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(21) International Application Number: PCT/IB97/00337 (22) International Filing Date: 21 March 1997 (21.03.97) (30) Priority Data: 96/2473 28 March 1996 (28.03.96) ZA (71) Applicants (for all designated States except US): PRO-SAFEPARK CC [ZA/ZA]; 2 Volstruis Street, Rand-en-dal, Krugersdorp 1739 (ZA). OCTROOIBUREAU KISCH N.V. [NL/NL]; De Ruyterkade 62, Curacao (AN). (72) Inventors; and (75) Inventors/Applicants (for US only): LIGGETT, Andre, Thomas [ZA/ZA]; 2 Volstruis Street, Rand-en-dal, Krugersdorp 1739 (ZA). VAN ROOYEN, Albertus, Jacobus [ZA/ZA]; 1393 Helderberg Road, Bergbron, Northcliff 2195 (ZA). OBERHOLZER, Cornell [ZA/ZA]; Plot 37, Elizabeth Street, Loumarina, Randfontein 1760 (ZA). (74) Agent: MARLOW, Nicholas, Simon; Reddie & Grose, 16 Theobalds Road, London WC1X 8PL (GB).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
(54) Title: FINANCIAL TRANSACTION PROCESSING SYSTEM (57) Abstract <p>According to the present invention, a financial transaction processing system comprises an identification article having recorded thereon certain identifying personal information relating to or being the holder's signature and/or bodily feature(s) and serves to identify the holder. The system further comprises a processing means for processing a financial transaction. The processing means includes reading means for reading the information recorded on the identification article; collecting means for collecting identifying personal information of a type similar to that recorded on the identification article, from a person presenting the identification article for processing of a transaction; a comparing means for comparing the identifying personal information obtained from the reading means with that obtained from the collecting means; and a processing unit which in use processes the required transaction only when the identifying personal information obtained from the reading means corresponds to that obtained from the collecting means. The invention also relates to a processing means suitable for use in such a system.</p> <div> </div>		

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FINANCIAL TRANSACTION PROCESSING SYSTEM

This invention relates to financial transaction processing systems such as for example automatic teller machines and bank cards used therewith; or other financial cards such as credit cards, petrol cards or the like used in combination with processing machines for recording transactions wherein said cards are used.

Fraudulent transactions and theft wherein financial cards such as automatic teller machine (OTM) cards, credit cards, petrol cards or the like are used in, are very common. For example, if a person prepared to commit fraud gets hold of a credit card of another person (before it has been cancelled), all he has to do to use the card, is to forge the card holder's signature which usually appears on the card. Also, if a thief gets hold of another person's OTM card and learns the personal pin code of the card holder, he would be able to steal money from an account if the card has not been cancelled.

It is an object of the present invention to provide a financial transaction processing system wherein fraud and/or theft is reduced.

According to the present invention a financial transaction processing system comprises

an identification article in use issued to a specific holder; the article having recorded thereon certain identifying personal information of the holder which personal information relates to or is the holder's signature and/or bodily feature(s) and serves to identify the holder; and the article optionally having information recorded thereon which would be required to process a financial transaction; and

processing means for processing a financial transaction, the processing means including reading means for reading the information recorded on the identification article; collecting means for collecting identifying personal information of a type similar to that recorded on the identification article, from a person presenting the identification article for processing of a transaction; a comparing means for comparing the identifying personal information obtained from the reading means with that obtained from the collecting means; and a processing unit which in use processes the required transaction only when the identifying personal information obtained from the reading means corresponds to that obtained from the collecting means.

The identification article may comprise a card. The card may

comprise a card selected from the group consisting of an OTM card, a credit card and a petrol card.

The card may comprise a card which includes a microchip thereon for recording the required information on the card.

- 5 The information recorded on the identification article which would be required for processing a transaction may comprise the normal information recorded on an article of that nature.

10 The identifying personal information is preferably provided in code form on the identification article. Preferably the information is provided in bar code and preferably of the PDF 417 type by Symbol Technologies Inc.

15 The identifying personal information may comprise an image of the face of the card holder. In an alternative embodiment of the invention it may comprise one or more measurements such as distances between eyes (from inside to inside, from outside to outside or combinations thereof); distance from lower lip to line between the eyes etc.

The reading means may comprise a reader for reading coded information on the identification article and it may include decoding means for decoding it. The reader may comprise a PDF 620 Card Reader supplied by Symbol Technologies Inc.

- 5 The collecting means may comprise at least one camera, preferably a camera for electronically recording images such as a video camera or a closed circuit television camera. Preferably the collecting means comprises two cameras provided in positions to record images from different angles.
- 10 The one or more cameras may be used to record an image of the holder of the identification article. Alternatively or additionally the one or more cameras may be used to record an image of a person's signature provided at the time the transaction is about to be recorded.

- The collecting means may include coding means for coding the
- 15 information collected thereby allowing the comparing means to compare the identifying personal information in coded form.

The system may also include activating means for activating the collecting means.

The comparing means may comprise a processor such as a computer with suitable software to carry out the comparison between information obtained from the identification article through the reading means and the information obtained from the collecting means.

- 5 The processing unit may include an operating means through which the processing means may be operated. The operating means may comprise a key-board.

The processing means may comprise an OTM.

- 10 Alternatively the processing means may comprise means suitable for processing credit card transactions, or petrol card transactions or similar transactions. The means may be mobile.

According to another aspect of the invention there is provided a processing means substantially as described hereinabove.

- 15 According to another aspect of the invention there is provided an identification article for use in processing financial transactions which includes thereon in coded form identifying personal information of the holder to which it is in use issued, the personal information relating to

or is the holder's signature and/or bodily features and serve to identify the holder.

According to another aspect of the invention there is provided a processing means which is used in combination with an identification
5 article to record financial transactions, the processing means comprising any suitable processing means characterized therein that it includes display means for displaying certain identifying personal information in use recorded in coded form on the identification article, which identifying personal information relates to or is the signature
10 and/or bodily feature(s) of a holder to which the identifying article is in use issued and which information serves to identify the holder.

The processing means may comprise an OTM. Alternatively it may comprise means for processing credit card transactions, or petrol card transactions or similar transactions.

15 Preferably the processing means comprises means for processing credit card transactions, or petrol card transactions or similar transactions which includes display means for displaying the card holder's signature which is in use provided in coded form on the card.

Without thereby limiting the scope of the invention and by means of example only, embodiments thereof will now be described with reference to the accompanying drawings wherein:

Figure 1 is a perspective view of one financial transaction processing system according to the invention; and
5 Figure 2 is a perspective view of an alternative financial transaction processing system according to the invention.

Referring now to Figure 1, a financial transaction processing system
10 comprises an identification article 11 and a processing means 12 for processing a financial transaction.

The identification article 11 comprises a card such as an OTM card or a credit card or any other card suitable for use in an OTM machine. The card 11 has the normal information recorded thereon to allow an OTM transaction to be processed. The card 11 also has recorded
15 thereon certain identifying personal information of the holder to which it has been issued in use, and the identifying personal information serving to identify the said holder. The identifying personal information recorded on the card 11 may be in code form, preferably in bar code form, and preferably in bar code of the PDF 417 type by

Symbol Technologies Inc.-

In one embodiment of the invention the card 11 may comprise a card which includes a microchip for recording the required information on the card.

- 5 The identifying personal information relates to bodily features and may additionally include the card holder's signature. The information relating to bodily features may comprise an image of the face of the card holder. In an alternative embodiment of the invention only certain information relating to the holder's face for example such as
- 10 measurements between the eyes, distances from lower lip to the line between the eyes etc may be recorded on the card.

- In a preferred embodiment of the invention the information encoded on the card comprises the card holder's full name, identification number, bank account number, address, an image of the card holder's
- 15 face and the card holder's signature.

Suitable equipment may also be provided for recording the required information on a card 11.

The processing means 12 comprises an OTM which includes a suitable reading means 12.1 for reading the information recorded on the card 11; and a collecting means 12.2 for collecting identifying personal information of a type similar to that recorded on the card 11 from the person presenting the article 11 for processing a transaction.

The processing means 12 also includes a comparing means [not shown] for comparing the identifying personal information obtained from the card 11 through the reading means 12.1 with that obtained from the collecting means. A processing unit 12.3 is provided as part of the processing means 12 for processing the required transaction only when the identifying personal information obtained from the reading means 12.1 is the same as that obtained from the collecting means 12.2. The other features and workings of the OTM is standard and is accordingly not described at all or not described in detail in this specification.

The reading means 12.1 comprises a reader for reading the encoded information on the card 11. The reader 12.1 may comprise a PDF 620 Card Reader Supplied by Symbol Technologies Inc.

The collecting means 12.2 comprises a camera, preferably a camera such as a video camera or a closed circuit television camera for

electronically recording images. The camera 12.2 is used to record an image of the person presenting the card 11 as the person is about to conclude the transaction. The system 10 also includes an activating means [not shown] which activates the camera 12.2 to record the required image. The activating means may be associated with the reader 12.1 to activate the camera 12.2 when the card 11 is in use inserted into the reader 12.1.

In a preferred embodiment of the invention [not shown] the collecting means 12.2 may comprise two cameras such as closed circuit television cameras. The cameras will be located in different positions to record images of the person about to conclude the transaction from different angles and thus increasing the chances that a suitable image will be recorded. Each camera may also include a servo motor [not shown] for panning and/or tilting the cameras to further ensure that suitable images are recorded.

Frame grabber and video compression software may be provided to assist in selecting and recording an image from the recording by the collecting means 12.2.

The comparing means comprises a computer [not shown] with

suitable software to carry out the comparison between the images obtained from the collecting means 12.2 and the reading means 12.1.

In use only certain aspects of the images may be compared with each other such as measurements between the eyes, distance from the

5 lower lip to the line between the eyes etc.

The processing unit 12.3 includes a key board 12.4 for operating the OTM. A screen 12.5 is also provided. The processing unit 12.3 may be of the type normally used in OTM's.

In use the OTM 12 will not allow a transaction to be processed unless
10 the identifying personal information on the card 11 corresponds to that collected from the camera 12.2. Once the said information corresponds, the OTM 12 can be operated in its normal way to process a transaction. If the information does not correspond, the system will not allow the transaction to be processed. The system
15 thus provides an additional safety feature that only the card holder (to whom the card 11 has been issued) can use the card 11 to process transactions.

The system 10 may also be adapted (preferably through its software) that should anybody be in a radius of about one meter of the person

submitting his card 11 to the OTM 12, the camera 12.2 will record images of two persons. The comparison between the images recorded by the camera 12.2 and that on the card 11 will then not be favourable thereby preventing the transaction to be processed. This
5 will make it difficult to hold up a person at gun point or knife point and force him to process a transaction through an OTM. It will also make it more difficult for a person to look over the shoulder of another person using an OTM, to see the secret pin number.

Referring now to Figure 2 there is provided an alternative system 20
10 according to the invention. In this case the identification article comprises a card 21 such as a credit card, petrol card or the like. In addition to the normal information required to be recorded on the card 21, the card 21 also includes the card holder's signature in coded form thereon. The code may comprise bar code and may be of PDF
15 417 type by Symbol Technologies Inc.

The processing means 22 is similar to a normal processing means for processing credit card, petrol card or the like transactions. In this case the processing means 22 includes a reading means 22.1 for
reading the coded information on the card including the signature. A
20 collecting means [not shown] in the form of a camera for recording

the signature of the person presenting the card 11 to record a transaction is also provided. The processing means 22 also includes a comparing means [not shown] and a processing unit with a key board 22.2.

- 5 In use the person wishing the transaction to be recorded signs the documents without having the benefit of seeing the card holder's signature since this will now be provided in coded form on the card 21. When an attendant processes the transaction he will insert the card 21 in the reader 22.1 and the transaction will only be recorded
10 if the signature on the card 21 is the same as that collected by the collecting means.

In an alternative embodiment the system 20 may be similar to the system 10 in the sense that the card 21 may also include an image of the card holder thereon and the collecting means will then also record
15 an image of the card holder. The comparison will then be carried out in a similar way as for the system 10.

It will be appreciated that many variations in detail are possible without thereby departing from the scope and spirit of the invention. For example the processing means 22 may in use not include a

comparison means and may be adapted in use to display the signature recorded on the card 21. The attendant may then compare the displayed signature with that provided by the person presenting the card 21 for processing the transaction.

CLAIMS

1. A financial transaction processing system comprising
- an identification article in use issued to a specific holder; the article having recorded thereon certain identifying personal information of the holder which personal information relates to or is the holder's signature and/or bodily feature(s) and serves to identify the holder; and the article optionally having information recorded thereon which would be required to process a financial transaction; and
- processing means for processing a financial transaction, the processing means including reading means for reading the information recorded on the identification article; collecting means for collecting identifying personal information of a type similar to that recorded on the identification article, from a person presenting the identification article for processing of a transaction; a comparing means for comparing the identifying personal information obtained from the reading means with that obtained

from the collecting means; and a processing unit
which in use processes the required transaction
only when the identifying personal information
obtained from the reading means corresponds to
5 that obtained from the collecting means.

2. The system of claim 1 wherein the identification article
comprises a card.

3. The system of claim 2 wherein the card comprises a card
selected from the group consisting of an OTM card, a
10 credit card and a petrol card.

4. The system of claim 2 wherein the card includes a
microchip thereon for recording the information on the
card.

5. The system of claim 1 wherein the identifying personal
15 information is provided in code form on the identification
article.

6. The system of claim 5 wherein the information is provided

in bar code.

7. The system of claim 1 wherein the identification article includes identifying personal information thereon in the form of an image of the face of the card holder.

- 5 8. The system of claim 5 wherein the reading means comprises a reader for reading coded information provided on the identification article.

9. The system of claim 8 wherein the reading means also includes decoding means for decoding the coded
10 information.

10. The system of claim 1 wherein the collecting means comprises at least one camera.

11. The system of claim 10 wherein the at least one camera comprises a closed circuit television camera.

- 15 12. The system of claim 10 wherein the collecting means comprises two cameras provided in positions to record

images from different angles.

13. The system of claim 5 wherein the collecting means includes coding means for coding the information collected thereby allowing the comparing means to compare the identifying personal information in coded form.

14. The system of claim 1 which includes activating means for activating the collecting means.

15. The system of claim 1 wherein the comparing means comprises a computer with suitable software to carry out the comparison between information received from the identification article through the recording means and the information received from the collecting means.

16. The system of any one of the preceding claims wherein the processing means comprises an OTM.

17. The system of any one of claims 1 to 15 wherein the processing means comprises means suitable for

processing a transaction selected from the group consisting of credit card transactions and a petrol card transactions.

18. The system of claim 17 wherein the processing means is mobile.

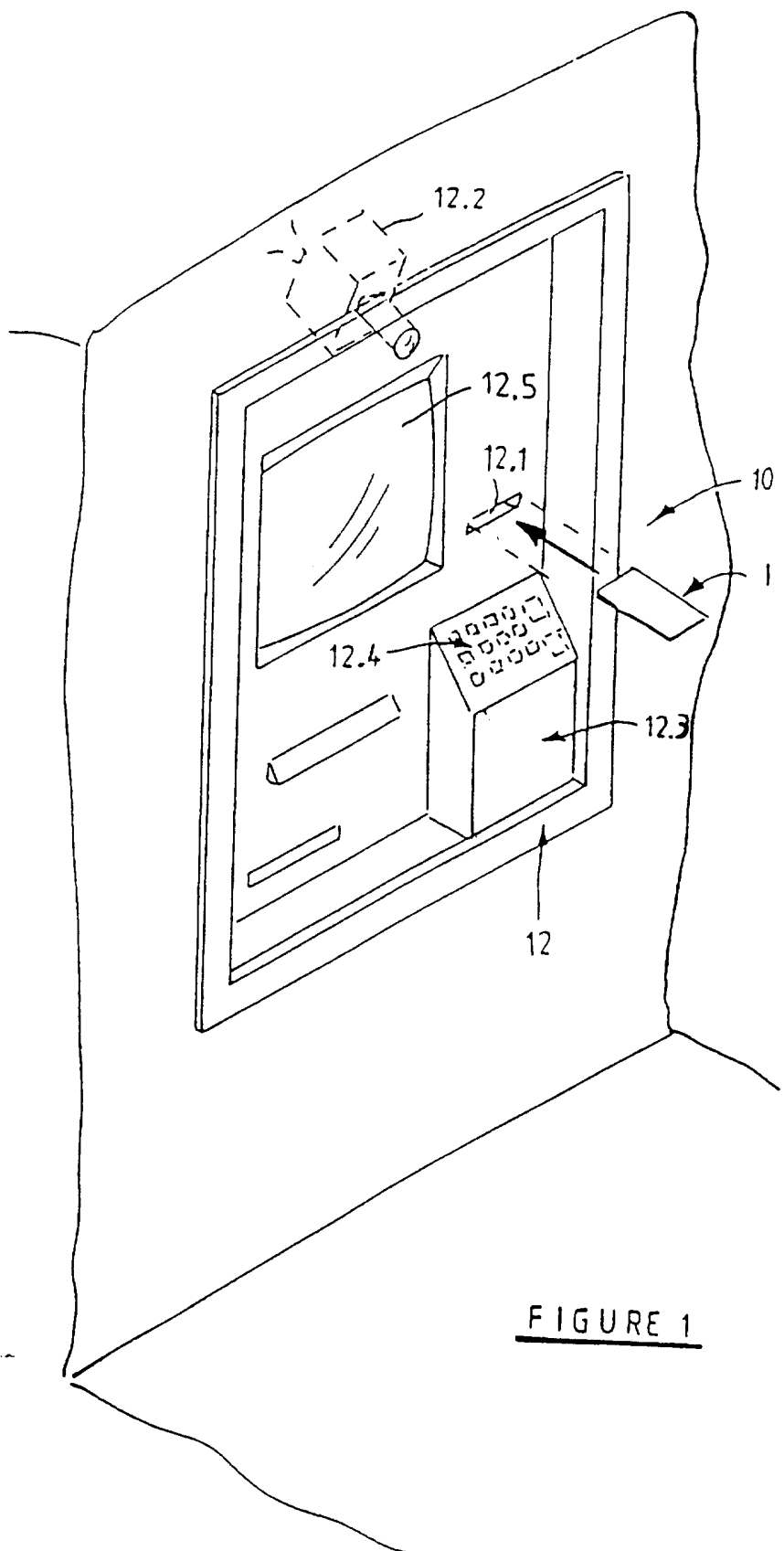
19. A processing means suitable for processing financial transactions comprising reading means for reading information recorded on an identification article which information relates to identifying personal information of the holder of the card which personal information relates to or is the holder's signature and/or bodily feature(s) and serve to identify the holder, and which information recorded on the identification article optionally also relates to information required to process a financial transaction; collecting means for collecting identifying personal information of a type similar to that recorded on the identification article, from a person presenting the identification article for processing of a transaction; a comparing means for comparing the identifying personal information from the reading means with that of the

collecting means; and a processing unit which in use processes the required transaction only when the identifying personal information from the reading means corresponds to that from the collecting means.

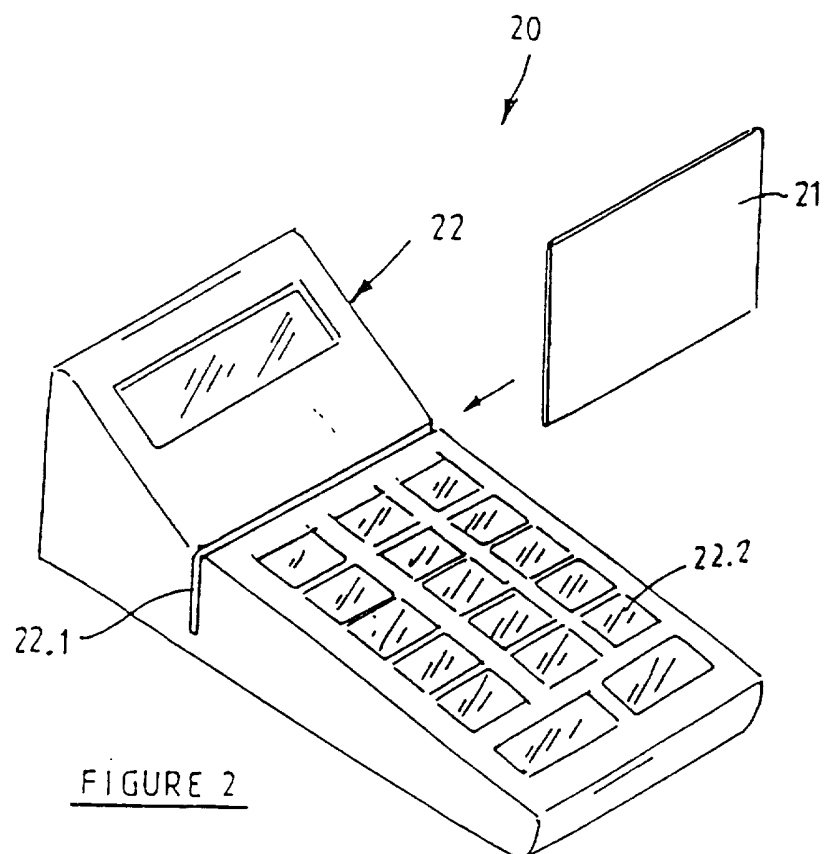
5 20. An identification article for use in processing financial transactions which includes thereon in coded form, identifying personal information of the holder to which it is in use issued, the personal information relating to or is the holder's signature and/or bodily features and serve to
10 identify the holder.

21. A processing means which is used in combination with an identification article to record financial transactions, the processing means comprising any suitable processing means characterized therein that it includes display means
15 for displaying certain identifying personal information in use recorded in coded form on the identification article, which identifying personal information relates to or is the signature and/or bodily feature(s) of a holder to which the identifying article is in use issued and which information
20 serves to identify the holder.

22. The processing means of claim 21 which comprises an
OTM.
23. The processing means of claim 21 which comprises
means for processing one or more transactions selected
5 from the group consisting of credit card transactions and
petrol card transactions.
24. The processing means of claim 23 which includes display
means for displaying the card holder's signature which is
in use provided in coded form on the card.



2/2

FIGURE 2

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 97/00337

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 G07C9/00 G07F7/10

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 6 G07C G07F

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 975 969 A (TAL PETER) 4 December 1990 see column 1, line 16 - column 3, line 20 see column 6, line 50 - line 66 see column 7, line 33 - column 11, line 56; figures	1-17, 19-24
X	EP 0 504 616 A (ASCOM AUTELCA AG) 23 September 1992 see column 4, line 57 - column 6, line 48; figures	1-4, 15-17, 19,20

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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INTERNATIONAL SEARCH REPORT

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