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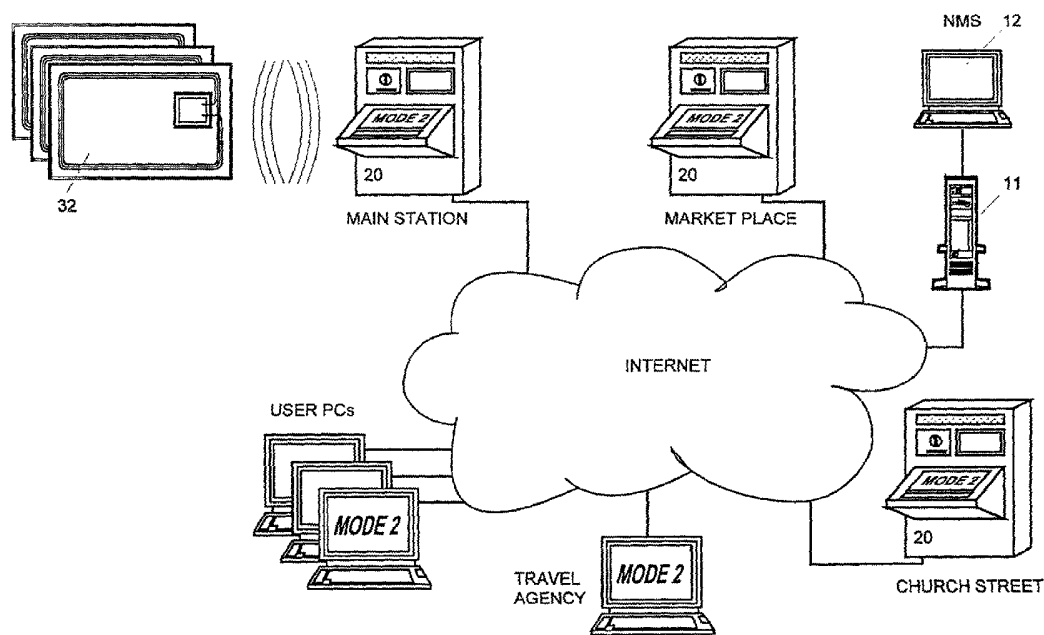
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(54) Title: METHOD FOR PERFORMING TRANSACTIONS ON AN APPARATUS, APPARATUS WITH MAN-MACHINE INTERFACE AND DATA CARRIER



(57) Abstract: The inventive method allows to perform transactions on a publicly used apparatus (20) that comprises a man-machine interface capable of reading data from a data carrier (31, 32) belonging to a user of said apparatus (20). According to the present invention user specific data are transferred from the data carrier to the control unit (9) of the apparatus (20), which, based on said user specific data, individually configures the man-machine interface before a transaction by the concerned user is performed by man-machine interaction.



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**METHOD FOR PERFORMING TRANSACTIONS ON AN APPARATUS, APPARATUS
WITH MAN-MACHINE INTERFACE AND DATA CARRIER**

The present invention relates generally to a method for performing transactions on an apparatus, an apparatus with a
5 man-machine interface and a data carrier.

The present invention relates in particular to a method for operating a publicly used apparatus, e.g. a fare or fee collection apparatus, that may be operated by means of a graphical communication device such as a flat panel display
10 enhanced with touch screen functionality.

More particularly the present invention relates to an apparatus, e.g. a fare or fee collection apparatus, that may be operated by users, which in view of their abilities and skills strongly deviate from the average user.

15 BACKGROUND OF THE INVENTION

Fare collection apparatuses are an important element of public transportation networks allowing users to select and purchase services without support of employees of the transportation organisation.

20 In railway or bus stations, passengers normally appear in bursts, e.g. before a train or bus leaves, so that it is important, that time spent for transactions performed on fare collection apparatuses is kept as low as possible for each passenger.

25 An important part of the whole transaction leading to the emission of a travel ticket is the concrete collection of the fare. For this part of the transaction various solutions have been provided. The user may either pay in cash or by credit

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card such as a magnetic stripe card, a chip- or IC-card as described in [1], U.S. Patent 6,142,381.

With publicly used fare collection apparatuses, a major part of the transaction time is however used for the man-machine
5 interaction.

Fare collection apparatuses are therefore designed to allow users with average skills and knowledge to conveniently perform transactions in a minimum of time. For non-average users the fare collection system may provide additional support. E.g.,
10 the menu provided on the screen of a display unit may allow a user for example to select a desired language. However additional information on the screen may then be confusing for other user so that the resulting solution, i.e. the implemented man-machine interface, will be a compromise that does not allow
15 to reduce the over all transaction time to a minimum. Additional menu steps for example may unnecessarily prolong the transaction time for users which do not require the offered options.

For handicapped users, e.g. users with impaired vision, fare
20 collection apparatuses may even be impossible to handle, so that the use of these systems is avoided or support from personnel of the transportation organisation is required whenever a transaction shall be executed.

It would therefore be desirable to provide method for
25 performing transactions on an apparatus and an apparatus that allow users, in particular users with abilities, skills or knowledge deviating from those of the average user, to perform transactions on said apparatus in a minimum of time.

SUMMARY OF THE INVENTION

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The above and other objects of the present invention are achieved by a method, an apparatus and a data carrier according to claim 1, claim 7, and claim 12 respectively.

The inventive method allows to perform transactions on a publicly used apparatus that comprises a man-machine interface capable of reading data from a data carrier belonging to a user of said apparatus. According to the present invention user specific data are transferred from the data carrier to the control unit of the apparatus, which, based on said user specific data, individually configures the man-machine interface before a transaction by the concerned user is performed by man-machine interaction.

The user specific data may be stored in or on a bar-code card, a magnetic stripe card, a contact or contactless IC-card or a passive or active transponder, operating by means of radio frequencies or induction, such as a SAW (surface acoustic wave)-device.

The apparatus will therefore, after insertion of the data carrier or after contactless transfer of the user specific data, automatically be configured according to the configuration data stored on said data carrier or in a centralised database.

The input output devices and/or the media provided for the man-machine interaction are therefore adapted to the individual requirements of the users.

According to the read or downloaded set of configuration data the control unit adapts the language applied on the man-machine interface, the menus and input fields displayed on the screen of the display unit, the layout, in particular colours character fonts and/or field sizes, displayed on the screen, the sound, spoken instructions and information or control

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signals, in particular loudness of the sound, soft key functions and/or print outs such as travel tickets.

The user will therefore always find the apparatus in a known personal configuration, preferably only with the objects and
5 media required for his usual transactions. Hence, every user, handicapped users, tourists, children and users with average skills and knowledge can perform transactions on said apparatus in a minimum of time.

The inventive solution is especially helpful for users with
10 physical or mental abilities deviating from those of the average user.

E.g., users with impaired vision will be familiar with their individually configured layout on the screen of the display unit and with the loudness of spoken information. Input and
15 display fields on the screen will be adapted according to their individual requirements. Colours which lead to a poor intelligibility of the screen content and layout may be avoided as well as input fields that can not be handled. Hence, for handicapped users the advantages of the inventive solution are
20 threefold. The user is familiar with the required details of the man-machine interface, in particular the graphical layout. Only those objects are displayed which are required by the user so that confusions regarding superfluous options are avoided. Hence more space is available to increase the size of the
25 fields which are actually required for the transaction.

If the display unit is enhanced with touch screen functionality, the user can make his selections on the screen. If the man-machine interface comprises keys of a keyboard with changing functions, the related information can be displayed on
30 the screen with a pre-selected layout.

The inventive solution may also help tourists, speaking another language, or children to perform transactions on the apparatus

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in a minimum of time. The language applied on the man-machine interface will be selected as required.

To facilitate handling of the apparatus, the configuration data may contain only a limited number of destination codes. Instead
5 of hundreds of destinations available, the man-machine interface may only display a reduced set on the screen from which the user will select. Travel class and validity, one way
ore return, may already be pre-configured. Input settings for the transactions may therefore be pre-configured so that only
10 deviations from a standard must be entered.

The user specific data stored on the data carrier may contain a complete set of configuration data or only a code unambiguously identifying the user so that the related set of configuration data can be downloaded from a centralised storage device. In
15 case that a user frequently uses an inventive apparatus his personal configuration data may be stored locally in the apparatus.

The user specific data are stored in or on the data carrier and/or in the centralised storage device during a session, when
20 the optimal configuration parameters for the user are selected by means of

- a) an inventive apparatus
- b) a centralised system of the system administration or
- c) an institution's or the user's personal computer device,
25 which can be connected preferably via Internet to the centralised system, from which at least parts of the man-machine interface can be downloaded for evaluation purposes.

The man-machine interface of the inventive apparatus comprises
30 a reader module that is capable of reading data from a data carrier, a display unit, preferably a flat panel display

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enhanced with touch screen functionality, a sound module with a loudspeaker used for acoustically issuing signals and information and/or a printer device.

5 A data carrier used to store individual configuration data may be a bar-code card, a magnetic stripe card, a contact or contactless IC-card and/or an active or passive transponder operating by means of induction or radio frequencies such as a module operating with surface acoustic waves.

10 Said data carrier may also be used as a credit card, a personal identification card or even as a travel ticket. In a preferred embodiment of the invention the apparatus may be capable to write data onto the data carrier either to change the set of configuration data or to store ticket related data.

15 In case that no data carrier is used the apparatus and the man-machine interface may operate in a standard configuration.

BRIEF DESCRIPTION OF THE DRAWINGS

20 Some of the objects and advantages of the present invention have been stated, others will appear when the following description is considered together with the accompanying drawings, in which:

Figure 1 shows an apparatus for automated fare collection equipped with an inventive man-machine interface comprising a module designed to read user specific data from a data carrier and a display unit enhanced with touch screen functionality;

Figure 2 shows a data carrier designed as a bar-code card and a magnetic stripe card;

30 Figure 3 shows a data carrier designed as a contactless IC card or transponder operating by means of induction or radio frequencies;

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Figure 4 shows a schematic of the modules of the apparatus of figure 1;

5 Figure 5 shows a network with a centralised network management system, decentralised apparatuses and personal computers;

Figure 6 shows the screen of the display unit with the input of characters for the selection of a destination;

10 Figure 7 shows the input of a code for the selection of a destination; and

Figure 8 shows the screen of the display unit with a scroll field for the selection of a destination and with a key of a further input device used for accepting a selection performed.

15

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Figure 1 shows an apparatus 20 equipped with an inventive man-machine interface that comprises a display unit 1 enhanced with touch screen functionality and a sound module 2 with a loudspeaker.

25 The display unit 1 is for example a touch sensitive LCD flat panel display as described in [2], U.S. Patent No. 5,777,596, which allows a user to provide input into a computer device by simply touching an LCD display screen with a passive device, such as a finger, stylus, or a ball point pen.

The apparatus 20 further comprises, as shown in figure 4, a memory module 9 connected to a control unit 10 that is designed

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to configure and control the man-machine-interface, that is used to perform transactions available on the apparatus 20.

Since the apparatus 20, in this preferred embodiment, is used for automated fare collection, it further comprises a printer unit 3 capable of printing travel tickets, a cash collection
5 unit 4 and card reader 5 which is used to read user specific data from an inserted data carrier, i.e., a bar-code card, a magnetic stripe card, a contact or contactless IC-card and/or an active or passive transponder operating by means of
10 induction or radio frequencies such as a module operating with surface acoustic waves. The apparatus 20 of figure 1, which in this embodiment is fully equipped, further comprises an input device 6 such as a keyboard, a radio frequency unit 7 designed to exchange data with radio frequency transponders carried by
15 the users, and an interface module 8 which connects the apparatus 20 to a centralised management system 11, 12 (see figure 5).

Figure 2 shows a data carrier 31 in the form of a credit card or personal identity card comprising a bar-code 33 and (for
20 illustration purposes) a magnetic stripe 34.

A reader device for bar-coded cards is described in [3], International Publication WO 02/13130 A1. A reader device for magnet stripe cards is described in [4], U.S. Patent 5,061,842.

Figure 3 shows a contactless IC card 32 with an integrated
25 circuit 35 and an antenna 36, i.e. an inductive transponder, from which the card reader 5 or the radio frequency unit 7 can read data.

In a preferred embodiment the card reader 5 or the radio frequency unit 7 may also be designed to write data onto the
30 data carriers 31, 32.

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Transponder technologies are known from [5], International Publication WO 00/30028, [6], U.S. Patent 6,025,784 and [7], U.S. Patent Application Publication US 2002/0002534 A1.

5 The transponder described in [5], which allows the identification of card holders, comprises an integrated circuit (IC) connected to an antenna. This transponder may be integrated in a special housing or on a contactless IC card as described in [1] and shown in figure 3.

10 As described in [6], transponders are also used for remote identification of vehicles, allowing to automatically assess charges against the owners of passing vehicles, and then bill the owners digitally. This enables persons to pay tolls without having to slow down at the toll booths to interact with an apparatus and to deposit currency. An automated transaction
15 management system allowing the managing and processing of these transactions between multiple users and collection systems without man-machine interaction is described in [7].

If no data carrier is used, then the apparatus 20 with its man-machine interface may operate in a standard configuration, e.g.
20 in a first mode.

When a user approaches an inventive apparatus 20 with a transponder 32 or inserts its data carrier 31 into the card reader 5, then user specific data are transferred from the radio frequency unit 7 or from the card reader 5 to the control
25 unit 10. The user data may contain a set of configuration data or only a code that unambiguously identifies the card holder. Based on that identification code the control unit 10 will read or download a corresponding set of configuration data from a local or centralised storage device 9, 11 (see figure 5).

30 Figure 5 shows inventive apparatuses 20 connected over the Internet to a network management system (NMS) comprising a server 11 and a terminal 12. Program updates, e.g. changes of

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destinations, travel fares and travel information, may therefore be transferred from the server 11 to the apparatuses 20 over the connecting network. The server 11 may also be used as the centralised storage device from which the apparatuses 20
5 can download user related configuration data.

Based on the received configuration data the control unit 10 individually configures the man-machine interface before a transaction by the card holder is performed by means of man-machine interaction. The input output devices 1, 2, 3 and the
10 media provided for the man-machine interaction are therefore configured and adapted according to the individual requirements of the users.

As shown in figures 6 to 8 the control unit 10 may adapt the language applied on the man-machine interface, the menus and
15 input fields 1-11A, ..., 1-31A displayed on the screen 1-1, 1-2, 1-3 of the display unit 1, the layout, in particular colours character fonts and/or field sizes, displayed on the screen 1-1, 1-2, 1-3, the sound, spoken instructions and information or control signals, in particular loudness of the sound, soft key
20 functions and/or print outs such as travel tickets according to the configuration data.

The configuration of an apparatus 20 may be done in various ways. Figures 6 to 8 show different examples of the layout of the screen 1-1, 1-2, 1-3 of the display unit 1 which is
25 enhanced with touch screen functionality.

On the screen layout of figure 6 the user has configured the man-machine interface to accept character entries. The layout is partitioned in two section 1-11 and 1-12. In the first section 1-11 the user may select one of the categories CLASS,
30 ROUTE and DESTINATION. In the second section 1-12 is a keyboard with character fields provided, that allows the entry of characters to select a destination.

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The layout on the screen 1-2 shown in figure 7 comprises a numerical keyboard that allows the entry of a code for the desired destination.

5 The layout on the screen 1-3 shown in figure 8 comprises a scroll field 1-3A which allows to scroll through the available destinations.

The user may therefore chose one of the available layouts. Further the user may configure the language applied on the man-machine interface, the menus and input fields, the layout, in
10 particular colours character fonts and/or field sizes, displayed on the screen, the sound, spoken instructions and information or control signals, in particular loudness of the sound, soft key functions and/or print outs such as travel tickets according to his or her requirements.

15 A suitable configuration may be found and stored on the data carrier 31, 32 or the server 11 in different ways. A user may find a suitable configuration directly on an apparatus 20. In a preferred embodiment of the invention trial versions of the screen layouts may be downloaded from the server 11 over the
20 connecting network, e.g. the Internet to the personal computer of the user. The user may therefore conveniently select a configuration at home and send the obtained configuration data to the server 11 of the network management system. Network administration may then store the configuration data on a data
25 carrier 31, 32.

Data carriers 31, 32 may also be programmed by a travel agency that makes travel arrangements for foreign tourists. Upon arrival, the tourists may receive bar-coded cards 31 or transponders 32 containing the required configuration data.

30 The users will therefore always find the apparatus 20 in a known personal configuration, preferably only with the objects and media required for his transactions.

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The inventive solution is especially helpful for users with impaired vision. Input and display fields 1-11A, ..., 1-31A on the screen 1-1, 1-2, 1-3 will be adapted according to their individual requirements. Colours which lead to a poor
5 intelligibility of the screen content and layout may be avoided as well as input fields that can not be handled. For handicapped users the advantages of the inventive solution are threefold. The user is familiar with the details of the man-machine interface, in particular the graphical layout. Only
10 those objects are displayed which are required by the user so that confusions regarding superfluous options are avoided. Hence more space is available to increase the size of the fields which are actually required for the transactions.

The data carrier 31, 32 may also be used as a credit card, a
15 personal identification card or even as a travel ticket. In a preferred embodiment of the invention the apparatus 20 may be capable to write data onto the data carrier 32 either to change the set of configuration data or to store ticket related data.

20 REFERENCES :

- [1] U.S. Patent 6,142,381
- [2] U.S. Patent No. 5,777,596
- [3] International Publication WO 02/13130 A1
- [4] U.S. Patent 5,061,842
- 25 [5] International Publication WO 00/30028
- [6] U.S. Patent 6,025,784
- [7] U.S. Patent Application Publication US 2002/0002534 A1

CLAIMS

1. Method for performing transactions on a publicly used apparatus, such as a fare collection apparatus, that comprises a man-machine interface capable of reading data from a data carrier belonging to a user of said apparatus,
5 **characterised** in that user specific data are transferred from the data carrier to the control unit of the apparatus, which, based on said user specific data, individually configures the man-machine interface before a transaction
10 by the concerned user is performed by man-machine interaction.
2. Method according to claim 1, wherein the user specific data comprise a set of configuration data which are used for the configuration of the man-machine interface or wherein the
15 user specific data comprise a code identifying the user based on which code a corresponding set of configuration data is read from a local or downloaded from a centralised storage device.
3. Method according to claim 2, wherein downloaded
20 configuration data is transferred to the local storage device and stored there as long as the concerned user uses the apparatus at a predetermined rate.
4. Method according to claim 1, 2 or 3, wherein the user specific data are stored in or on the data carrier; a bar-
25 code card, a magnetic stripe card, a contact or contactless IC-card or a transponder operating by means of radio frequencies or induction; and/or in the centralised storage device during a session, when the optimal configuration parameters for the user are selected, by means of
30 a) an apparatus (20)

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- b) a centralised system of the system administration or
- c) a personal computer device of the user, which can be connected preferably via Internet to the centralised system, from which at least parts of the man-machine interface can be downloaded.
- 5
5. Method according to claim 1, 2, 3 or 4, wherein the input output devices and/or the media provided for the man-machine interaction are adapted according to the set of configuration data read from the data carrier or the centralised storage device.
- 10
6. Method according to claim 5, wherein
- a) the language,
- b) the menus and input fields,
- c) the layout, in particular colours and/or character font and field size, of the screen on the display unit which may be enhanced with touch screen functionality,
- 15
- d) sound, in particular loudness of the sound,
- e) soft key functions and/or
- f) print outs such as travel tickets
- 20
- g) input settings
- are adapted based on the set of configuration data.
7. Apparatus (20) for performing transactions according to one of the claims 1 to 6, comprising a man-machine interface with at least one reader module (5; 7) capable of reading data from a data carrier belonging to a user of said apparatus, and transferring said data to a control unit (10), **characterised** in that the control unit (10) is
- 25

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designed to perform, based on read user specific data, the individual configuration of the man-machine interface before a transaction by the concerned user is performed by man-machine interaction.

- 5 8. Apparatus (20) according to claim 7, wherein the control unit (10) is linked to a centralised storage device from which user specific configuration data can be downloaded and stored in a local memory unit (9) preferably as long as the concerned user uses the apparatus (20) at a
10 predetermined rate.
9. Apparatus (20) according to claim 7 or 8, wherein the man-machine interface comprises a display unit (1), preferably a flat panel display enhanced with touch screen functionality, a sound module with a loudspeaker (2) used
15 for acoustically issuing signals and information, and/or a printer device (3).
10. Apparatus (20) according to claim 7, 8 or 9, wherein the control unit (10) is designed to adapt
- a) the language,
 - 20 b) the menus and input fields displayed on the screen of the display unit (1),
 - c) the layout, in particular colours and/or character font and field size, of the screen of the display unit (1),
 - d) the sound, in particular loudness of the sound, emitted
25 by the loudspeaker module (2),
 - e) soft key functions and/or
 - f) print outs such as travel tickets
 - g) input settings

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according to received configuration data.

11. Apparatus (20) according to claim 7, 8, 9 or 10, wherein
the reader module (5; 7) is capable of reading data from a
data carrier such as a bar-code card, a magnetic stripe
5 card, a contact or contactless IC-card and/or a transponder
operating by means of radio frequencies or induction.
12. Data carrier (30) designed to store individual
configuration data according to a method of one of the
claims 1 to 6 and to transfer said data to an apparatus
10 according to one of the claims 7, to 11, wherein said data
carrier is a bar-code card, a magnetic stripe card, a
contact or contactless IC-card and/or an active or passive
transponder operating by means of induction or radio
frequencies such as a module operating with surface
15 acoustic waves.

FIGURE 1

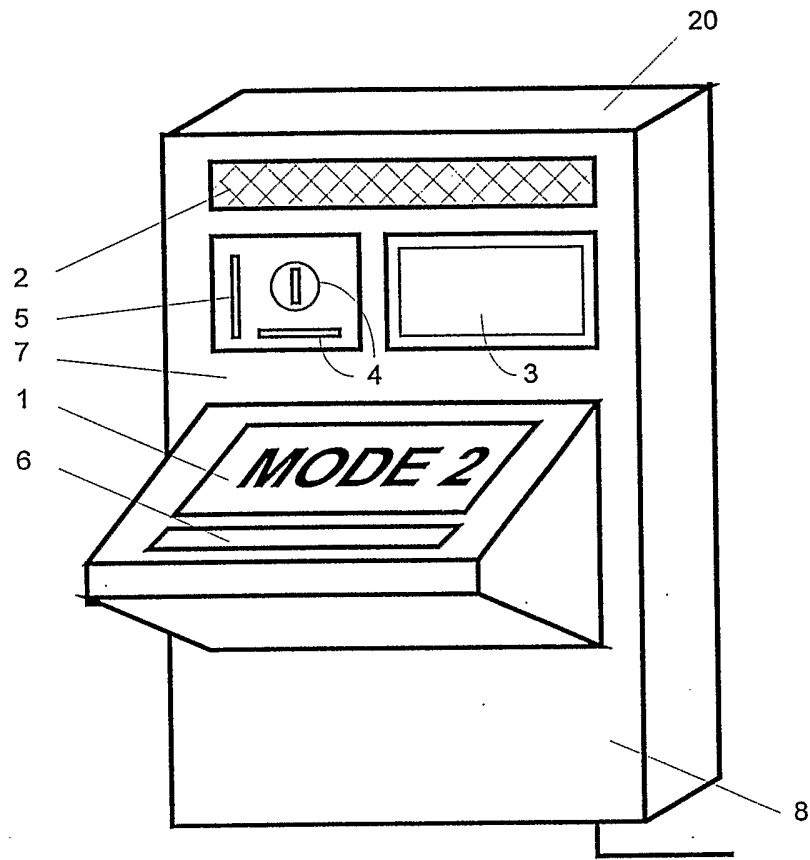


FIGURE 2

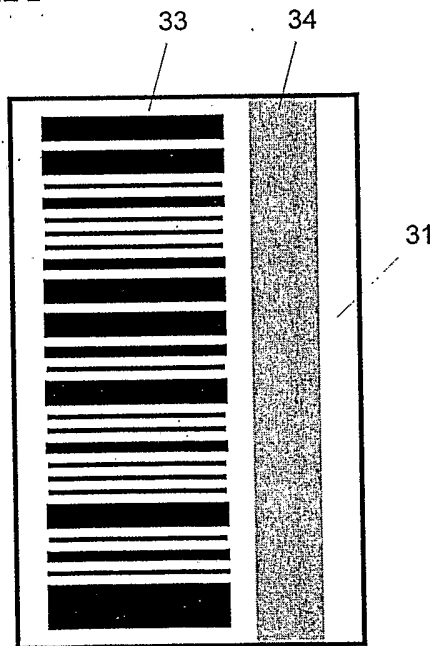


FIGURE 3

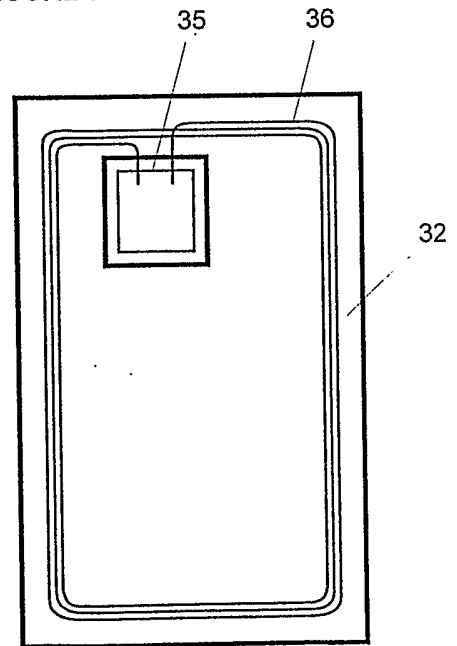
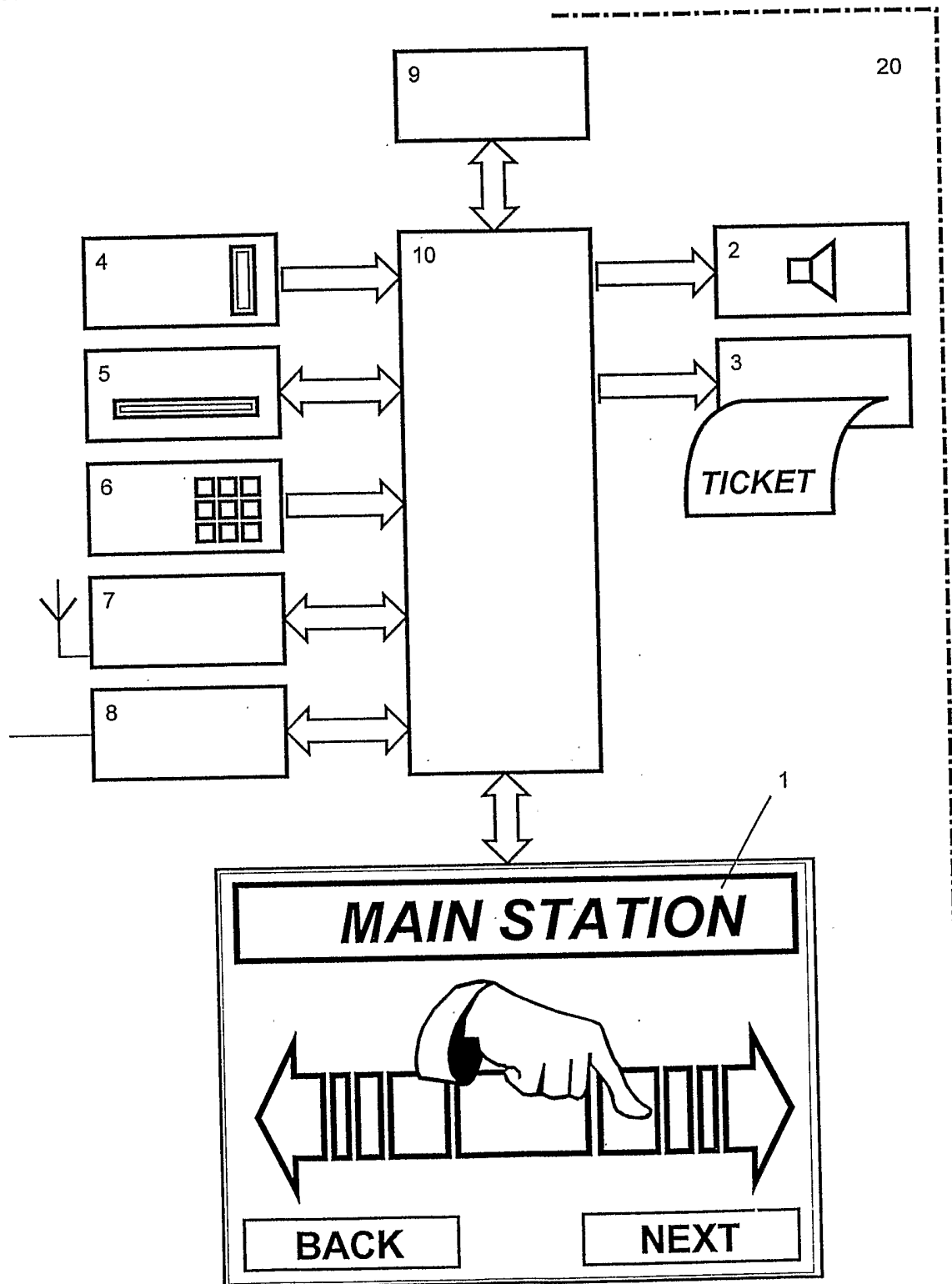


FIGURE 4



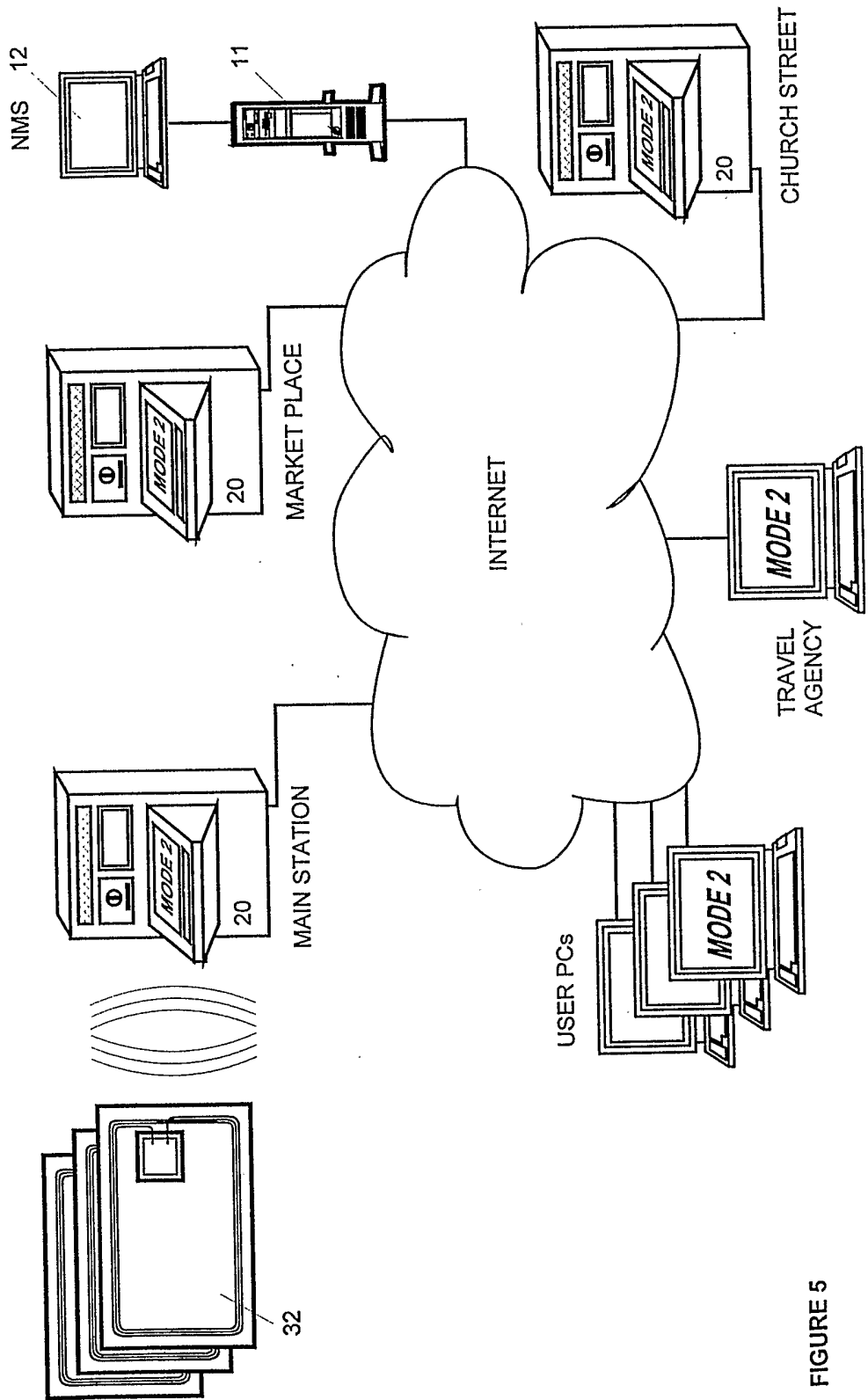


FIGURE 5

FIGURE 6

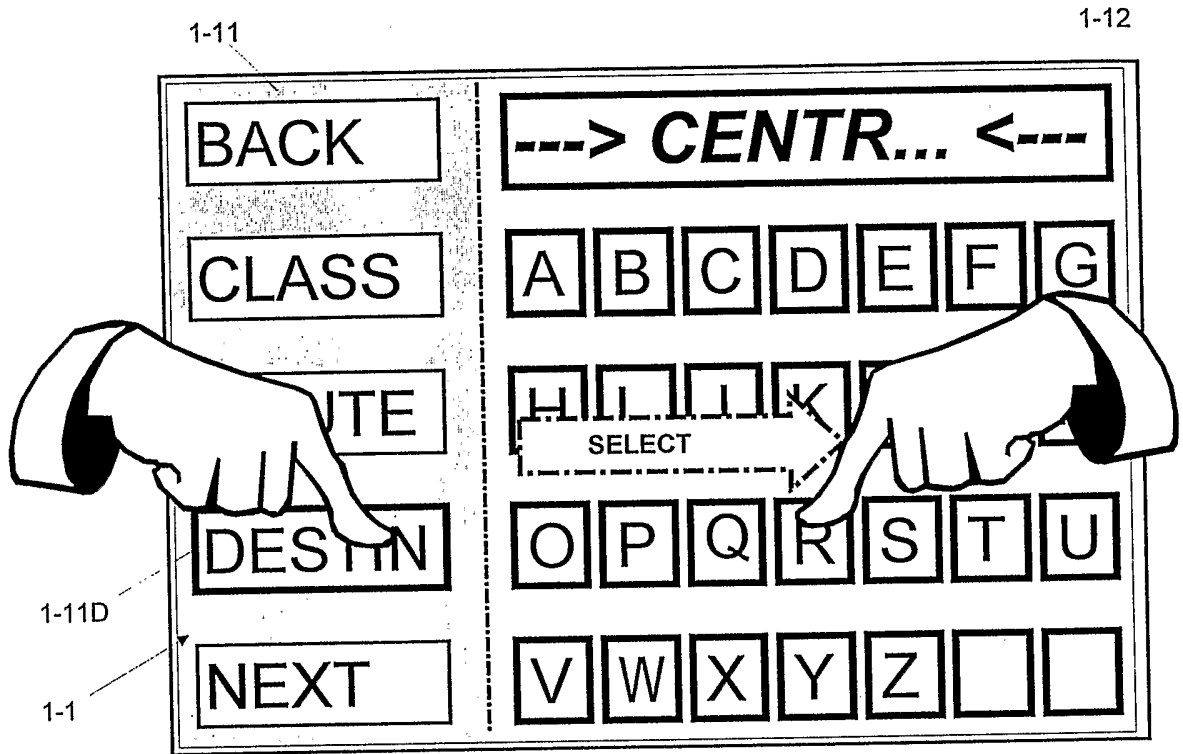


FIGURE 7

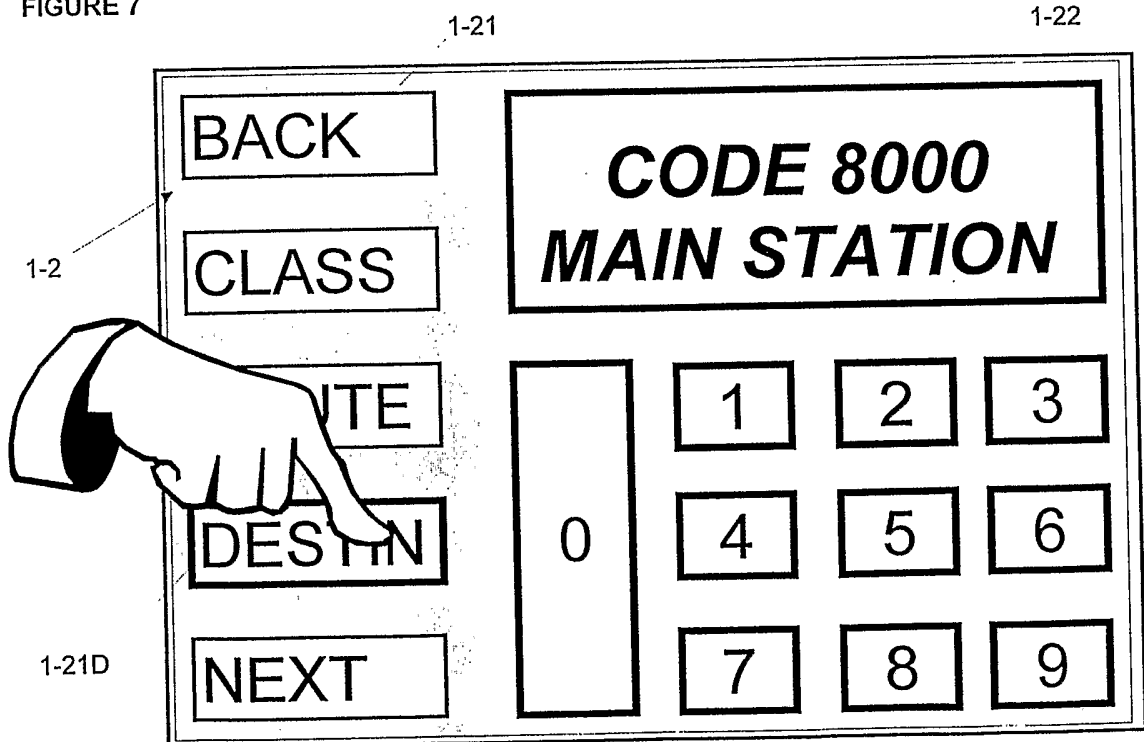
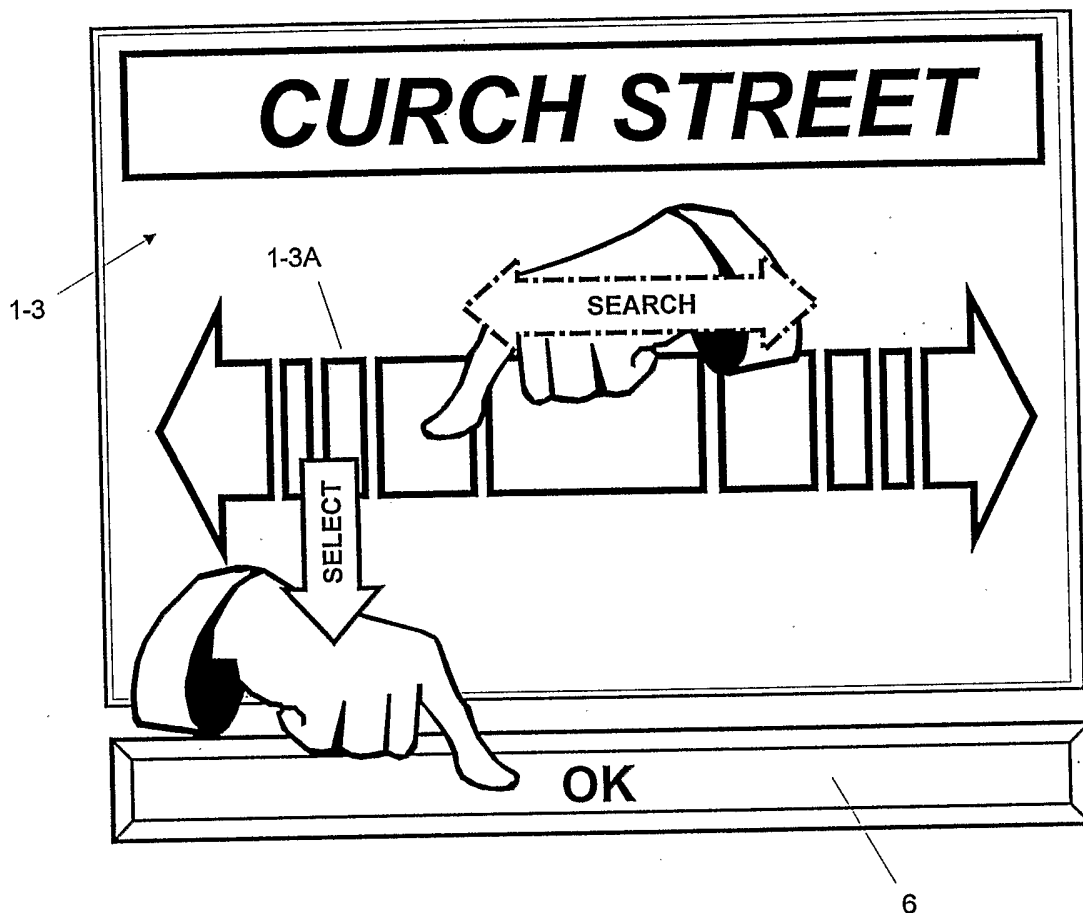


FIGURE 8



INTERNATIONAL SEARCH REPORT

International Application No
PCT/CH 02/00264

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G07B15/00 G06F9/44 G07F19/00

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)
IPC 7 G07B G07F G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01 03080 A (MCNAUGHTON ALAN G ;SINTON E JOHN R (CA)) 11 January 2001 (2001-01-11) abstract page 7, line 3 -page 8, line 21 page 10, line 21 -page 11, line 16 page 14, line 1 -page 19, line 32 page 21, line 3 -page 25, line 7 page 27, line 7 -page 31, line 5 page 33, line 12 -page 37, line 14 page 49, line 1 -page 54, line 22 page 57, line 26 - line 34 figures 1-8 --- -/--	1-12

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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Date of the actual completion of the international search

12 August 2002

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INTERNATIONAL SEARCH REPORT

 ii
 International Application No
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Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 546 523 A (GATTO JAMES G) 13 August 1996 (1996-08-13) abstract column 1, line 65 -column 2, line 67 column 3, line 12 -column 4, line 61 column 5, line 50 -column 6, line 40 column 7, line 46 -column 9, line 45 figures 1,2 ----	1-12
X	EP 0 717 381 A (MASTERCARD INTERNATIONAL INC) 19 June 1996 (1996-06-19) column 1, line 7 -column 3, line 56 column 4, line 40 -column 9, line 18 figures 1-5 ----	1-7,9-12
A	WO 00 49547 A (DRUMMOND JAY PAUL ;BLACKSON DALE (US); DIEBOLD INC (US); CHURCH JA) 24 August 2000 (2000-08-24) abstract page 4, line 23 -page 12, line 28 figures 1-24 ----	1-12
A	WO 01 42904 A (MITI MFG COMPANY) 14 June 2001 (2001-06-14) abstract page 4, line 8 -page 6, line 21 figures 1,9-13 -----	1-12

INTERNATIONAL SEARCH REPORT

Information on patent family members

Patent Application No

PCT/CH 02/00264

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0103080	A	11-01-2001	AU 5668000	A 22-01-2001
			AU 5799400	A 22-01-2001
			BR 0012462	A 21-05-2002
			WO 0103080	A1 11-01-2001
			WO 0103081	A1 11-01-2001
			EP 1196900	A1 17-04-2002
			EP 1196901	A1 17-04-2002
US 5546523	A	13-08-1996	AU 708287	B2 29-07-1999
			AU 5544896	A 30-10-1996
			CA 2218233	A1 17-10-1996
			EP 0832465	A1 01-04-1998
			WO 9632687	A1 17-10-1996
			US 6149055	A 21-11-2000
EP 0717381	A	19-06-1996	US 5705798	A 06-01-1998
			AU 692584	B2 11-06-1998
			AU 3205695	A 03-07-1996
			CA 2207970	A1 20-06-1996
			EP 0717381	A1 19-06-1996
			WO 9618979	A1 20-06-1996
WO 0049547	A	24-08-2000	AU 2883000	A 04-09-2000
			BR 0008286	A 20-11-2001
			CN 1347531	T 01-05-2002
			EP 1208487	A1 29-05-2002
			WO 0049547	A1 24-08-2000
			US 2001014881	A1 16-08-2001
WO 0142904	A	14-06-2001	AU 8003500	A 18-06-2001
			WO 0142904	A1 14-06-2001