sheets



US 7,334,720 B2

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U.S. PATENT DOCUMENTS

5,809,241 A 9/1998 Hanel et al.
5,847,372 A 12/1998 Kreft
5,889,860 A 3/1999 Eller et al.
5,901,330 A 5/1999 Sun et al.
5,918,213 A 6/1999 Bernard et al.
5,923,884 A 7/1999 Peyret et al.
6,012,634 A 1/2000 Brogan et al.
6,078,917 A 6/2000 Paulsen et al.
6,119,945 A 9/2000 Muller et al.
6,202,056 B1 3/2001 Nuttall
6,385,731 B2 5/2002 Ananda
6,424,975 B1 7/2002 Walter et al.
6,442,570 B1 8/2002 Wu
6,473,829 B1 10/2002 Dahman et al.
6,510,236 B1 1/2003 Crane et al.
6,553,413 B1 4/2003 Leighton et al.
6,574,643 B2 6/2003 Walter et al.
6,999,936 B2* 2/2006 Sehr 705/5

7,044,362 B2* 5/2006 Yu 235/375
7,083,081 B2* 8/2006 McGee et al. 235/375

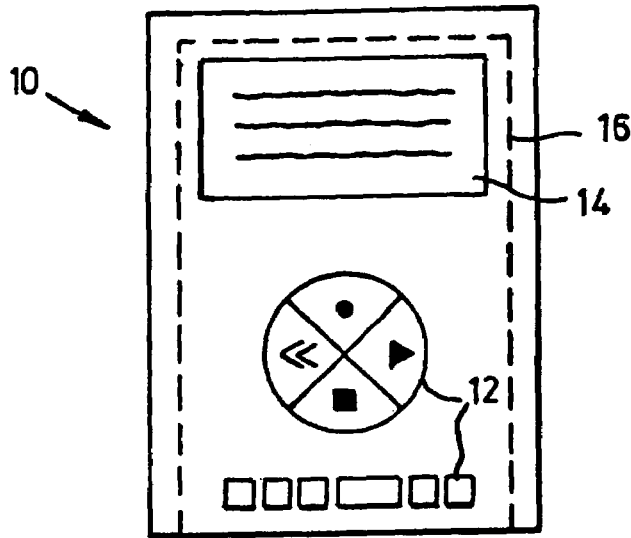
FOREIGN PATENT DOCUMENTS

EP 0713198 5/1996
EP 0823694 2/1998
EP 0823694 A1 2/1998
EP 0542298 4/1998
EP 0713198 A2 5/1998
EP 0843449 5/1998
EP 0843449 A2 5/1998
EP 0914001 5/1999
EP 0914001 A1 5/1999
WO 98/19237 5/1998
WO 98/19237 A1 5/1998
WO 98/33343 7/1998
WO 98/37526 8/1998

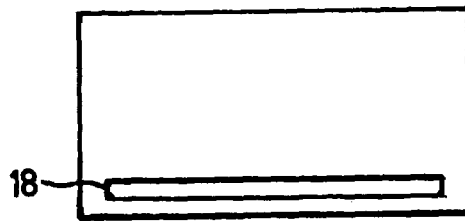
* cited by examiner

Fig. 1

A



B



C

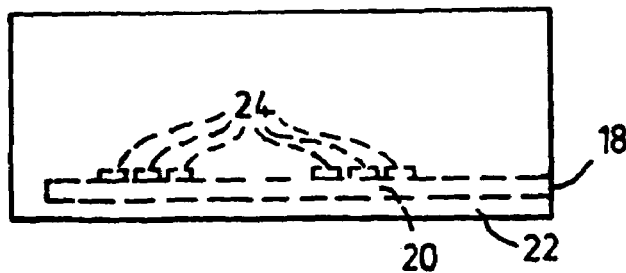


Fig. 2

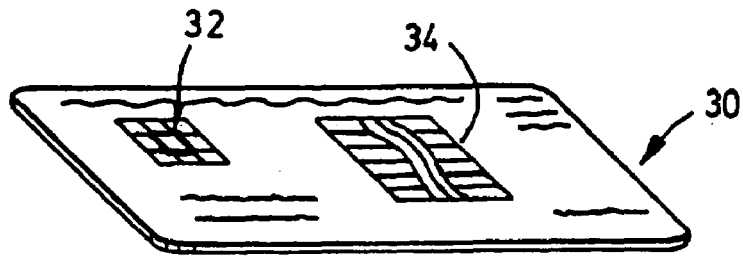


Fig. 3

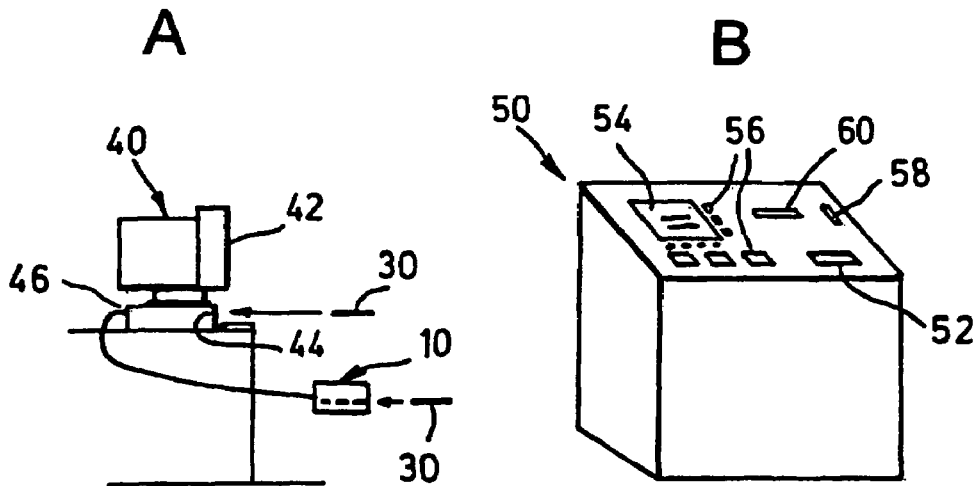
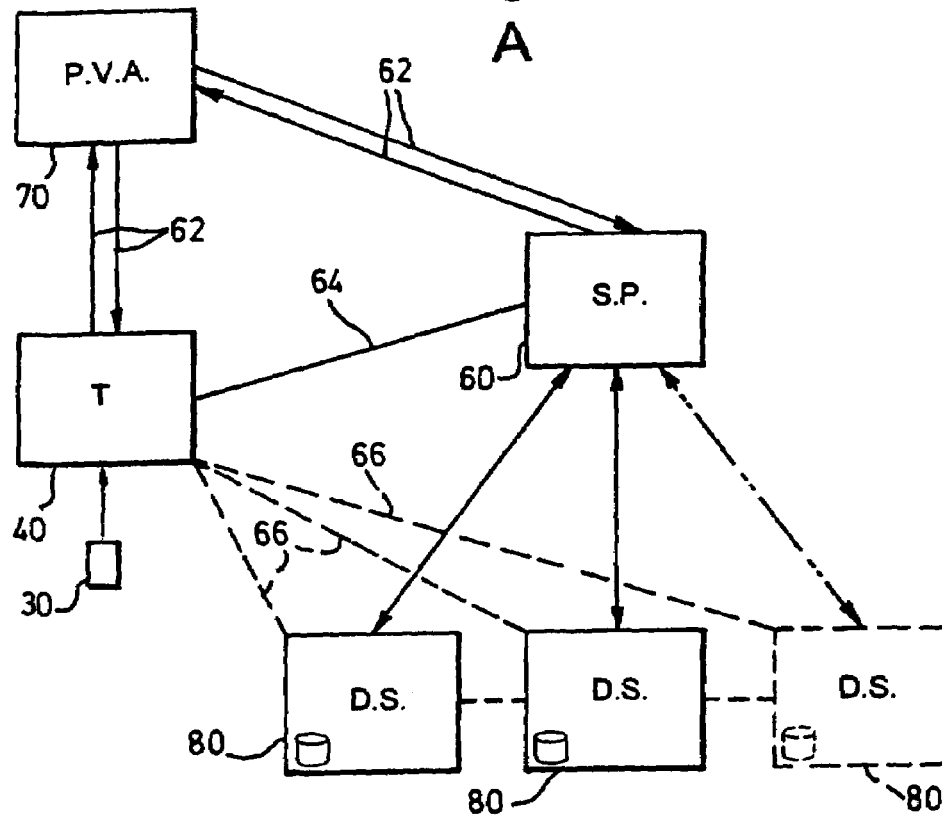
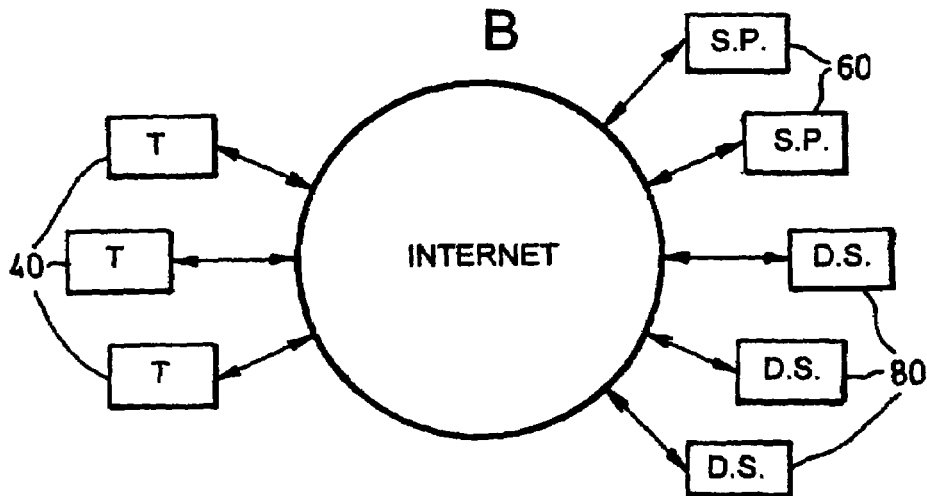


Fig. 4
A



B



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