



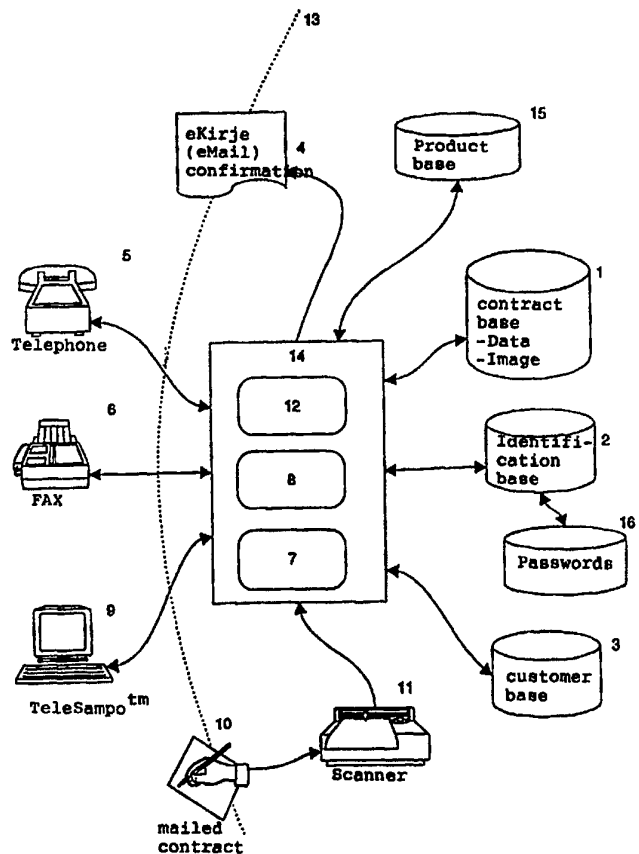
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification <sup>6</sup> : <b>H04M</b></p>	<p><b>A2</b></p>	<p>(11) International Publication Number: <b>WO 95/23473</b> (43) International Publication Date: 31 August 1995 (31.08.95)</p>
<p>(21) International Application Number: PCT/FI95/00064 (22) International Filing Date: 14 February 1995 (14.02.95) (30) Priority Data: 940734 16 February 1994 (16.02.94) FI (71) Applicant (for all designated States except US): TELECOM FINLAND OY [FI/FI]; Sturenkatu 16, P.O. Box 106, FIN-00511 Helsinki (FI). (72) Inventor; and (75) Inventor/Applicant (for US only): HÄMÄLÄINEN, Antti [FI/FI]; Piennar 2, FIN-00680 Helsinki (FI). (74) Agent: LAHTI, Heikki; Telecom Finland, Legal Affairs, P.O. Box 106, FIN-00511 Helsinki (FI).</p>	<p>(81) Designated States: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, 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), ARIPO patent (KE, MW, SD, SZ, UG).</p> <p><b>Published</b> <i>In English translation (filed in Finnish). Without international search report and to be republished upon receipt of that report.</i></p>	

(54) Title: METHOD TO IDENTIFY CLIENTS AND METHOD FOR USING A TELETERMINAL DEVICE

(57) Abstract

In order to open a telephone extension as a business terminal a contact is taken via a common telenetwork to a contract and/or service provider. In a telematic service the data of a business symbol announced by an A-subscriber is compared with the data of the business symbol in the file of the telematic service provider. When these data coincide, a password or some other means identifying the A-subscriber, e.g. a voice sample, is activated to be connected with the business symbol.



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METHOD TO IDENTITY CLIENTS AND METHOD FOR USING A TELETERMINAL  
DEVICE

5 The invention relates to the method according to the intro-  
ductory part of claim 1 for customer identification and the  
method according to claim 9 for the use of a telephone exten-  
sion of a stationary wire network or a mobile subscription of  
a mobil network as a payment and/or business terminal.

10 In the realization of payment transactions and interactive  
services intended for plenty of users the identification or  
verification of a sufficiently well-protected undisputed  
customer is difficult. Tradionally this problem has been  
solved so, that customers are called to the customer service  
15 point of the organization in question, f.ex. a telephone  
company, in which their identity is checked and simultaneous-  
ly protection means - business symbol and passwords, are  
delivered. This is in practice a troublesome, slow and expen-  
sive way to create a wide group of identified customers.  
20 The purpose of the invention is to provide an improvement for  
the above-mentioned disadvantages and enable the use and/or  
opening of a terminal connection, especially a telephone  
extension, as a business terminal, whereby the customer is  
identified and the terminal connection is harnessed as an  
25 integral part of the identification process. Characteristic  
features of the invention are shown in the accompanying  
claims.

30 By the invention it is strived to avoid unnecessary stay of  
customers in customer service points. The purpose is to raise  
the identification reliability and the undisputed nature of  
the use of services to a high level without compromising the  
easy utilization of the service. It is essential that the  
customer can after his or her first contact make business by  
35 his own telephone extension and it is not necessary for him  
in any case to visit the customer service. During the first  
contact the contract provider identifies the customer, whe-

reby during this contact passwords associated with the activated business symbol will be delivered to the customer. These passwords can alternatively be replaced by voice samples, which are used for individual speaker identification.

5

Upon the identification an addressed letter dispatch - letter secret - and a connection for a certain address can be linked to each other, so that only a beforehand defined person may join the service from a connection fixed in advance. After  
10 activation of the business symbol the customer can use identified closed services from any connection.

The invention will be described in the following with reference to the accompanying drawing, in which:

15

Figure 1 shows schematically the system according to the invention;

Figure 2 shows a block diagram of the system.

20

Knowledge bases or registers comprise a contract database 1, in which are kept all the contracts made with the customer both in the data form required for data processing and in the facsimile form required for filing, identification database 2, in which are kept the data needed for the customer identification and verification, as: customer number, business  
25 symbol, passwords 16 and/or voice samples needed for the speaker identification as well as data associated with the status of the business symbol, and customer database 3, in which are kept the customer data required for the customer  
30 relation from address data to customer's bank connection and to which can also be connected information concerning persons outside the clientele.

35

Database registers 1, 2, 3, 15 and 16 are connected by certain computer protocol f.ex. with a network 14, to which have been linked devices utilizing the information in databases and which also can participate in the telecommunications.

These devices include inter alia a telematic service unit 12 that can also give a notice for sending of a confirmation letter for instance by eKirje, which is abbreviation for an electronic letter, or a computerized answering machine. In  
5 this machine a computer, available through the telephone network and identifying DTMF- frequency signals and called in the following as Central Voice Applications Platform, gives the answer. The caller or A-subscriber discusses with the voice of VCAP by depressing a selected telephone key proposed  
10 by the machine according to a recorded program.

In the system the data is transferred coded as DTMF-signals, which then can be transferred as digital, analog, electric data or as air pressure variations through computer or te-  
15 lephone networks or magnetic media. After the entry of a computer program or a voice message, the computer makes the desired operations according to the user's key-tapping. Corresponding contracts to be sent in written form are received f.ex. to telecopies 8, in which the contract is automatically  
20 processed. The telecopy code is converted by the computer software into data form. The mechanical processing in the the telecopies 8 is divided into two parts: filing and identification of automatically readable fields. Also a computer 7 can be used, which is intended for automatic recording of a  
25 telecopy dispatch or a facsimile of scanned document in a way known per se, so that it can later be returned to its original output format and mailed or telecopied to the customer, if required, from the contract base register 1 for example based on the connection information received from the clien-  
30 tele register 3.

Computer-readable fields can be identified by telecopies 8 using a form reserved for this purpose, so that desired sections of the contract document converted into computer lan-  
35 guage can be identified either as a text, numbers or box marking selections. On the grounds of this information the data varying according to customers and relating to the contract

can be registered. This option can be used, when the extension customer mails or otherwise sends the form to the contract provider.

5 eKirje 4 means an electronic letter, by which the contract situation at any given time is confirmed to the customer, if required, or when the customer makes a contract of new services by telephone or telecopy, he receives automatically by the eKirje a confirmation for the concluded agreement.

10

The customer can also take care of his contract matters by the terminal 9. The contract can be returned also by post, as is shown by number 10, and it is further processed by the Scanner, an image reading device 11, which converts the contract into a suitable form for computer processing. Thereafter the computer processings corresponding the Telecopy dispatch - filing and identification - can be made for the contract.

15

Figure 2 shows a block diagram depicting the contract process. When the customer has been notified by a letter of the possibility to take contact to the contract provider, including the information announced by the service provider and concerning the contract format and the customer-related business symbol, which can be f.ex. a computer-created unambiguous business symbol, the customer takes from his own telephone extension 6 contact to the service offered by the contract provider. When the customer calls the voice service computer, the business symbol is asked. Based on this symbol on grounds of the data in the contract base it is checked, whether the customer's business symbol is activated for use. The telephone responder can alternatively be a physical person, who can verify the contract situation from the register in connection through the network.

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If the business symbol has not been activated for use, the contact-taking place of the customer is checked. If the AID

is received from the common telephone network (digital exchange), it can be compared with the information in the customer and contract base and it can clearly be determined, whether the call comes from the desired extension address.

5 Corresponding identification procedure can also be used, if the terminal device has been connected to another common tele-  
network, for instance mobile network, circuit or packet  
switched datanetwork. If AID is not obtained, the correspon-  
10 ding checking of the extension address can be made by a coun-  
tercall. By uniting the letter secret and the address of the  
telephone extension in this way to each other, it can be  
concluded, that the person who opens the connection, really  
is mentioned in the customer base.

15 Finally an opportunity is given to the customer to convert  
the computer-created business symbol into an individual bu-  
siness symbol the customer has chosen. Thereafter individual  
passwords associated with the activated business symbol will  
be mailed to the customer. As an alternative individualizing  
20 identification information instead of passwords it is possi-  
ble to use voice samples to be recorded from the customer in  
this connection, which will be used together with a speaker  
identification algorithm in the individual customer identifi-  
cation. After receiving passwords the customer can use diffe-  
25 rent services, whereby the call can be directed to various  
services, when the code is activated.

A closed service means a service, the use of which requires  
unambiguous identification of the user.

30

Business symbol comprises an unambiguous symbol number to be  
used for individualization of the customer. This number can  
have varying lengths, e.g. seven characters.

35

Passwords mean in this connection a predefined group of sec-  
ret words connected together and to one and only one business

symbol. The contract provider has given passwords to the customer, who is properly identified during the contact.

5 AID (A-number Identification) means signalling service of a digital exchange of the common telephone network or a mobile system, by which the caller can clearly be identified and also the call receiver can unambiguously determine the network address, wherefrom the contact is made.

10 Countercall means a procedure, in which the call receiver calls back to the defined telephone number and can thus be sure, that he is dealing with the desired extension.

15 Telematic service means a service to be used by a terminal or telephone, in which identification of an actual customer is required. One widely increasing field comprises the settlement of payments, especially fixed and as function of time changing payments to the service provider by the teleterminal device of a stationary telenetwork or mobile network. As an  
20 example can be mentioned among other things cinema and/or theater tickets, parking fees etc. Telematic service can be realized computerwise, whereby the customer is in connection by a telephone or a terminal to a data system, which the  
25 customer controls by speaking or key-tapping and which guides the customer by spoken or character-formed messages. Telematic service can be realized also so, that the actual customer takes contact by telephone to the person in customer service, and in this case this person has at his disposal a data system for identification of the customer. Examples of this  
30 include among other things payment transfers from one bank account to another and post and ticket sales.

When the method according to the invention is used by a teleterminal device opened as a business terminal, the A-subscriber  
35 takes on the grounds of the business symbol from his teleterminal device contact to the telematic service of the service provider, to whose files have in advance been recor-



ded necessary subscriber data of the A-subscriber, whereby in the telematic service the information included in the business symbol announced by the A-subscriber will be compared with the information in the files of the telematic service provider. When these informations coincide, the service can be used and/or the payment can be delivered further on only after the proper password or other means identifying specifically the A-subscriber, as the voice sample, has been given.

10 According to the invention in order to use a telephone extension of a stationary wirenet or a teleterminal device of a mobile suscription of a mobile network as a payment or business terminal the caller, i.e. A-subscriber, takes by the teleterminal device contact through the common telephone network to the provider of a contract or a service or product etc. liable to a charge, and the A-subscriber is identified by the A-identity or AID. For the A-subscriber has been in advance determined, preferably with a contract concerning the service, a business or contract symbol, whereby according to a special realization form of the method in compliance with the invention a centralized service center will be used, to which the A-subscriber takes contact by a predetermined selection. In the service center, when the call is coupled on, to the A-subscriber related register in the database of the service center will be recorded the payment and/or business transaction of the A-subscriber. The business or contract symbol will advantageously be used as a questioning key for the payment and/or business transaction by taking contact to the service center, and by the inquiry based on said business or contract symbol information is received in order to identify the A-subscriber and payments or the business transaction.

It is advantageous, that the service center of the telematic service is connected with the intelligent network underlay maintained by the teleoperator, and that the databases of the service center comprise:

- contract database 1, in which are kept all the contract made with the customer both in the data form required for data processing and in the facsimile form required for filing.
- 5 - identification database 2, in which are kept the data needed for the customer identification and verification, as: customer number, business symbol, passwords 16 and/or voice samples needed for the speaker identification as well as the data associated with the status of the business symbol.
- 10 - customer database 3, in which are kept the customer data required for the customer relation from address data to customer's bank connection and to which can also be connected information concerning persons outside the clientele.
- 15 - transaction database, in which are recorded in registers relating to business symbols the data about the payment and/or business transactions made by the customers, whereby this data is updated to proper registers on the grounds of the AID-identification made in connection with the call and from which transaction database the customer or a person authorized for the verification of a payment and/or business transaction can, if desired, verify the transaction in question by using the customer's business symbol as a key.
- 20
- 25

Databases are connected by certain computer protocol with the common telenetwork or a closed private network, to which have been connected devices utilizing the information in databases. These devices can also participate in the telecommunications and they include inter alia a service center of tele-  
30 matic services, having f.ex. a computer identifying DTMF-transmission signals or CVAP, Central Voice Applications Platform, which answers the call of the caller or A-subscriber. The A-subscriber then discusses with CVAP by depressing  
35 selectively the telephone keys.

In the system the data is transferred coded for instance as DTMF-signals, which then can be transferred as digital, analog, electric data or as air pressure variations through computer or telephone networks or magnetic media. After the entry is made, the computer protocol performs the operations desired by the A-subscriber and updates the databases. Concerning payment transactions it can be stated that the payments registered into the transaction databases are accounted by the teleoperator directly to the service provider in question and transferred to customer-related invoicing bases maintained by the teleoperator, by which bases payments are charged afterwards from the customer, f.ex. in connection with the telephone invoice.

The invention has been described above only by some preferable opening and operational embodiments of the teleterminal. This of course does not restrict the invention, but various modification and alternatives as well as practical adaptations are possible within the inventive principle defined in the accompanying claims.

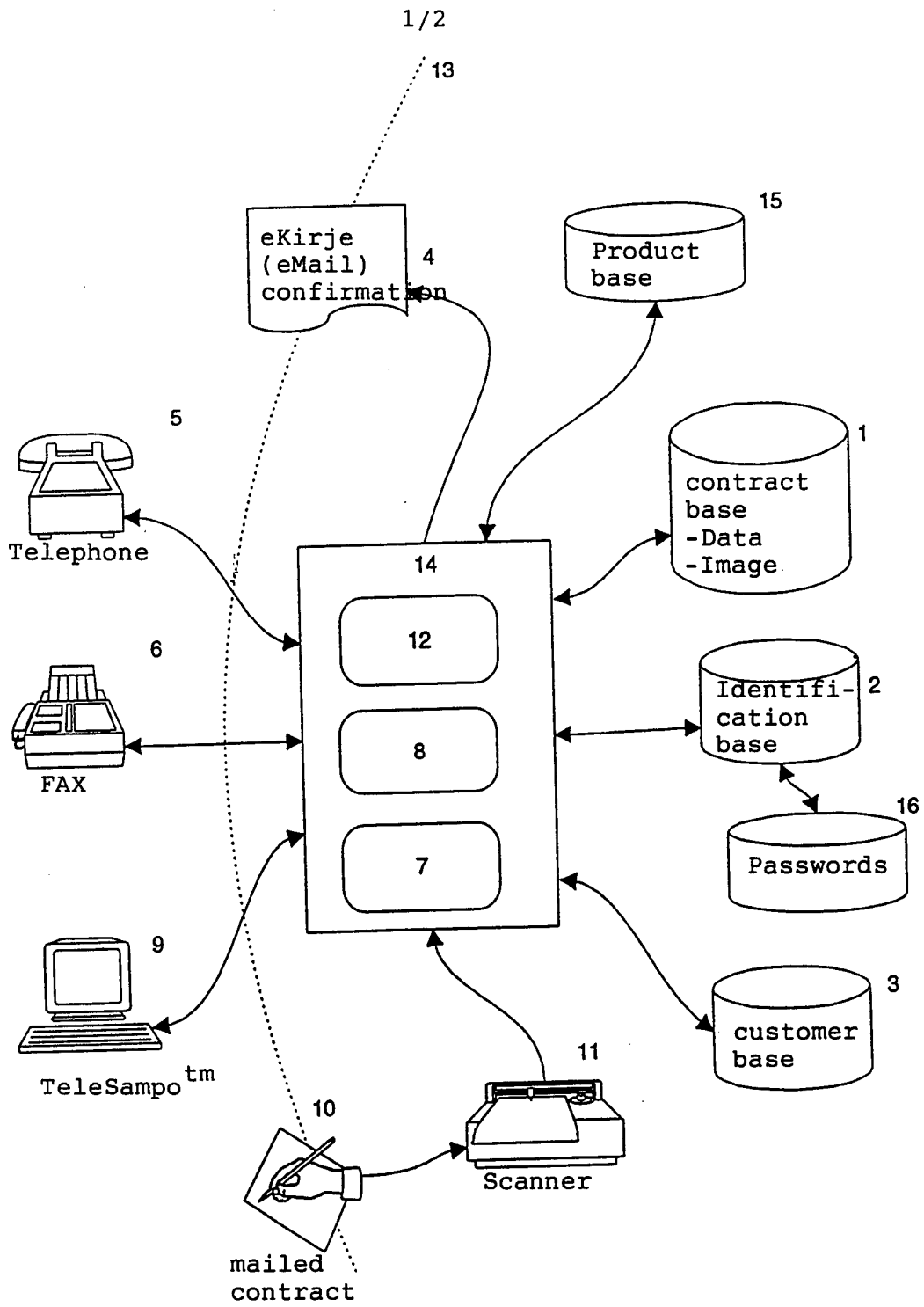
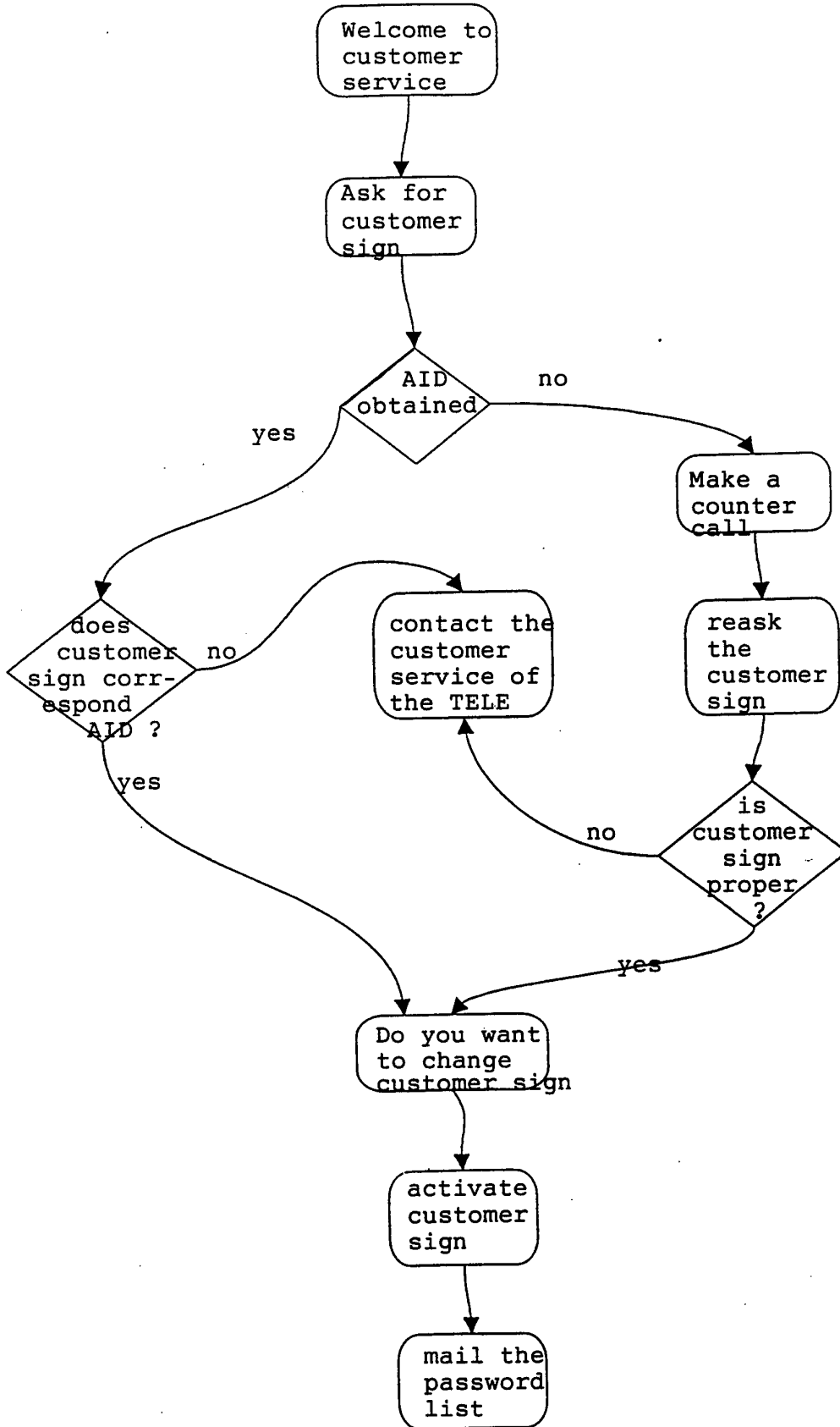


FIG. 1



F I G. 2