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(54) PORTABLE ELECTRONIC AUTHORIZATION SYSTEM AND METHOD

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(60) Provisional application No. 60/366,098, filed on Mar. 19, 2002. Provisional application No. 60/379,964, filed on May 13, 2002. Provisional application No. 60/156,356, filed on Sep. 28, 1999. Provisional application No. 60/167,050, filed on Nov. 23, 1999. Provisional application No. 60/184,425, filed on Feb. 23, 2000. Provisional application No. 60/217,542, filed on Jul. 12, 2000.

Publication Classification

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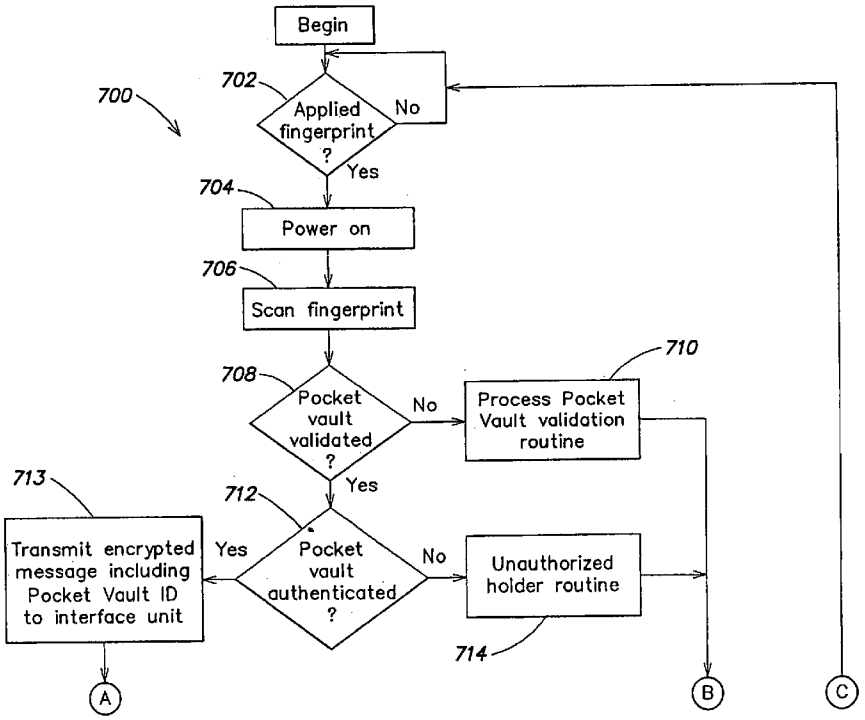
(52) **U.S. Cl.** **713/202**

(57) ABSTRACT

In one embodiment, an apparatus comprises a user authenticator and a transponder. The transponder is permitted to emit a wireless signal representing information stored in the apparatus in response to a wireless interrogation signal after the user authenticator has authenticated the identity of the user. In another embodiment, an apparatus comprises, a memory, a user input, and a transponder. The memory stores at least first and second distinct codes. The user input permits a user to select any one of the at least first and second codes for transmission in response to a wireless interrogation signal. The transponder emits a wireless signal representing the selected one of the at least first and second codes in response to an interrogation signal. In yet another embodiment, a token that may be used to engage in a transaction at a point of sale comprises a substrate, a rewritable memory, and a reconfigurable display. The rewriteable memory is supported by the substrate and can be selectively configured to store information on the token that identifies an account that is to be used to engage in the transaction at the point of sale. The substrate and memory are configured and arranged such that the substrate can be selectively interfaced with an apparatus at the point of sale to permit the apparatus to read the contents of the memory. The reconfigurable display is also supported by the substrate and displays at least some of the information that is stored in the rewritable memory.



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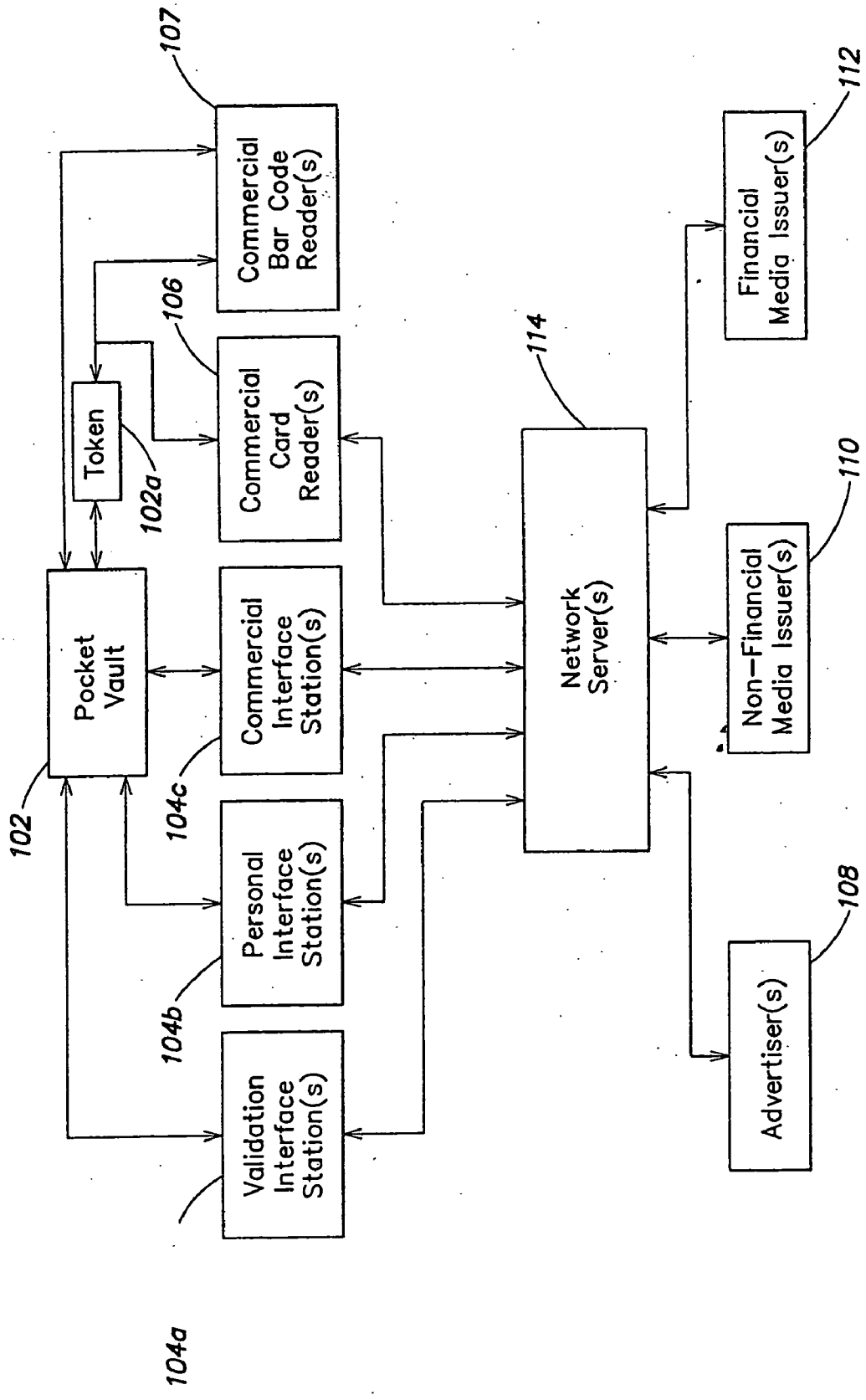

107
Commercial Bar Code Reader(s)
106
Commercial Card Reader(s)
Token
102a
Pocket Vault
102
Commercial Interface Station(s)
104c
Personal Interface Station(s)
104b
Validation Interface Station(s)
104a
114
Network Server(s)
112
Financial Media Issuer(s)
110
Non-Financial Media Issuer(s)
108
Advertiser(s)

FIG. 1

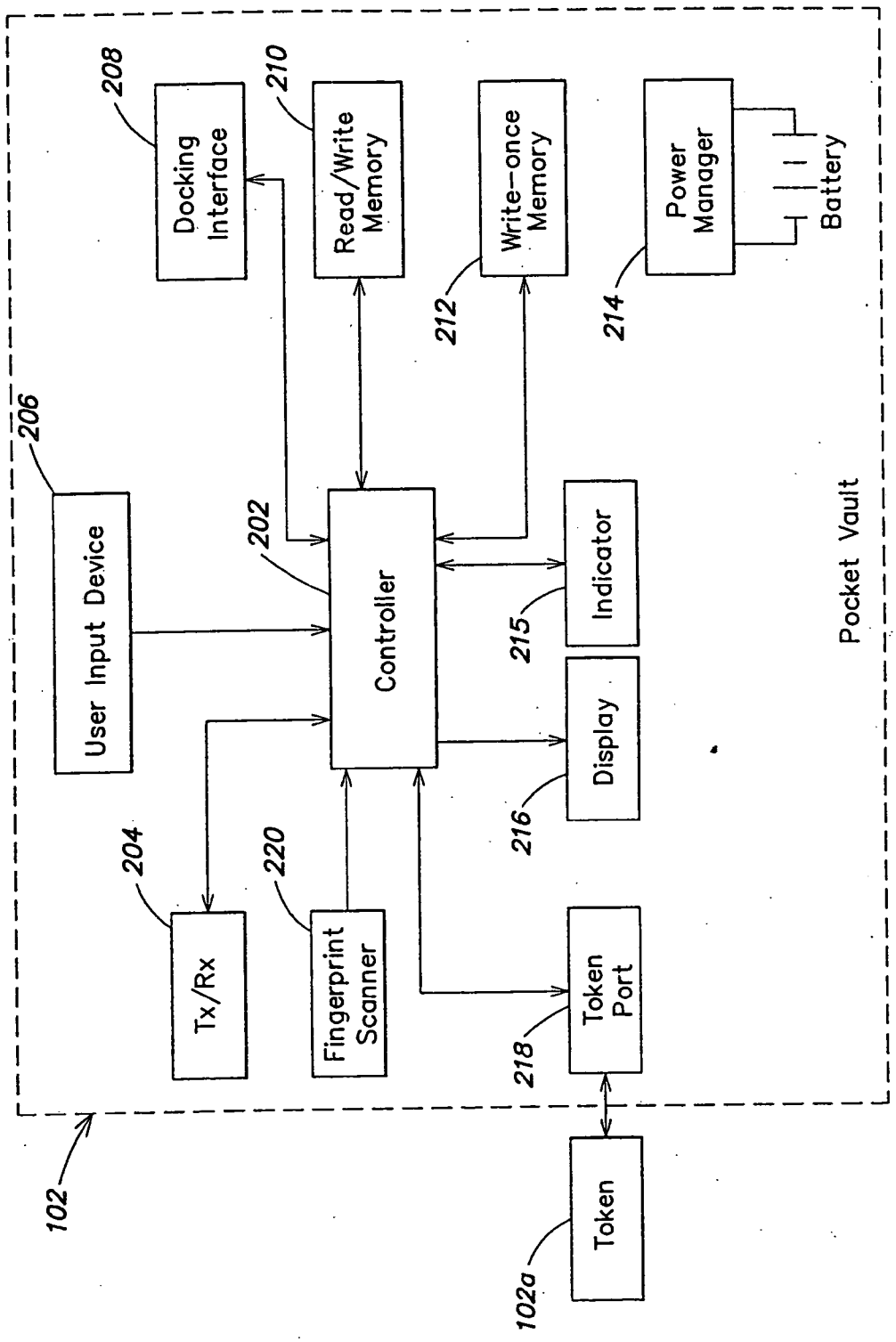

Pocket Vault
Docking Interface
208
Read/Write Memory
210
Write-once Memory
212
Power Manager
214
Battery
206
User Input Device
202
Controller
Indicator
215
Display
216
204
Tx/Rx
220
Fingerprint Scanner
218
Token Port
102
Token
102a

FIG. 2

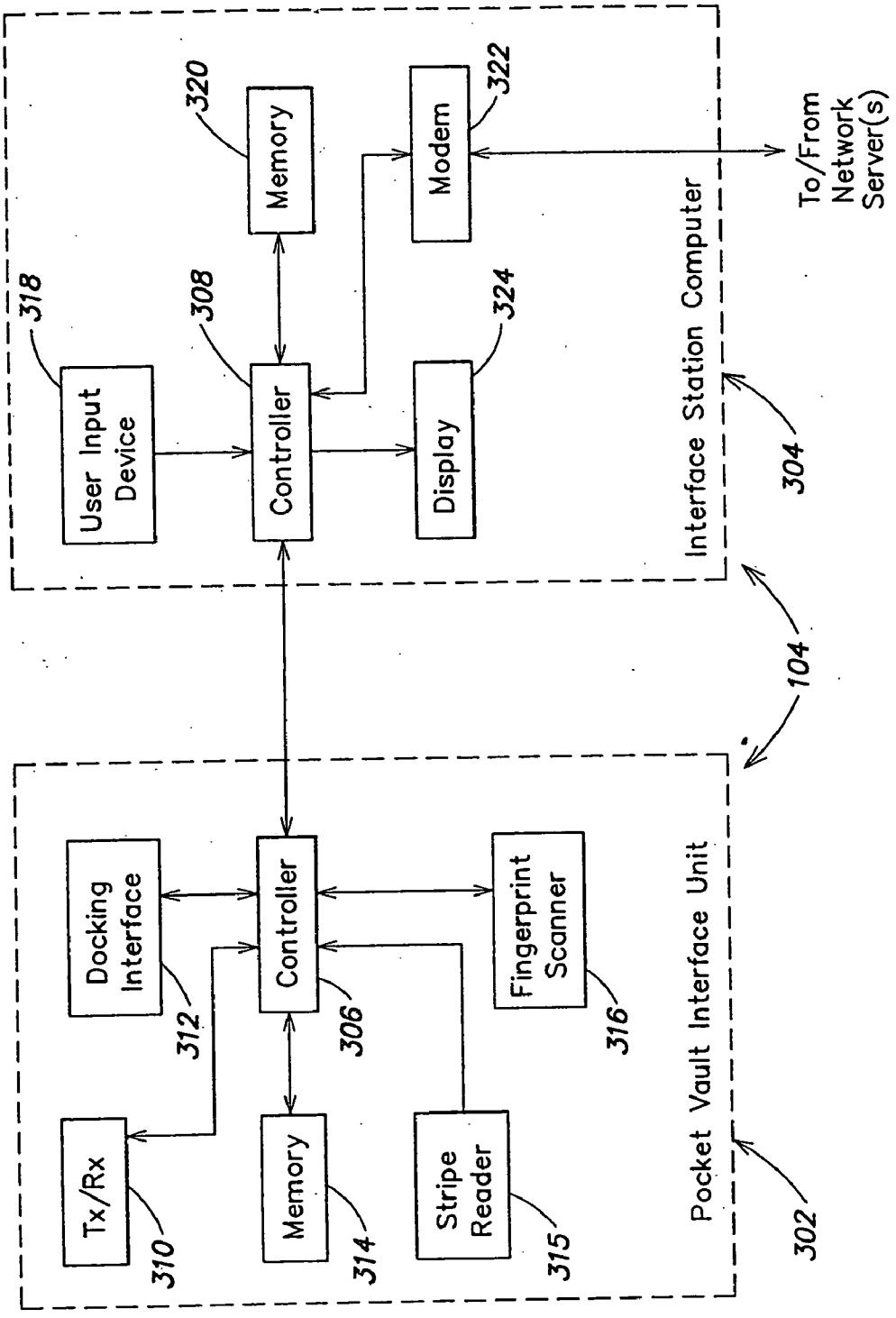

Interface Station Computer
304
User Input Device
318
Controller
308
Memory
320
Modem
322
Display
324
To/From Network Server(s)
104
Pocket Vault Interface Unit
302
Docking Interface
312
Controller
306
Fingerprint Scanner
316
Tx/Rx
310
Memory
314
Stripe Reader
315

FIG. 3

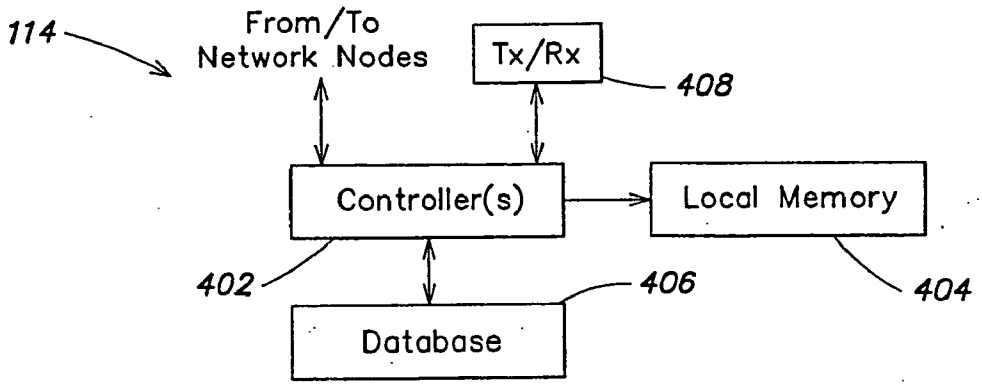


FIG. 4

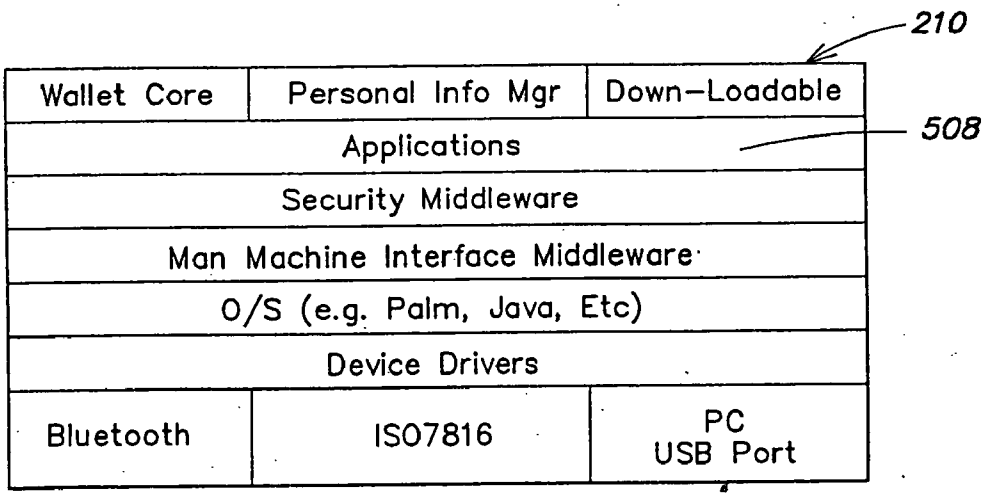


FIG. 5

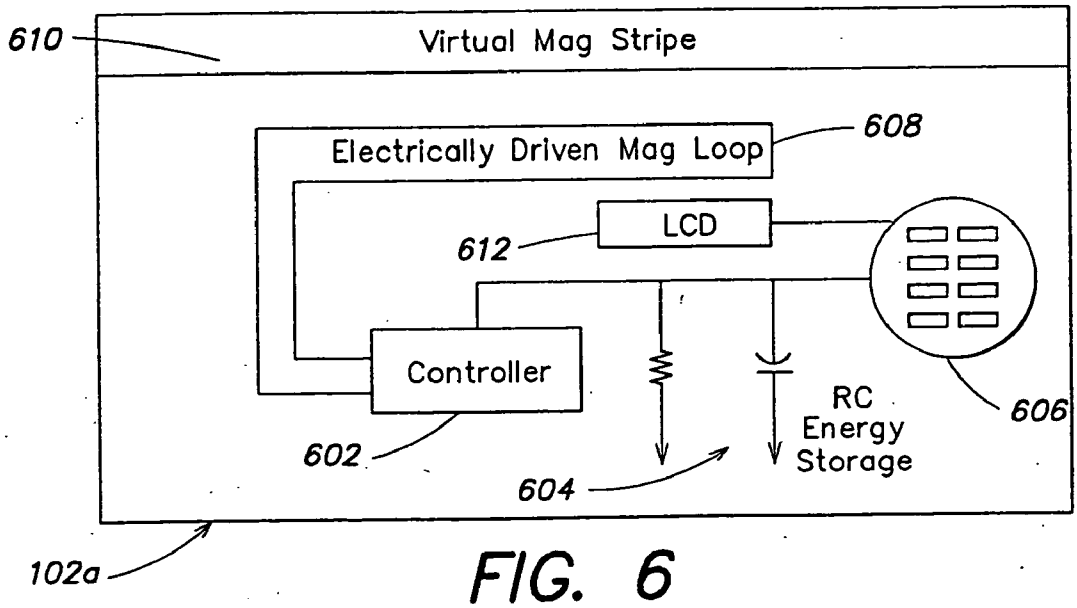


FIG. 6

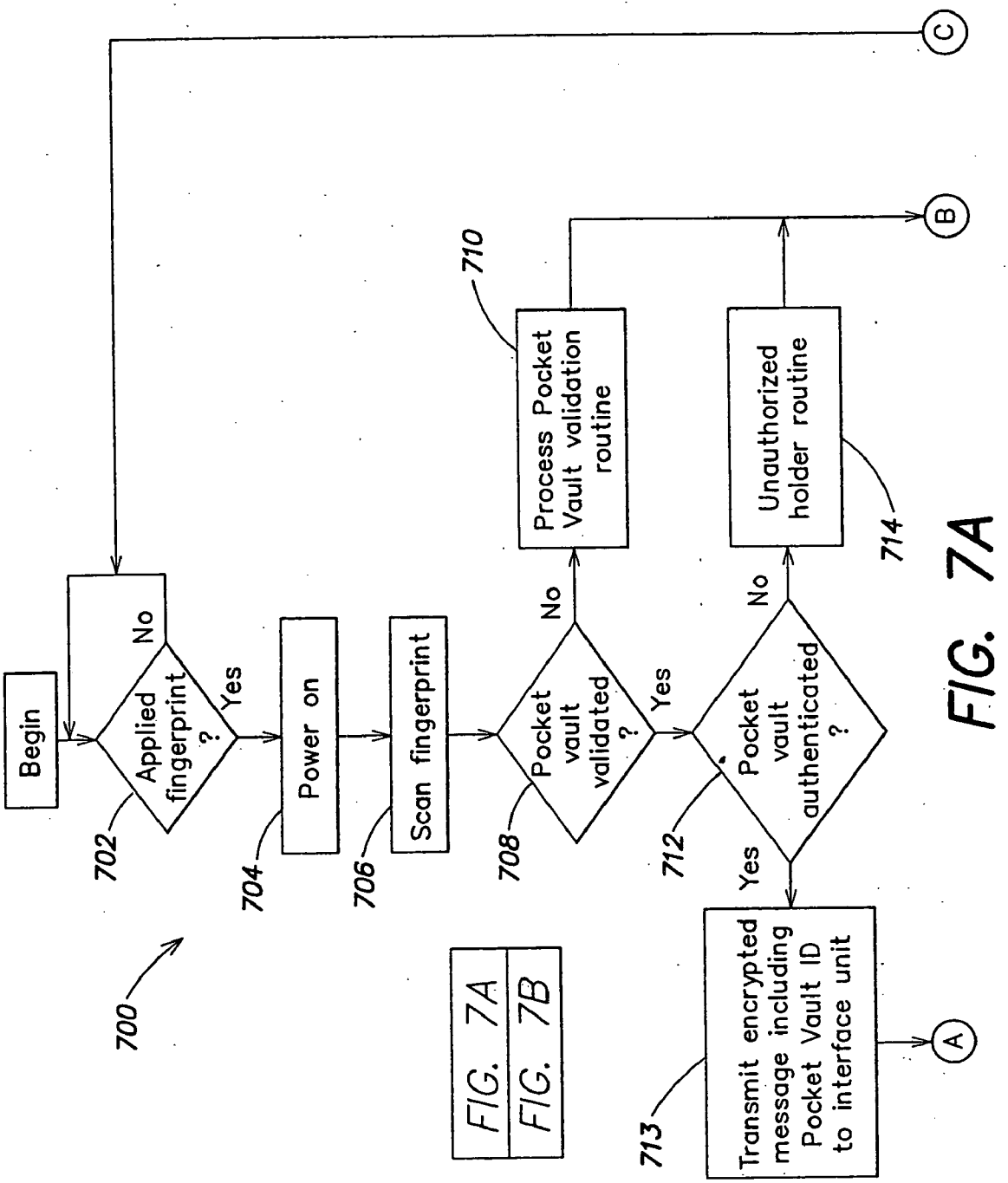


FIG. 7A

FIG. 7A
FIG. 7B

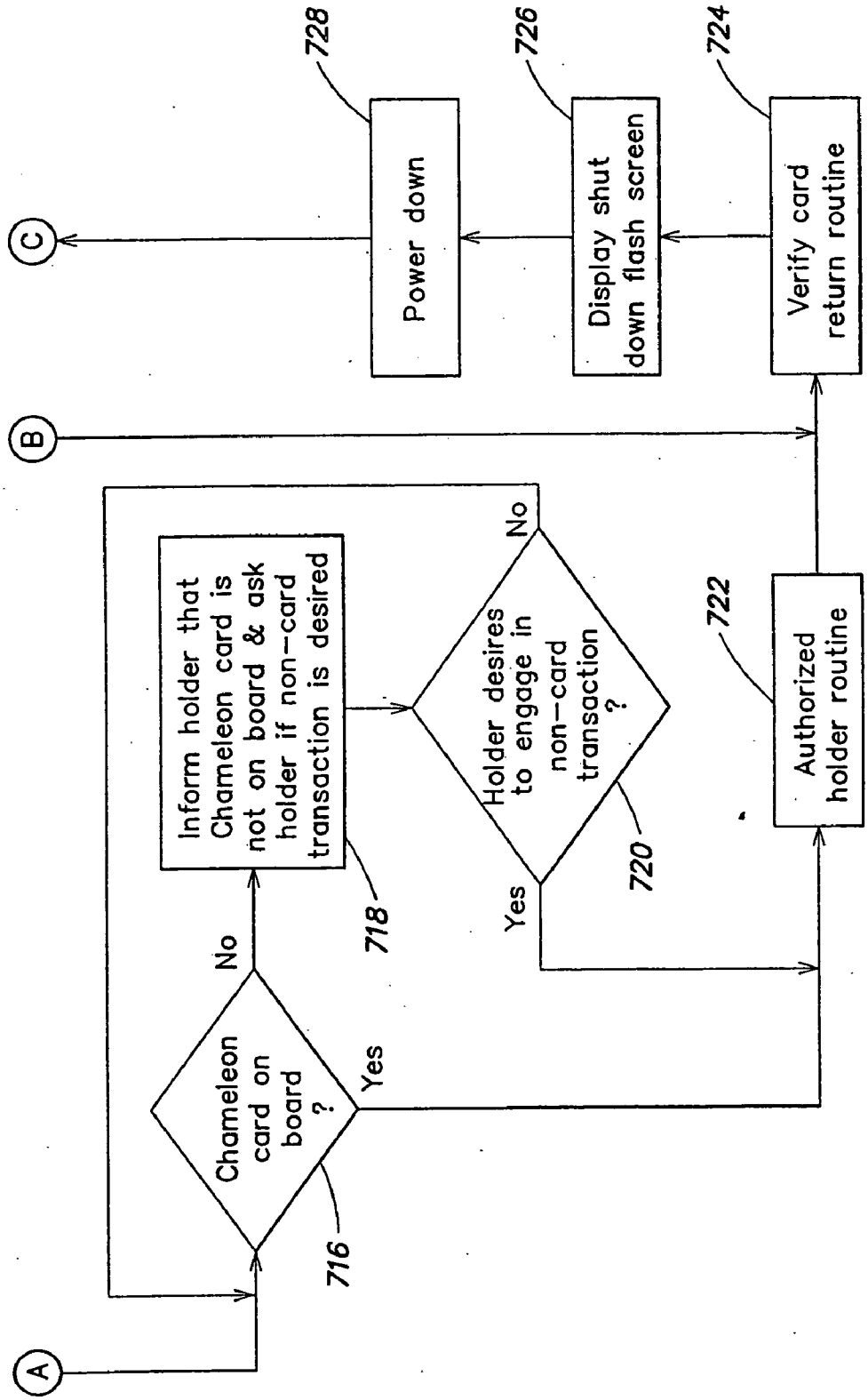

A
B
C
Chameleon card on board ?
716
No
Yes
Inform holder that Chameleon card is not on board & ask holder if non-card transaction is desired
718
Holder desires to engage in non-card transaction ?
720
No
Yes
Authorized holder routine
722
Verify card return routine
724
Display shut down flash screen
726
Power down
728

FIG. 7B

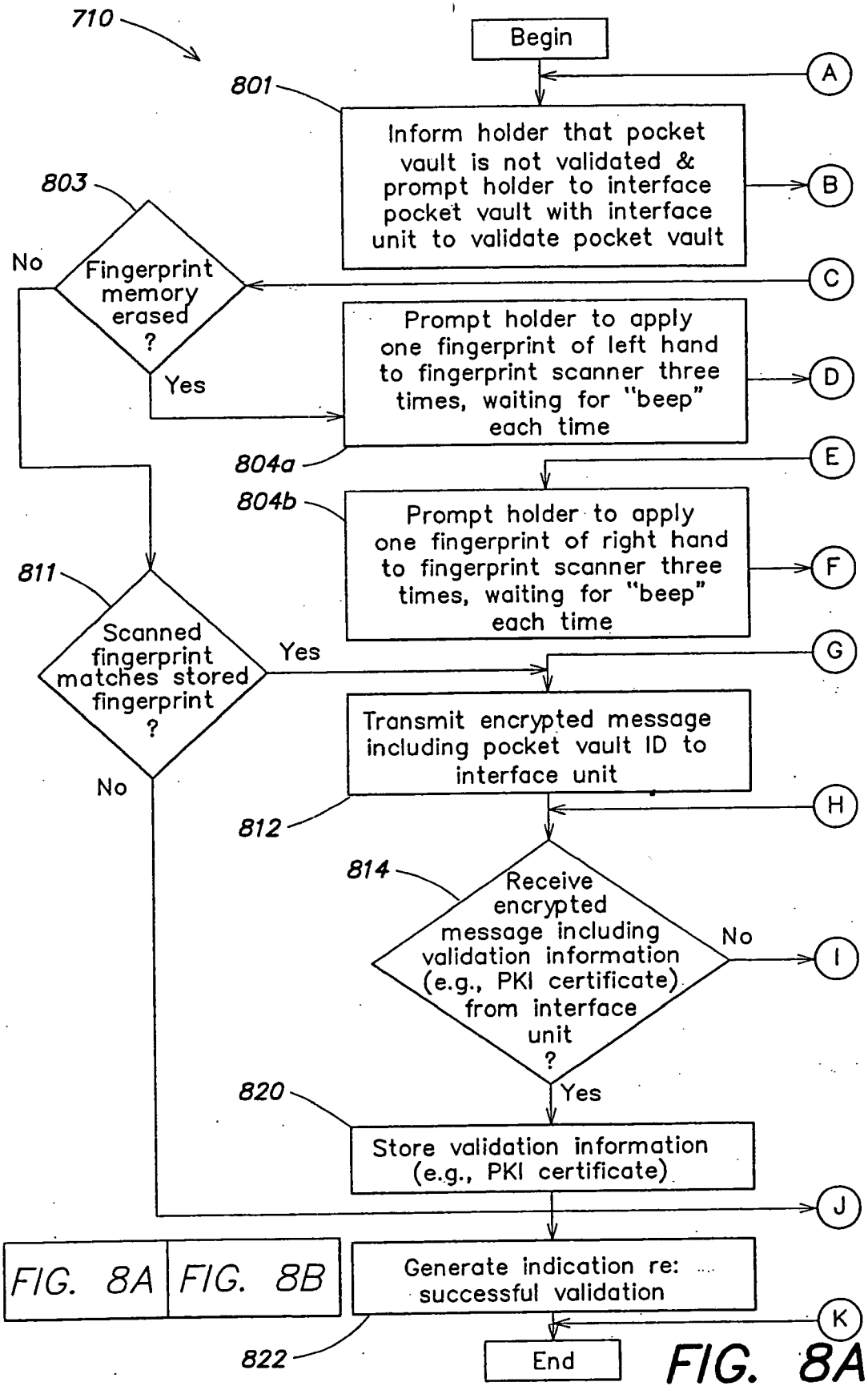

710
Begin
A
801
Inform holder that pocket vault is not validated & prompt holder to interface pocket vault with interface unit to validate pocket vault
B
803
Fingerprint memory erased ?
No
C
Yes
Prompt holder to apply one fingerprint of left hand to fingerprint scanner three times, waiting for "beep" each time
D
804a
E
804b
Prompt holder to apply one fingerprint of right hand to fingerprint scanner three times, waiting for "beep" each time
F
811
Scanned fingerprint matches stored fingerprint ?
Yes
G
No
Transmit encrypted message including pocket vault ID to interface unit
812
H
814
Receive encrypted message including validation information (e.g., PKI certificate) from interface unit ?
No
I
Yes
820
Store validation information (e.g., PKI certificate)
J
FIG. 8A
FIG. 8B
Generate indication re: successful validation
K
822
End

FIG. 8A

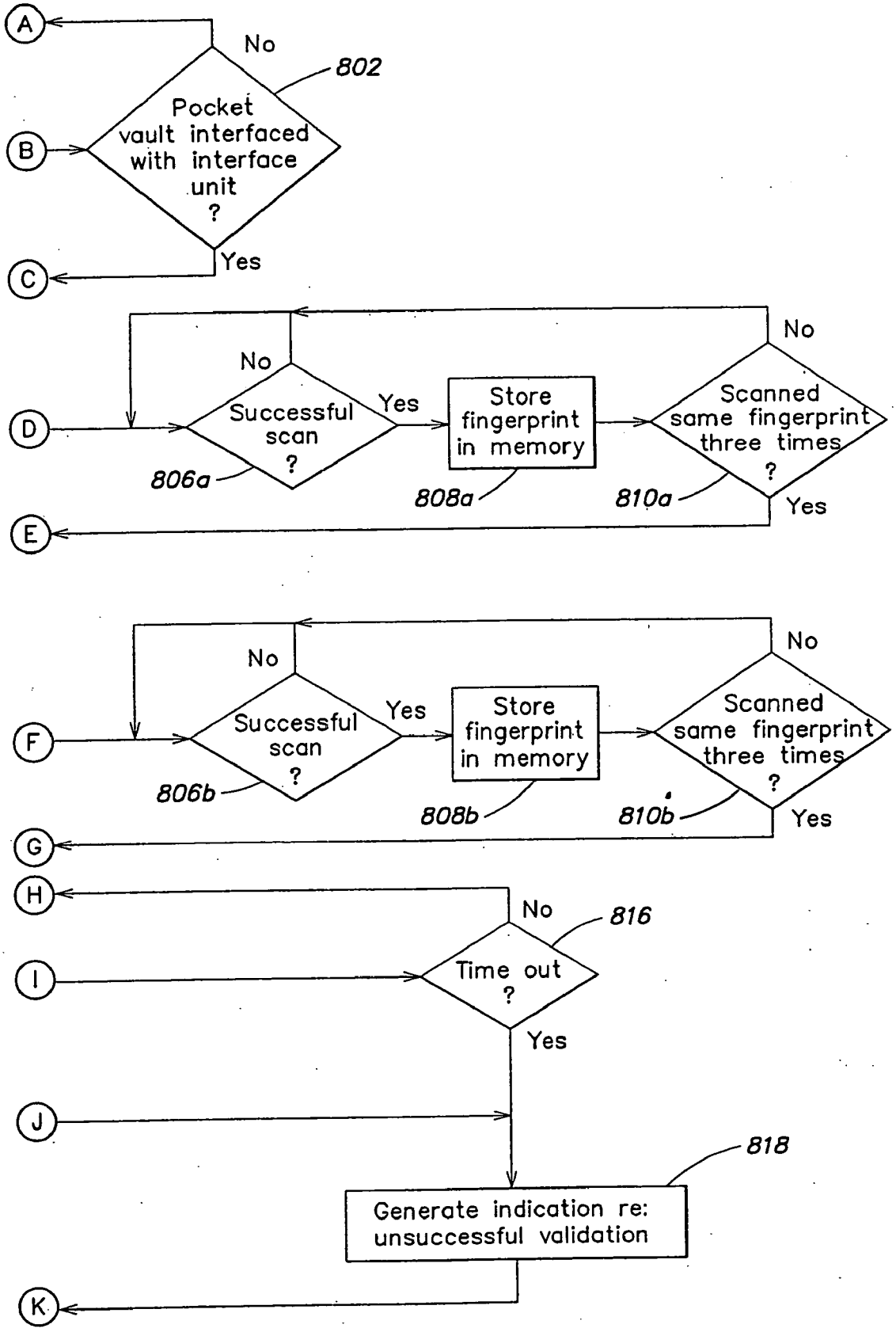

A
No
802
Pocket vault interfaced with interface unit ?
B
Yes
C
No
No
Successful scan ?
Yes
Store fingerprint in memory
Scanned same fingerprint three times ?
D
806a
808a
810a
Yes
E
No
No
Successful scan ?
Yes
Store fingerprint in memory
Scanned same fingerprint three times ?
F
806b
808b
810b
Yes
G
H
No
816
Time out ?
I
Yes
J
818
Generate indication re: unsuccessful validation
K

FIG. 8B

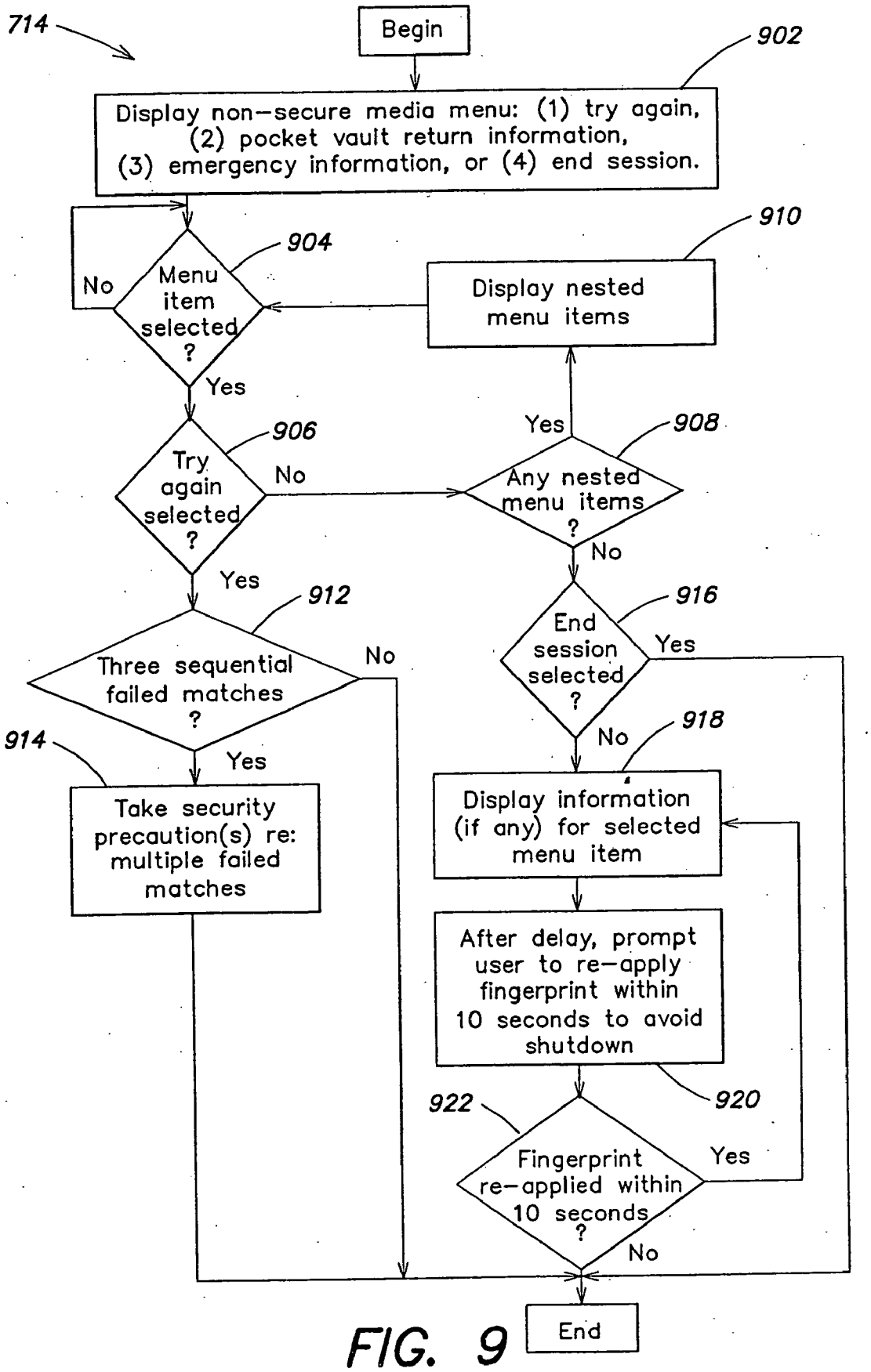

714
Begin
902
Display non-secure media menu: (1) try again, (2) pocket vault return information, (3) emergency information, or (4) end session.
904
Menu item selected ?
No
Yes
910
Display nested menu items
906
Try again selected ?
No
Yes
908
Any nested menu items ?
Yes
No
912
Three sequential failed matches ?
No
Yes
914
Take security precaution(s) re: multiple failed matches
916
End session selected ?
Yes
No
918
Display information (if any) for selected menu item
After delay, prompt user to re-apply fingerprint within 10 seconds to avoid shutdown
920
922
Fingerprint re-applied within 10 seconds ?
Yes
No
End

FIG. 9

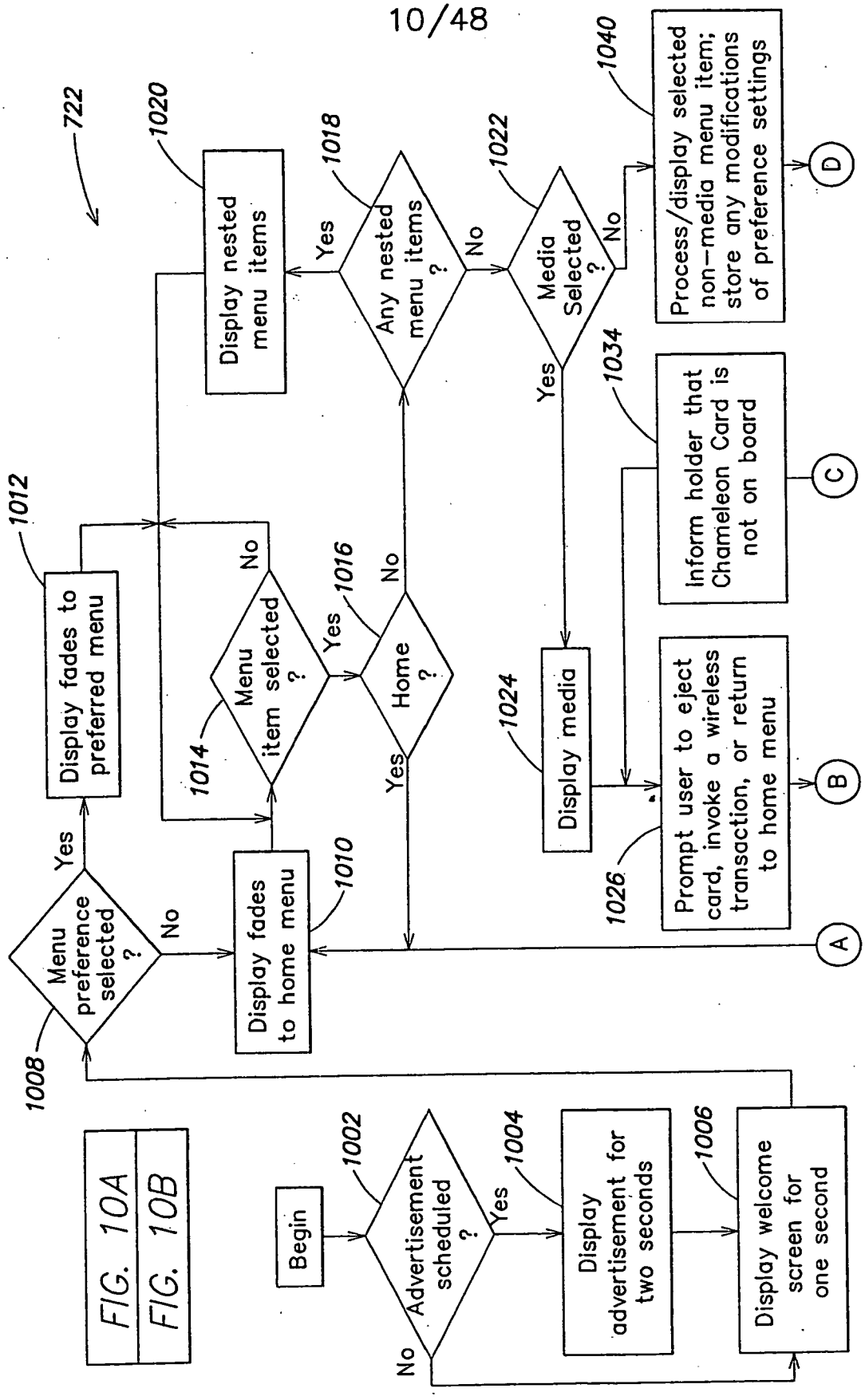


FIG. 10A

FIG. 10A
FIG. 10B

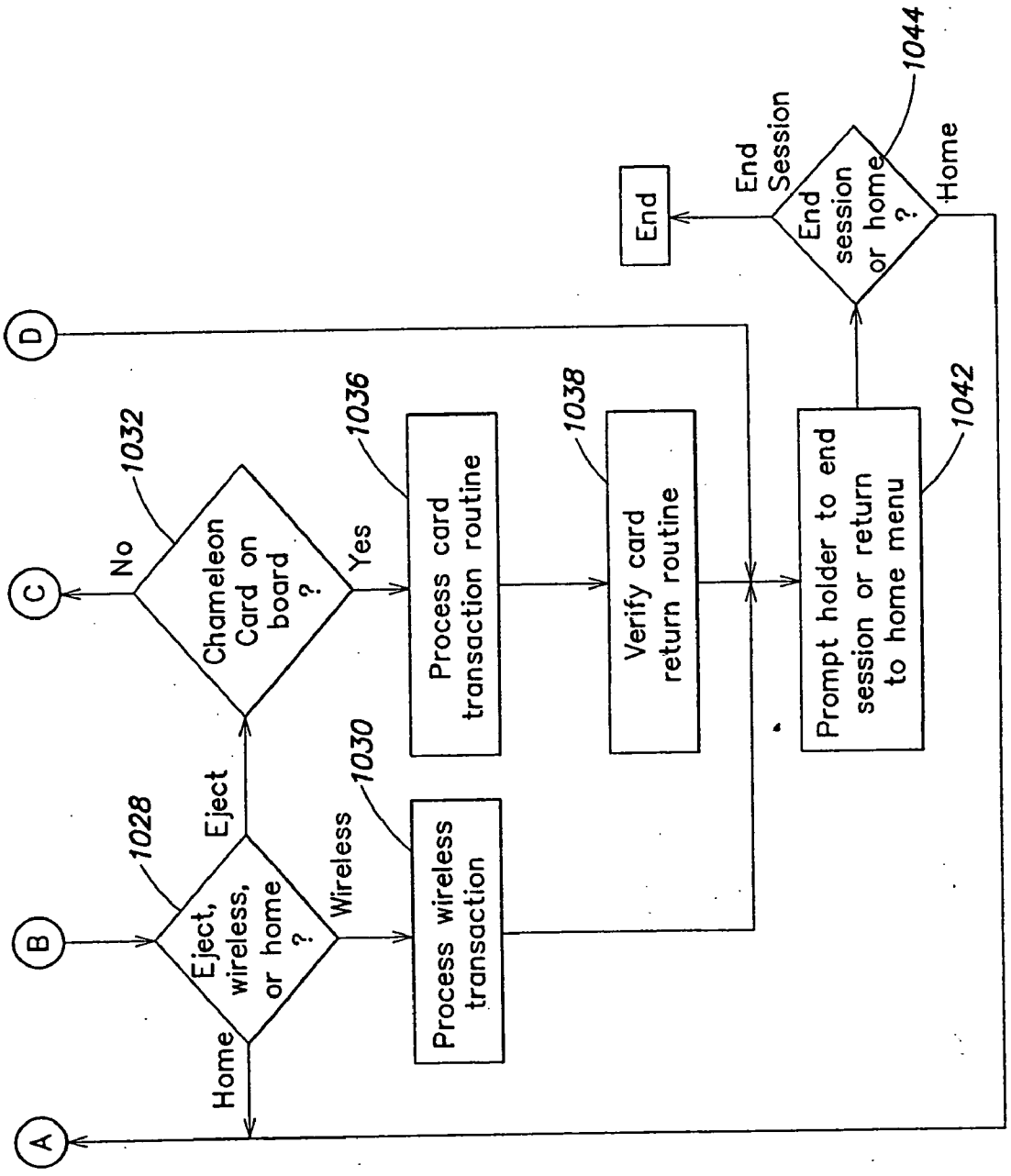
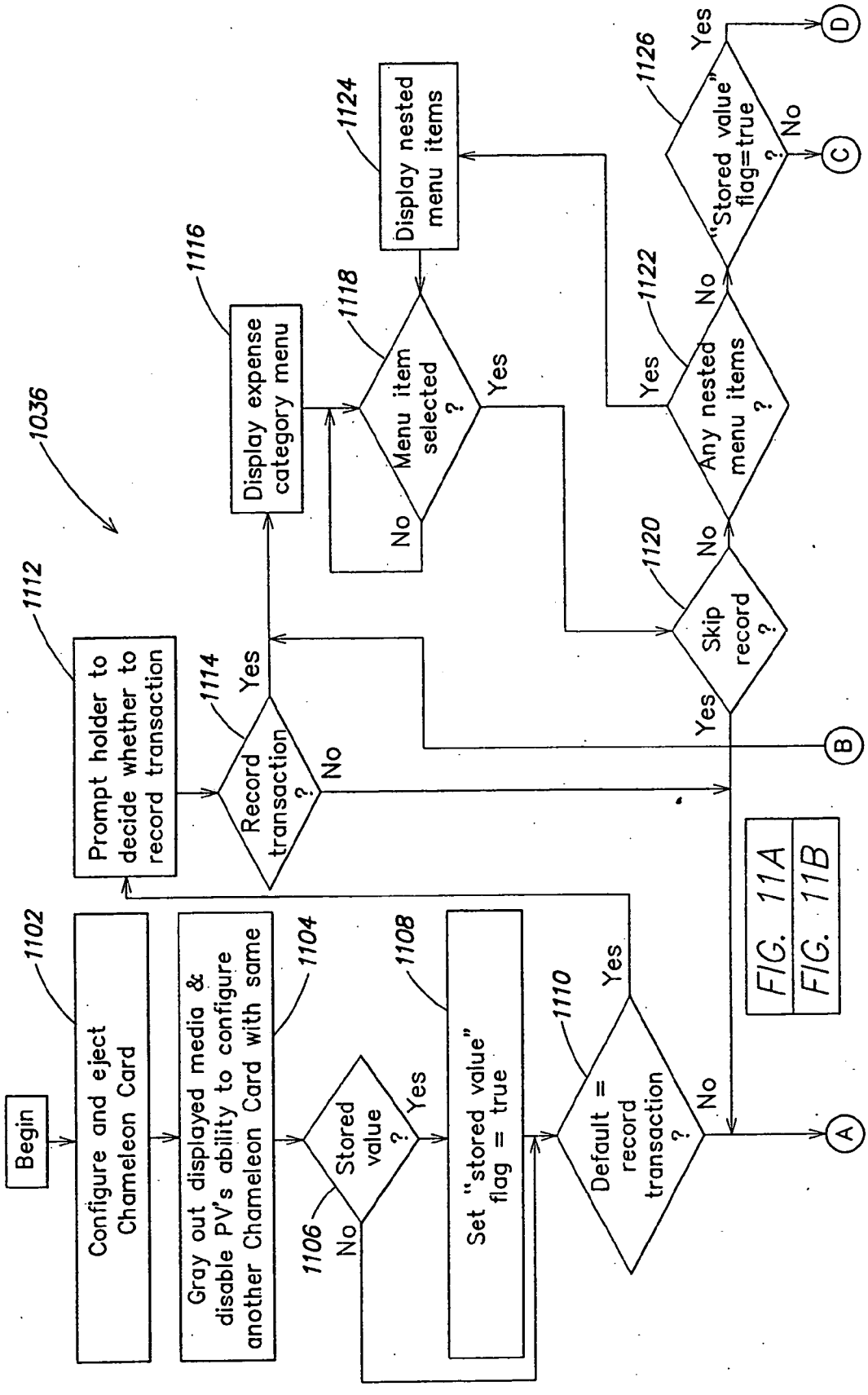

A
B
C
D
1028
Eject, wireless, or home ?
Eject
Wireless
Home
1030
Process wireless transaction
1032
Chameleon Card on board ?
No
Yes
1036
Process card transaction routine
1038
Verify card return routine
1042
Prompt holder to end session or return to home menu
1044
End session or home ?
End Session
Home
End

FIG. 10B


Begin
1102
Configure and eject Chameleon Card
1104
Gray out displayed media & disable PV's ability to configure another Chameleon Card with same
1106
Stored value ?
No
Yes
1108
Set "stored value" flag = true
1110
Default = record transaction ?
Yes
No
1112
Prompt holder to decide whether to record transaction
1114
Record transaction ?
Yes
No
1116
Display expense category menu
1118
Menu item selected ?
No
Yes
1120
Skip record ?
Yes
No
1122
Any nested menu items ?
Yes
No
1124
Display nested menu items
1126
"Stored value" flag=true ?
Yes
No
1036
A
B
C
D
FIG. 11A
FIG. 11B

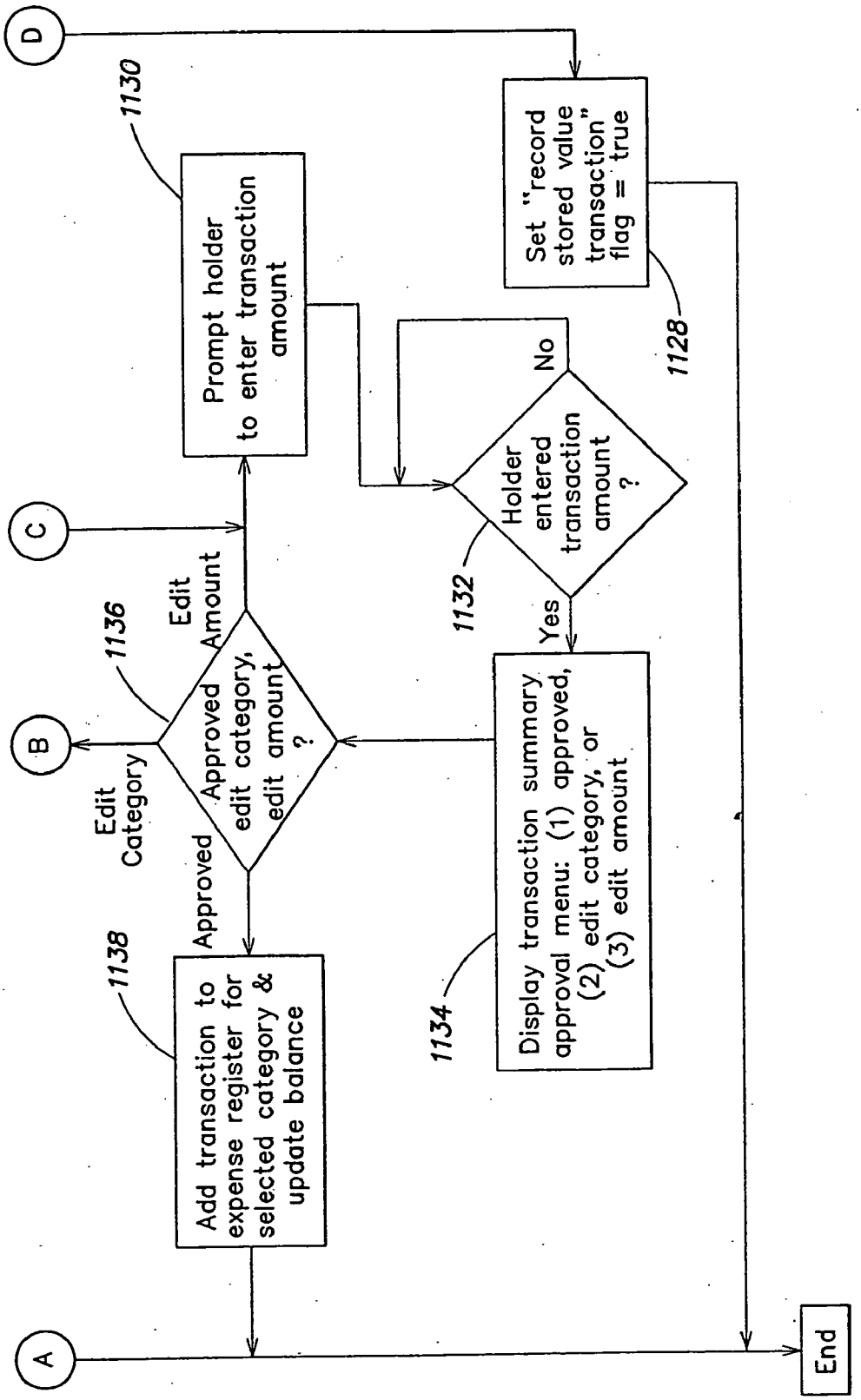

D
1130
Prompt holder to enter transaction amount
Set "record stored value transaction" flag = true
1128
No
Holder entered transaction amount ?
1132
Yes
C
Edit Amount
1136
Approved edit category, edit amount ?
B
Edit Category
Approved
1138
Add transaction to expense register for selected category & update balance
1134
Display transaction summary approval menu: (1) approved, (2) edit category, or (3) edit amount
A
End

FIG. 11B

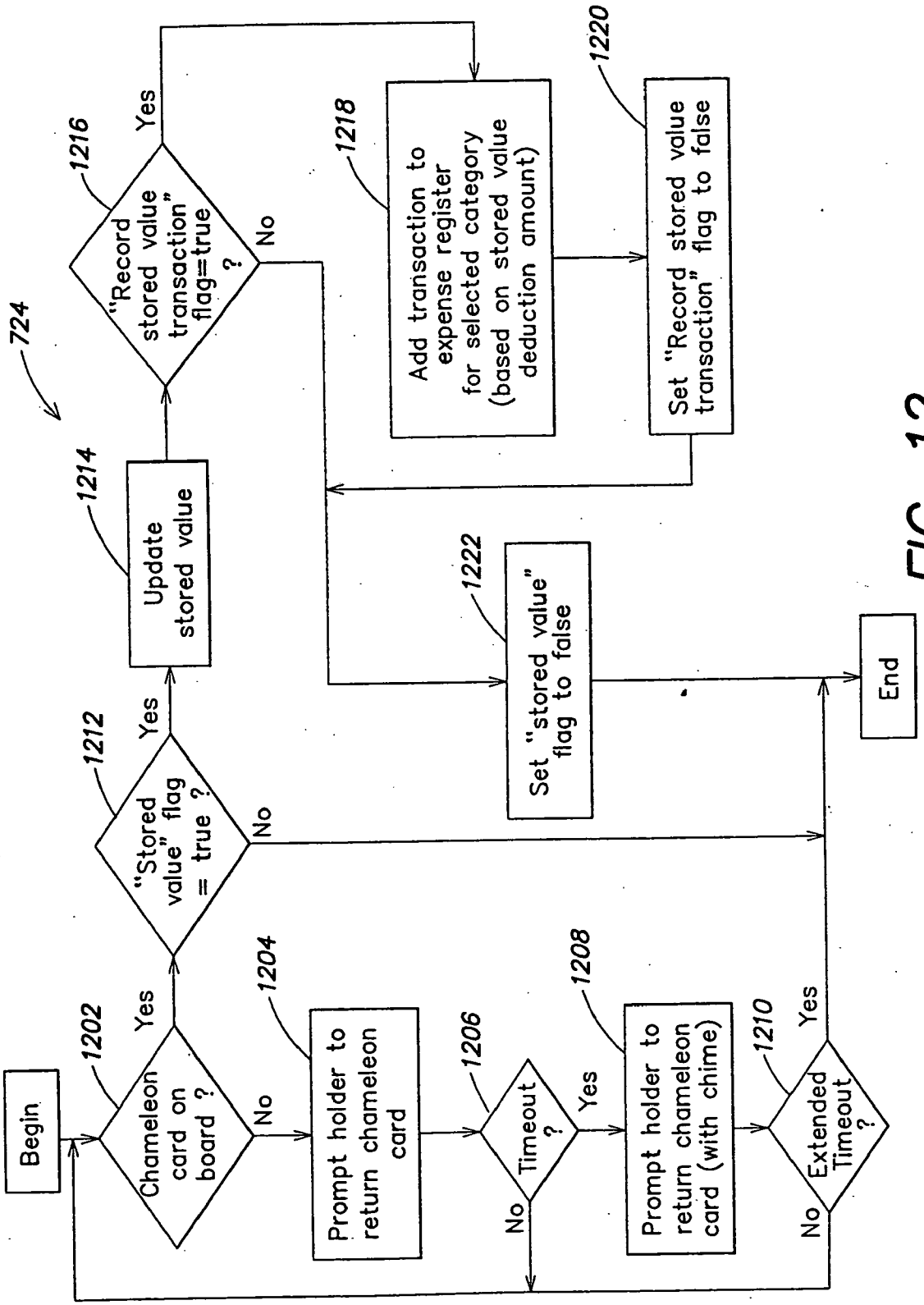

724
Begin
1202
Chameleon card on board ?
Yes
No
1204
Prompt holder to return chameleon card
1206
Timeout ?
No
Yes
1208
Prompt holder to return chameleon card (with chime)
1210
Extended Timeout ?
No
Yes
1212
"Stored value" flag = true ?
Yes
No
1214
Update stored value
1216
"Record stored value transaction" flag=true ?
Yes
No
1218
Add transaction to expense register for selected category (based on stored value deduction amount)
1220
Set "Record stored value transaction" flag to false
1222
Set "stored value" flag to false
End

FIG. 12

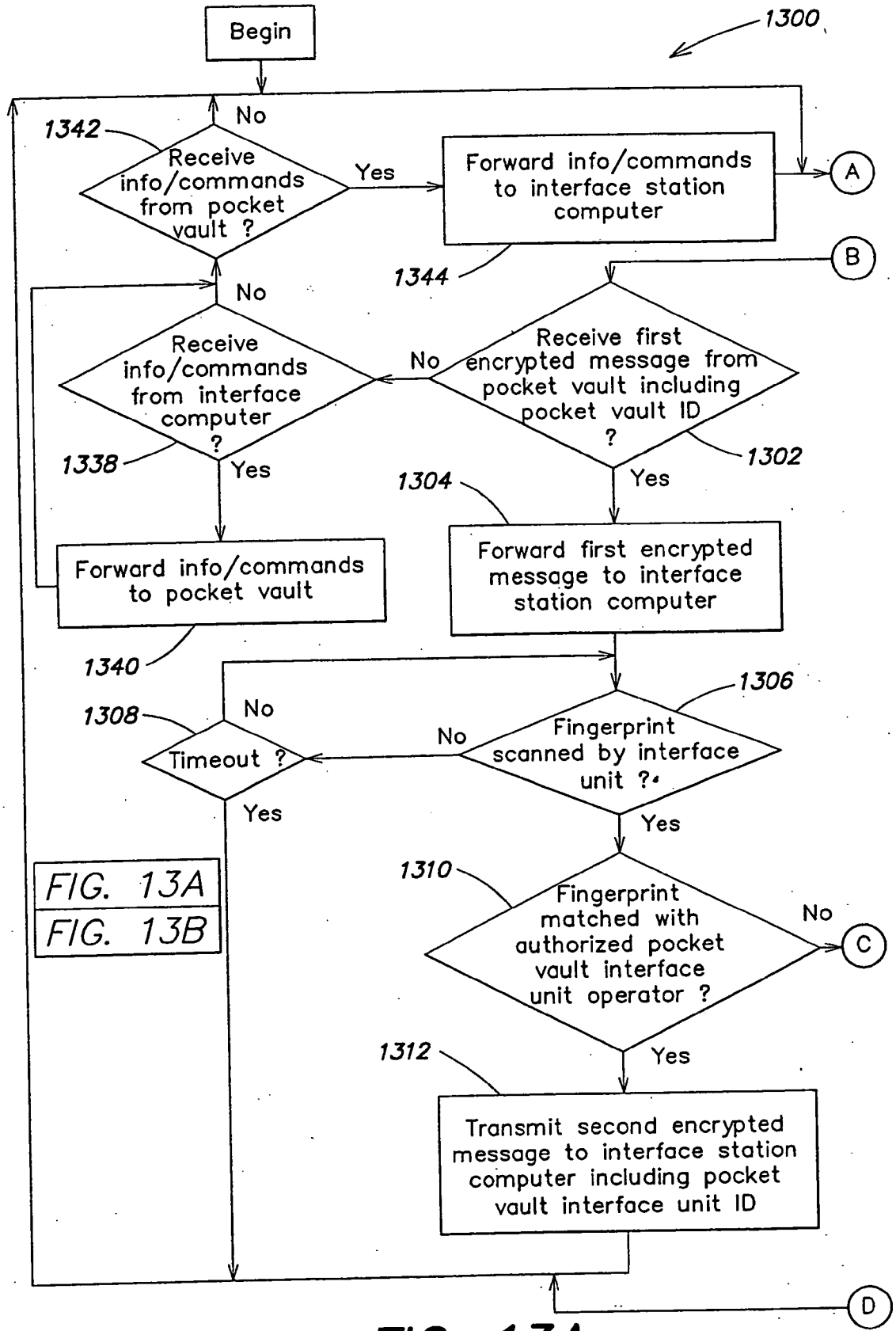


FIG. 13A

FIG. 13B

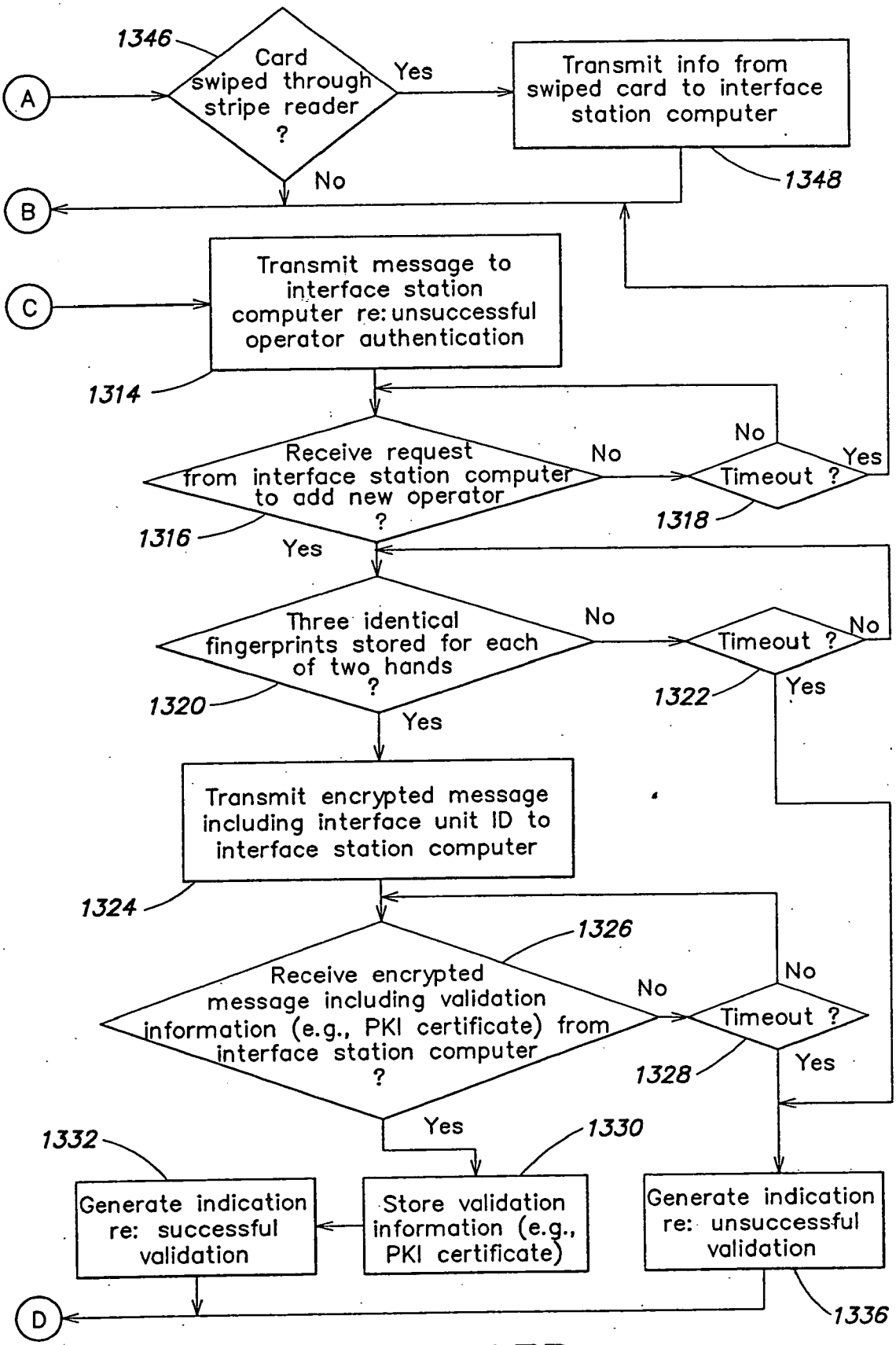

1346
Card swiped through stripe reader ?
Yes
No
A
B
Transmit info from swiped card to interface station computer
1348
C
Transmit message to interface station computer re: unsuccessful operator authentication
1314
Receive request from interface station computer to add new operator ?
No
Yes
1316
Timeout ?
No
Yes
1318
Three identical fingerprints stored for each of two hands ?
No
Yes
1320
Timeout ?
No
Yes
1322
Transmit encrypted message including interface unit ID to interface station computer
1324
1326
Receive encrypted message including validation information (e.g., PKI certificate) from interface station computer ?
No
Yes
Timeout ?
No
Yes
1328
1330
1332
Generate indication re: successful validation
Store validation information (e.g., PKI certificate)
Generate indication re: unsuccessful validation
1336
D

FIG. 13B

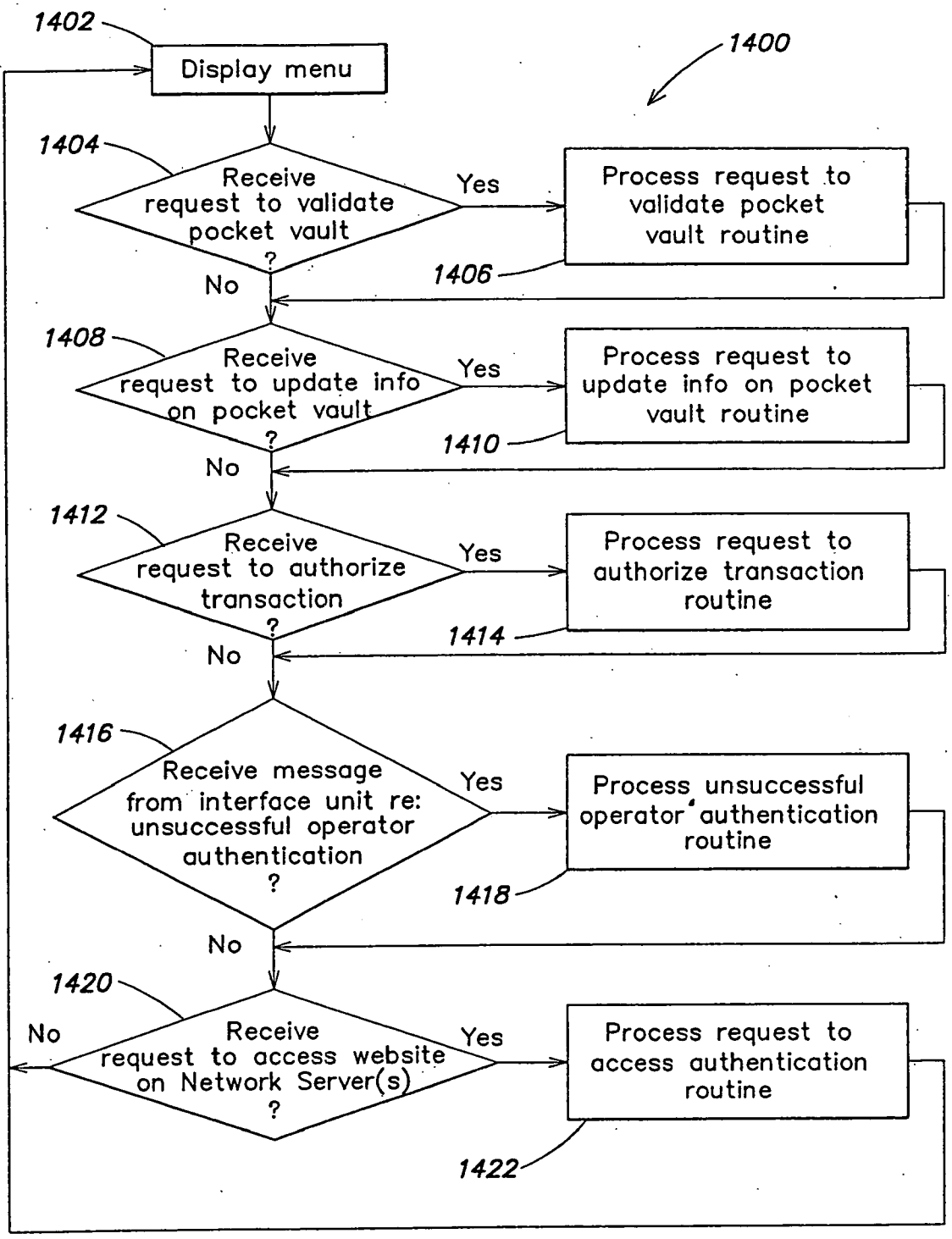

1402
Display menu
1400
1404
Receive request to validate pocket vault ?
Yes
Process request to validate pocket vault routine
1406
No
1408
Receive request to update info on pocket vault ?
Yes
Process request to update info on pocket vault routine
1410
No
1412
Receive request to authorize transaction ?
Yes
Process request to authorize transaction routine
1414
No
1416
Receive message from interface unit re: unsuccessful operator authentication ?
Yes
Process unsuccessful operator authentication routine
1418
No
1420
No
Receive request to access website on Network Server(s) ?
Yes
Process request to access authentication routine
1422

FIG. 14

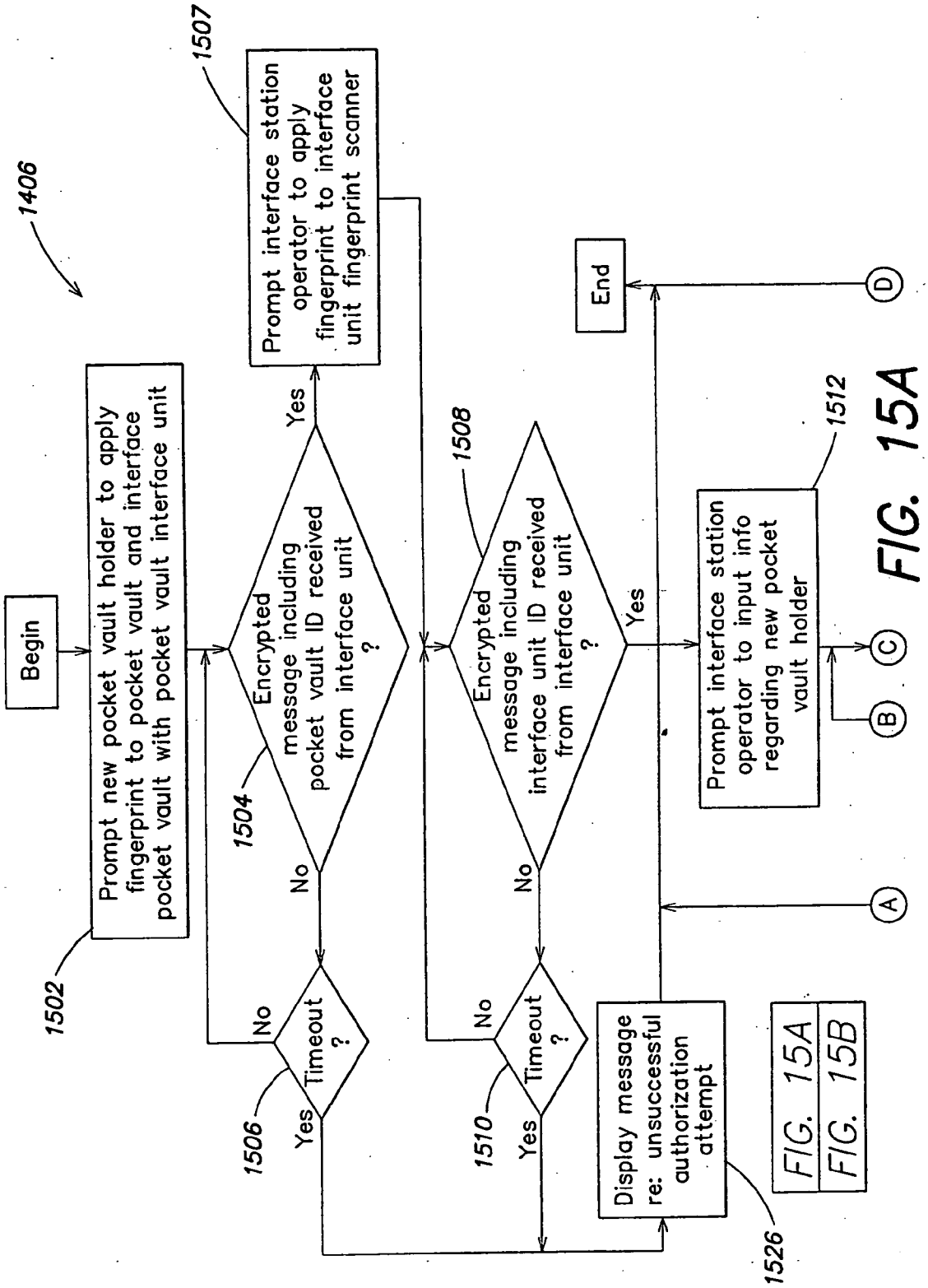


FIG. 15A

FIG. 15A
FIG. 15B

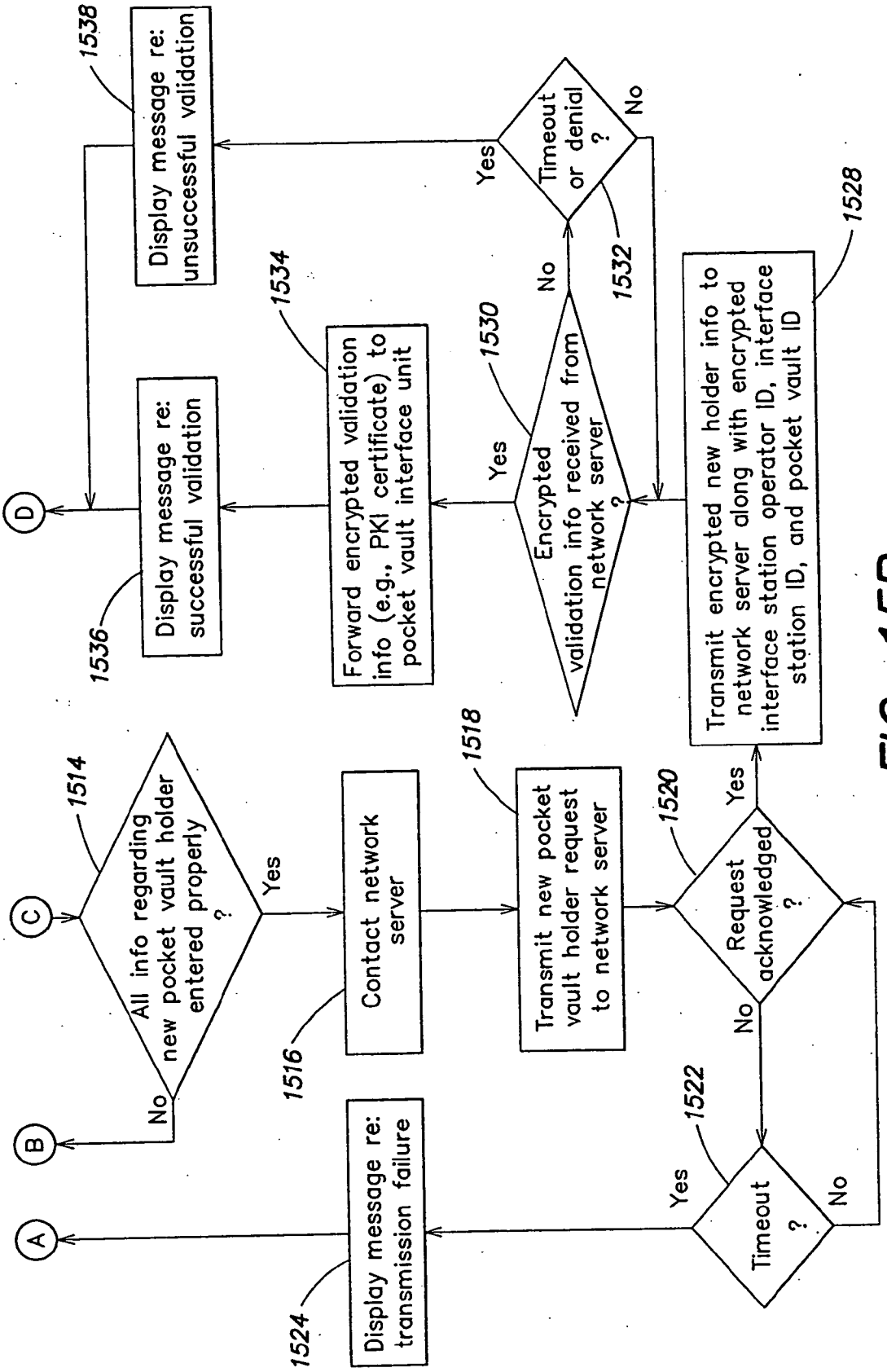

A
B
C
D
All info regarding new pocket vault holder entered properly ?
1514
No
Yes
Contact network server
1516
Transmit new pocket vault holder request to network server
1518
Request acknowledged ?
1520
Yes
No
Timeout ?
1522
Yes
No
Display message re: transmission failure
1524
Transmit encrypted new holder info to network server along with encrypted interface station operator ID, interface station ID, and pocket vault ID
1528
Encrypted validation info received from network server ?
1530
Yes
No
Timeout or denial ?
1532
Yes
No
Forward encrypted validation info (e.g., PKI certificate) to pocket vault interface unit
1534
Display message re: successful validation
1536
Display message re: unsuccessful validation
1538

FIG. 15B

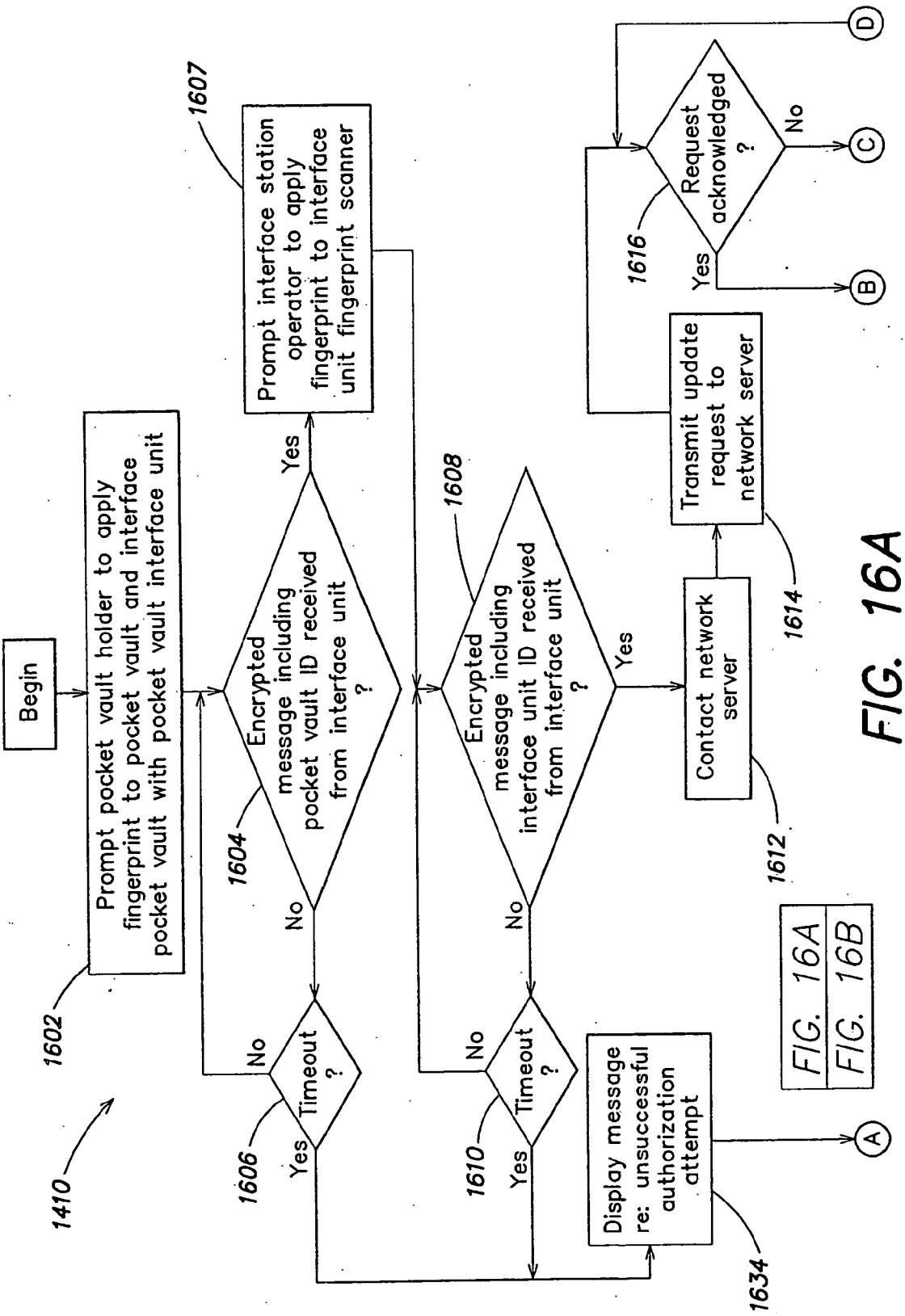


FIG. 16A

FIG. 16A
FIG. 16B

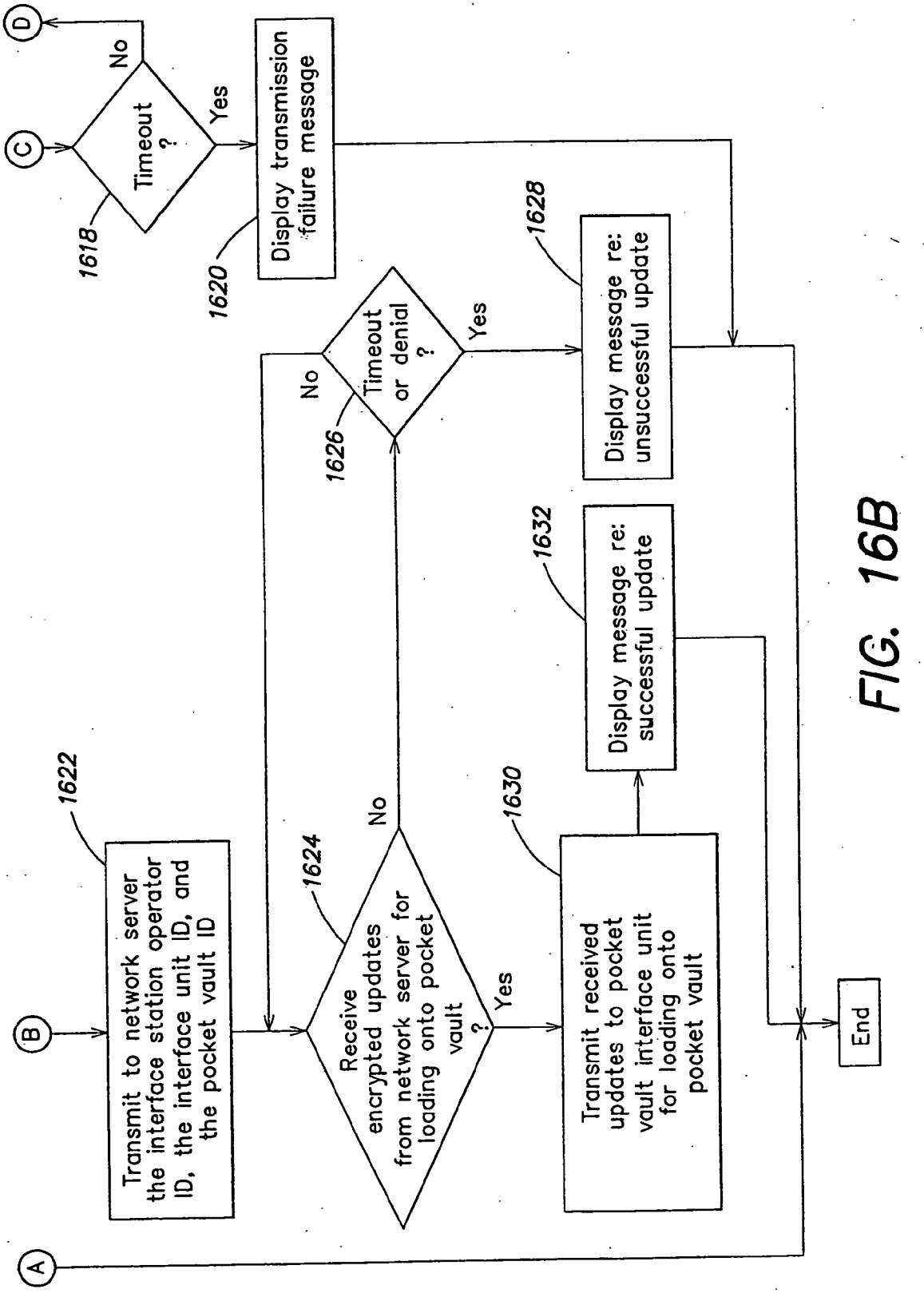

A
B
C
D
Transmit to network server the interface station operator ID, the interface unit ID, and the pocket vault ID
1622
Receive encrypted updates from network server for loading onto pocket vault ?
1624
No
Yes
Timeout ?
1618
No
Yes
Display transmission failure message
1620
Timeout or denial ?
1626
No
Yes
Display message re: unsuccessful update
1628
Transmit received updates to pocket vault interface unit for loading onto pocket vault
1630
Display message re: successful update
1632
End

FIG. 16B

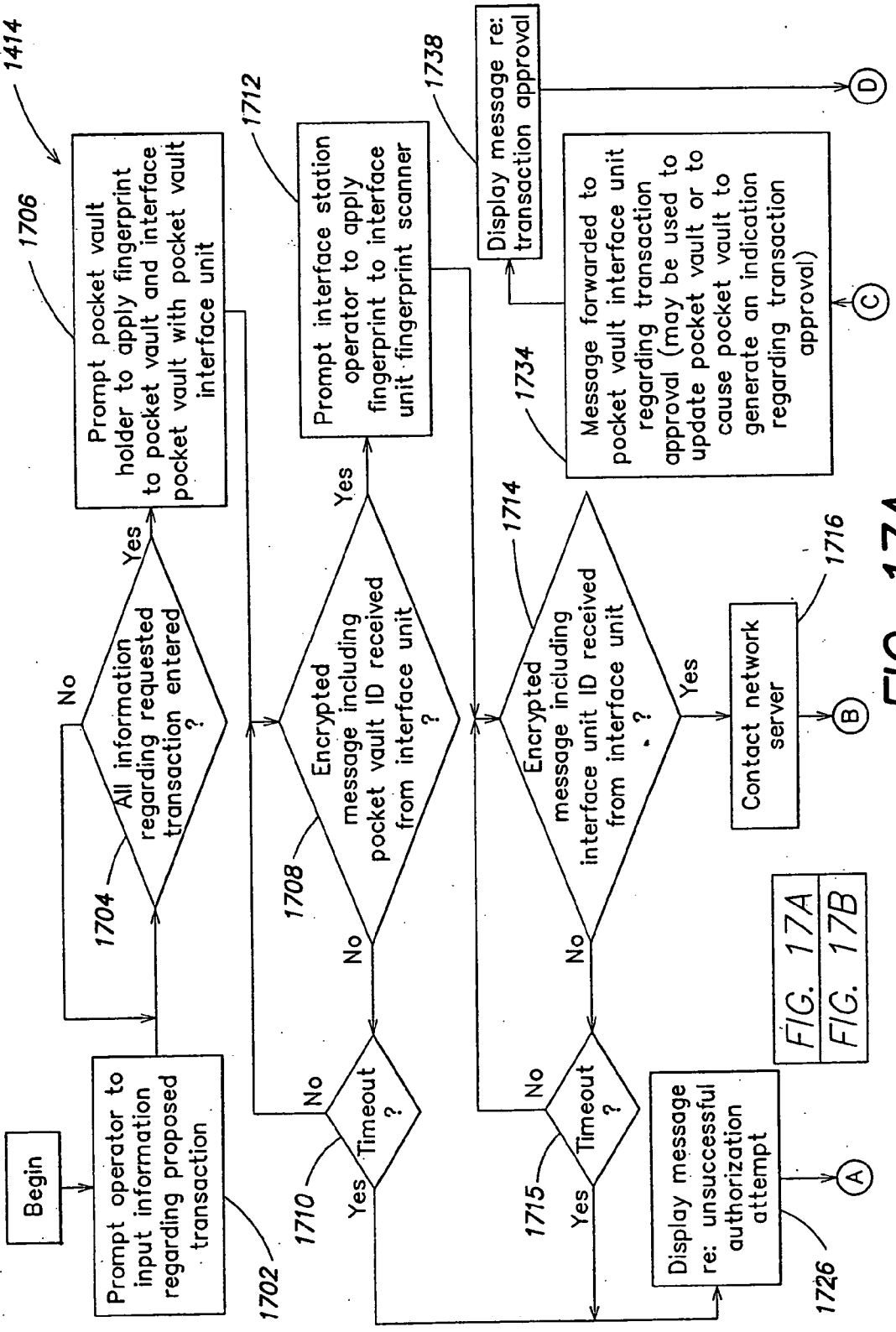

1414
1706
1712
1738
Begin
Prompt operator to input information regarding proposed transaction
1702
All information regarding requested transaction entered ?
1704
No
Yes
Prompt pocket vault holder to apply fingerprint to pocket vault and interface pocket vault with pocket vault interface unit
Encrypted message including pocket vault ID received from interface unit ?
1708
No
Yes
Prompt interface station operator to apply fingerprint to interface unit fingerprint scanner
Timeout ?
1710
No
Yes
Encrypted message including interface unit ID received from interface unit ?
1714
No
Yes
Message forwarded to pocket vault interface unit regarding transaction approval (may be used to update pocket vault or to cause pocket vault to generate an indication regarding transaction approval)
1734
Display message re: transaction approval
Contact network server
1716
Timeout ?
1715
No
Yes
Display message re: unsuccessful authorization attempt
1726
A
B
C
D
FIG. 17A
FIG. 17B

FIG. 17A

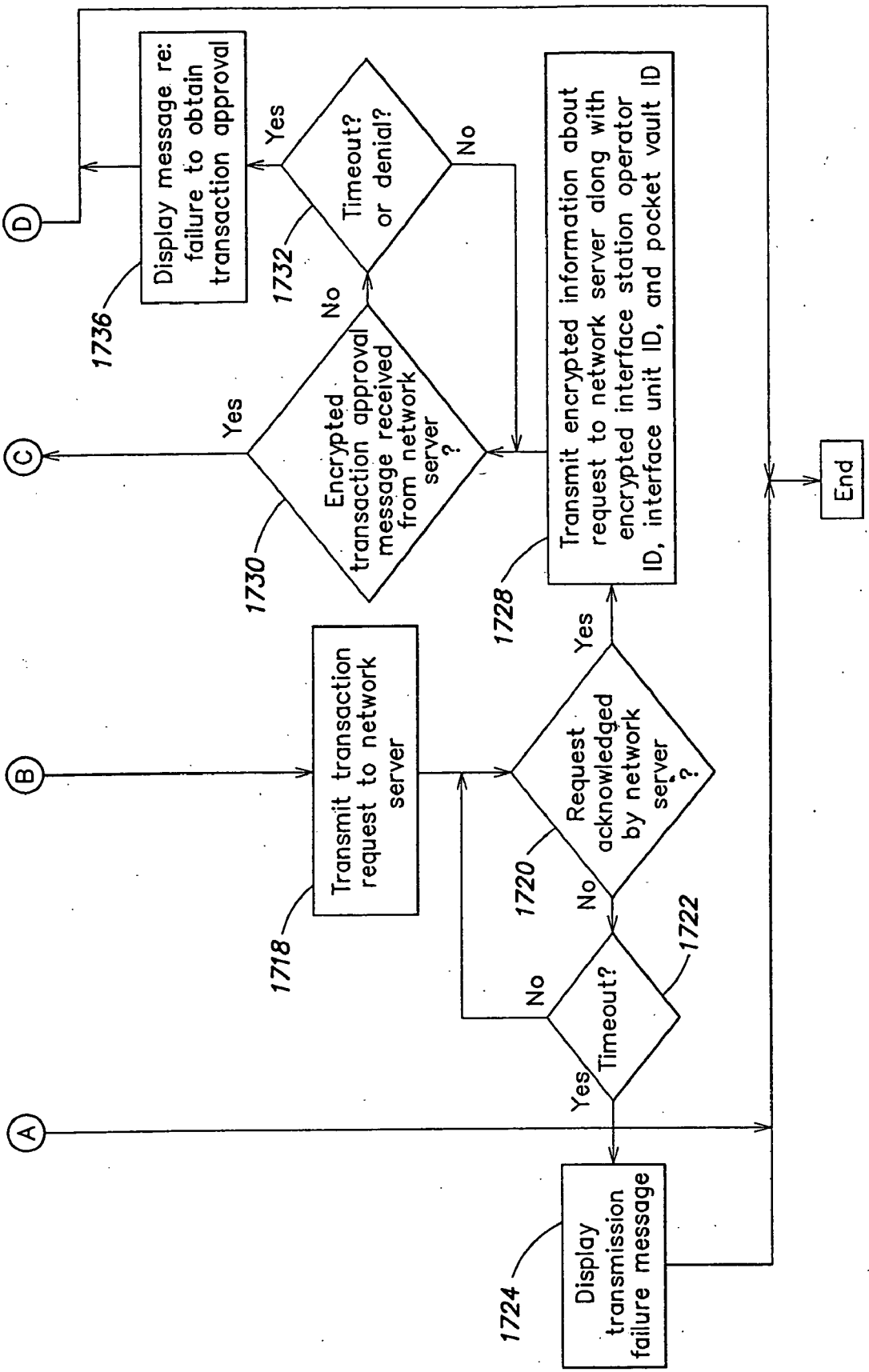

A
B
C
D
Transmit transaction request to network server
1718
Request acknowledged by network server ?
1720
No
Yes
Timeout?
1722
No
Yes
Display transmission failure message
1724
Transmit encrypted information about request to network server along with encrypted interface station operator ID, interface unit ID, and pocket vault ID
1728
Encrypted transaction approval message received from network server ?
1730
No
Yes
Timeout? or denial?
1732
No
Yes
Display message re: failure to obtain transaction approval
1736
End

FIG. 17B

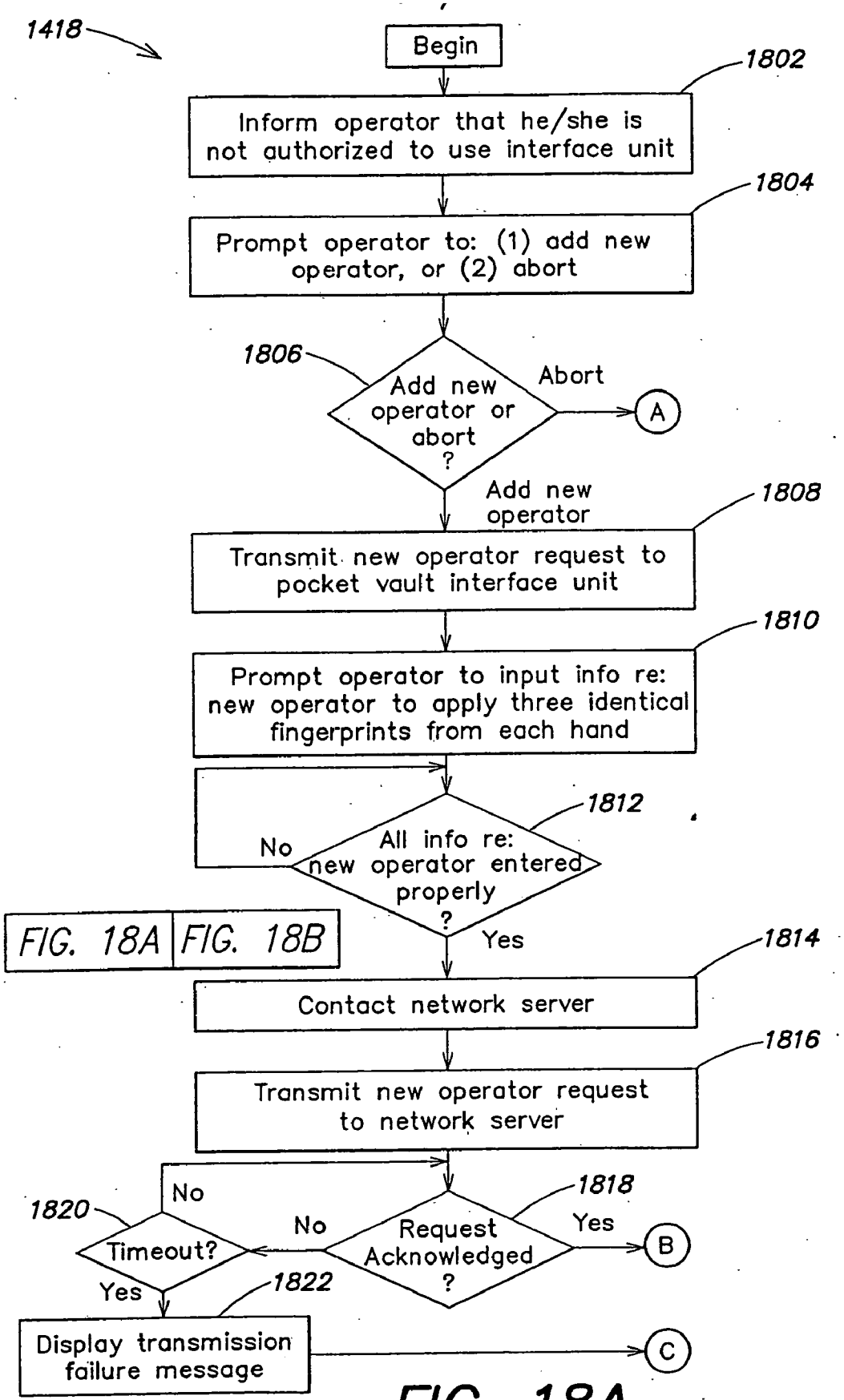


FIG. 18A | FIG. 18B

FIG. 18A

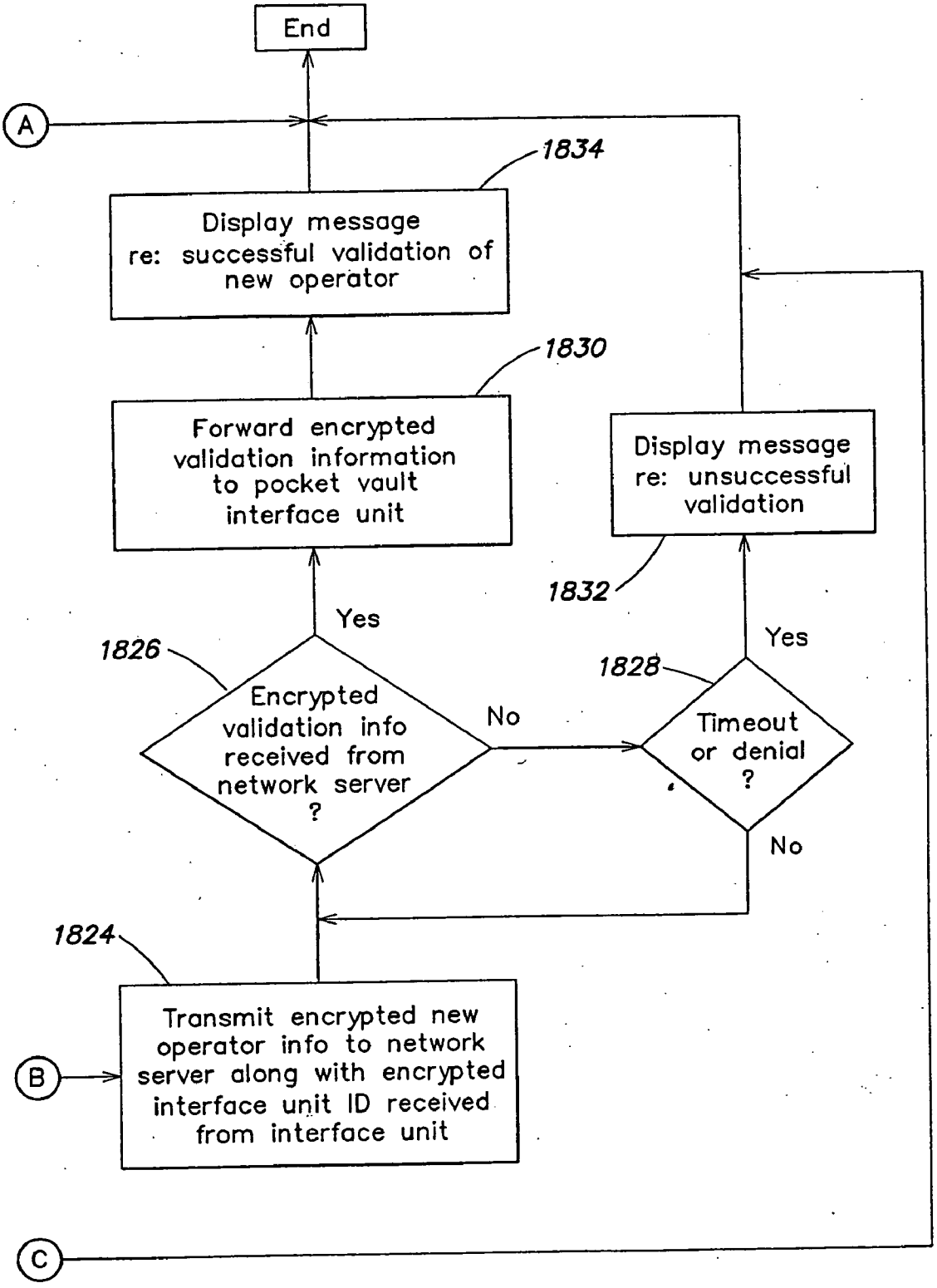

End
A
1834
Display message re: successful validation of new operator
1830
Forward encrypted validation information to pocket vault interface unit
Display message re: unsuccessful validation
1832
Yes
1826
Encrypted validation info received from network server ?
No
1828
Timeout or denial ?
Yes
No
1824
Transmit encrypted new operator info to network server along with encrypted interface unit ID received from interface unit
B
C

FIG. 18B

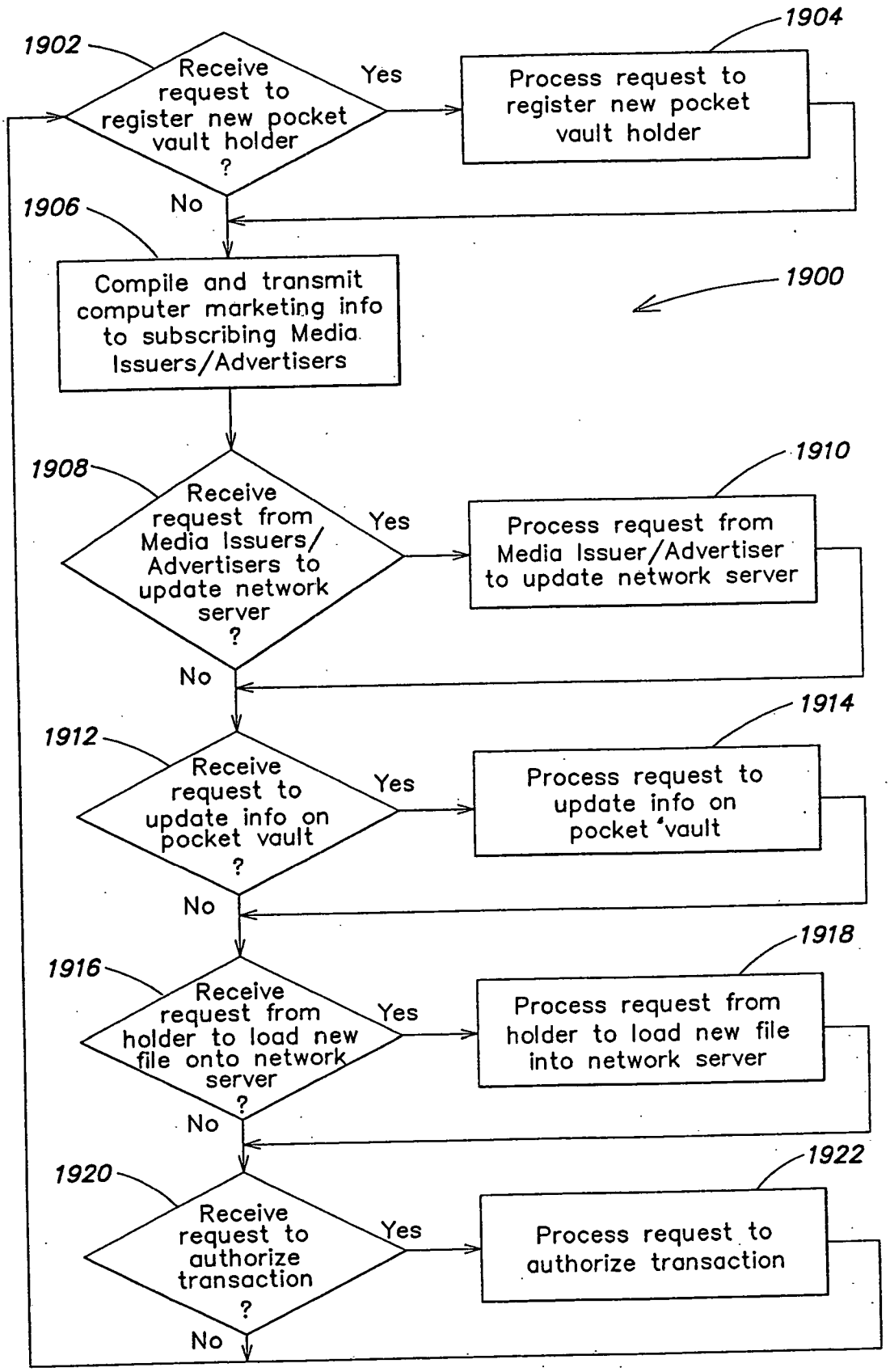

1902
Receive request to register new pocket vault holder ?
Yes
1904
Process request to register new pocket vault holder
No
1906
Compile and transmit computer marketing info to subscribing Media Issuers/Advertisers
1900
1908
Receive request from Media Issuers/ Advertisers to update network server ?
Yes
1910
Process request from Media Issuer/Advertiser to update network server
No
1912
Receive request to update info on pocket vault ?
Yes
1914
Process request to update info on pocket vault
No
1916
Receive request from holder to load new file onto network server ?
Yes
1918
Process request from holder to load new file into network server
No
1920
Receive request to authorize transaction ?
Yes
1922
Process request to authorize transaction
No

FIG. 19

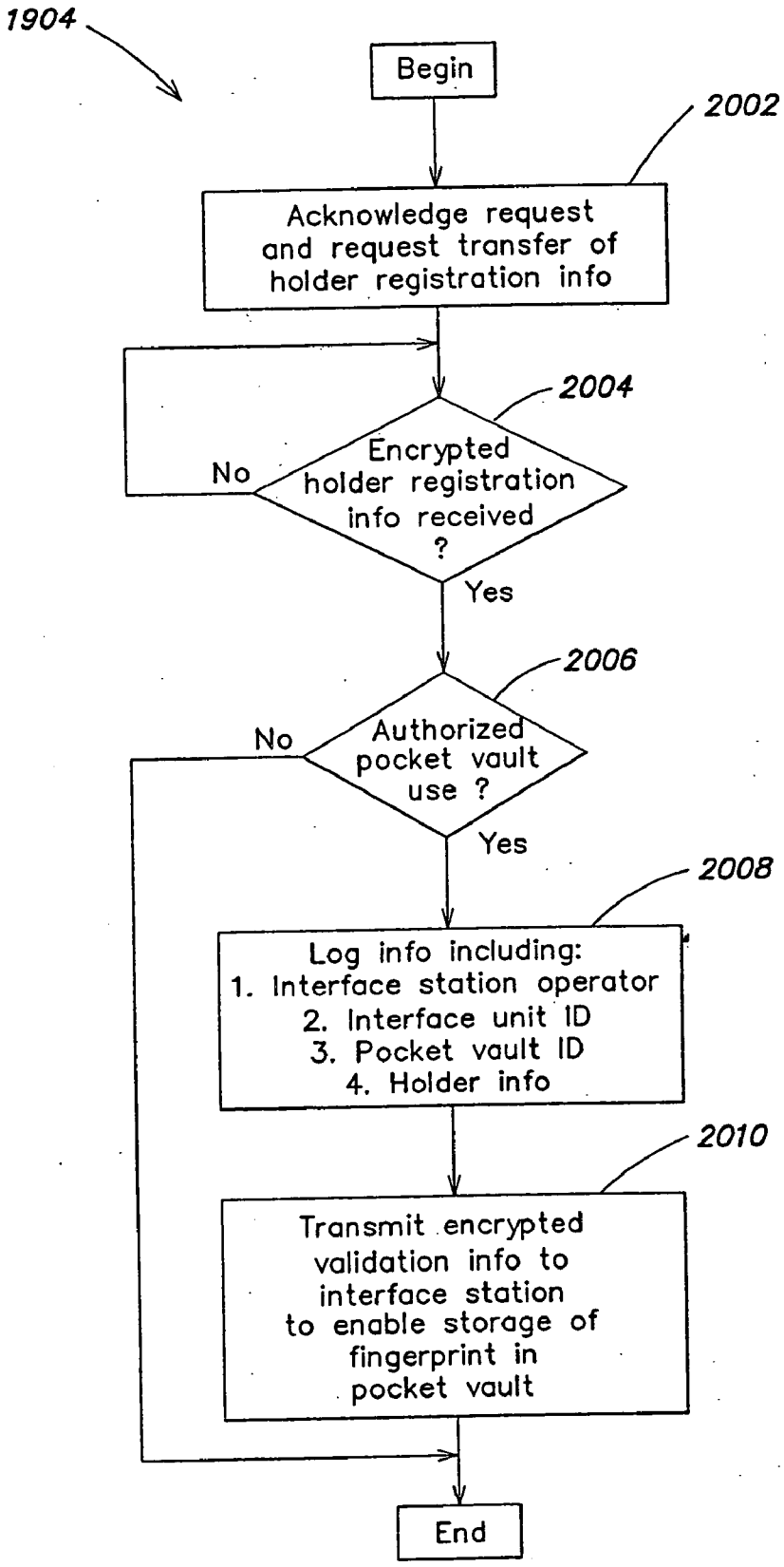

1904
Begin
2002
Acknowledge request and request transfer of holder registration info
2004
Encrypted holder registration info received ?
No
Yes
2006
Authorized pocket vault use ?
No
Yes
2008
Log info including:
1. Interface station operator
2. Interface unit ID
3. Pocket vault ID
4. Holder info
2010
Transmit encrypted validation info to interface station to enable storage of fingerprint in pocket vault
End

FIG. 20

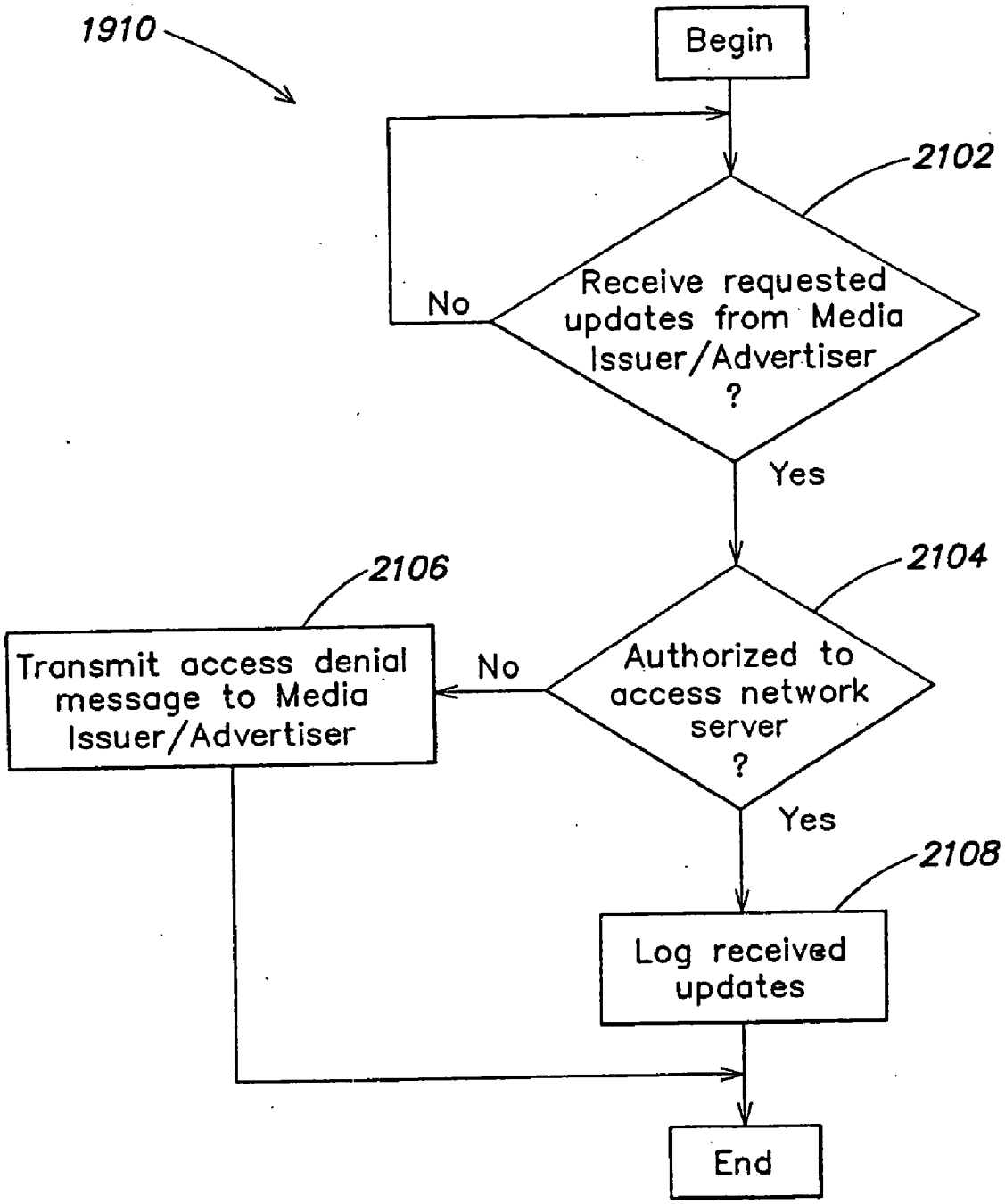

1910
Begin
2102
Receive requested updates from Media Issuer/Advertiser ?
No
Yes
2104
Authorized to access network server ?
No
2106
Transmit access denial message to Media Issuer/Advertiser
Yes
2108
Log received updates
End

FIG. 21

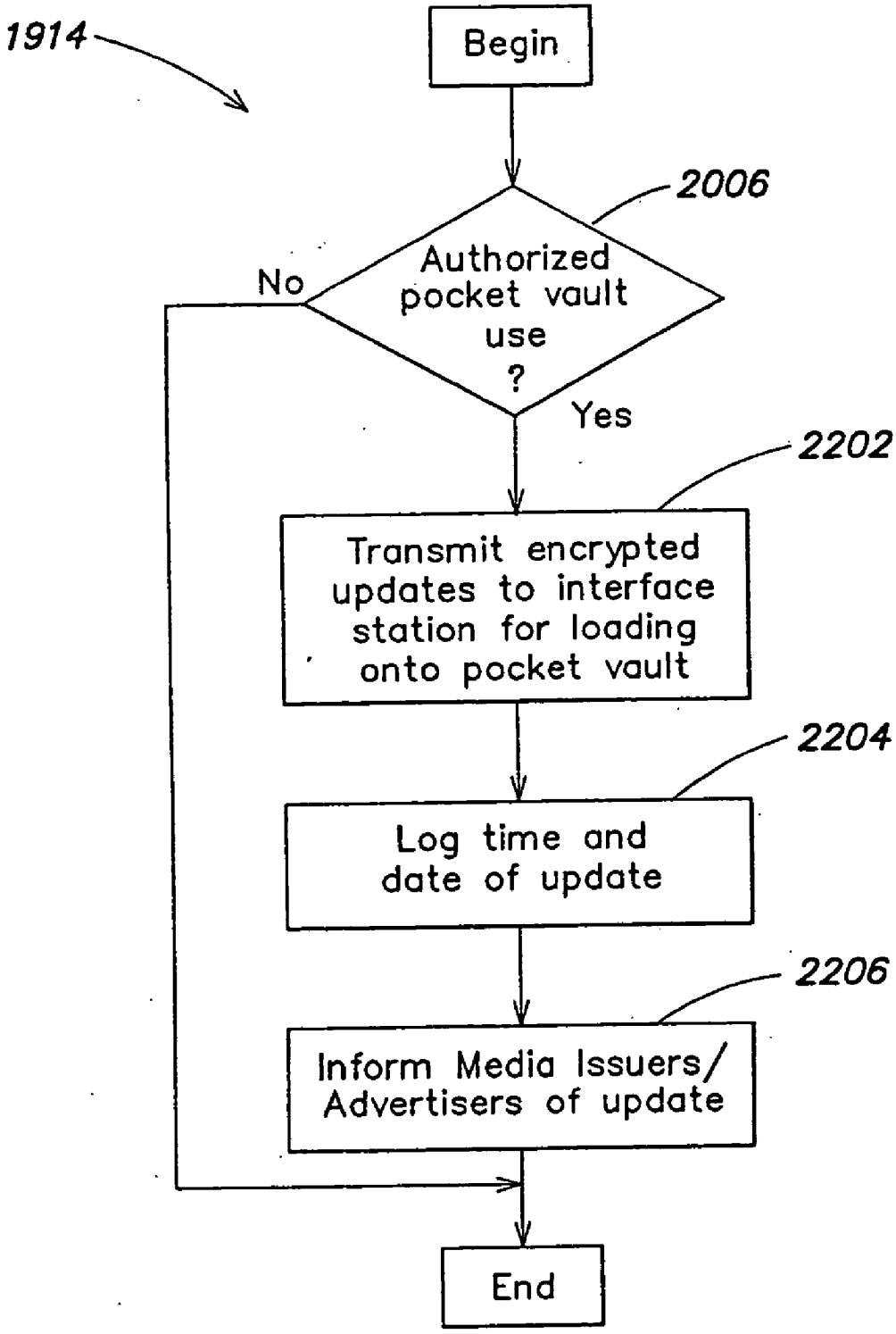

1914
Begin
2006
Authorized pocket vault use ?
No
Yes
2202
Transmit encrypted updates to interface station for loading onto pocket vault
2204
Log time and date of update
2206
Inform Media Issuers/ Advertisers of update
End

FIG. 22

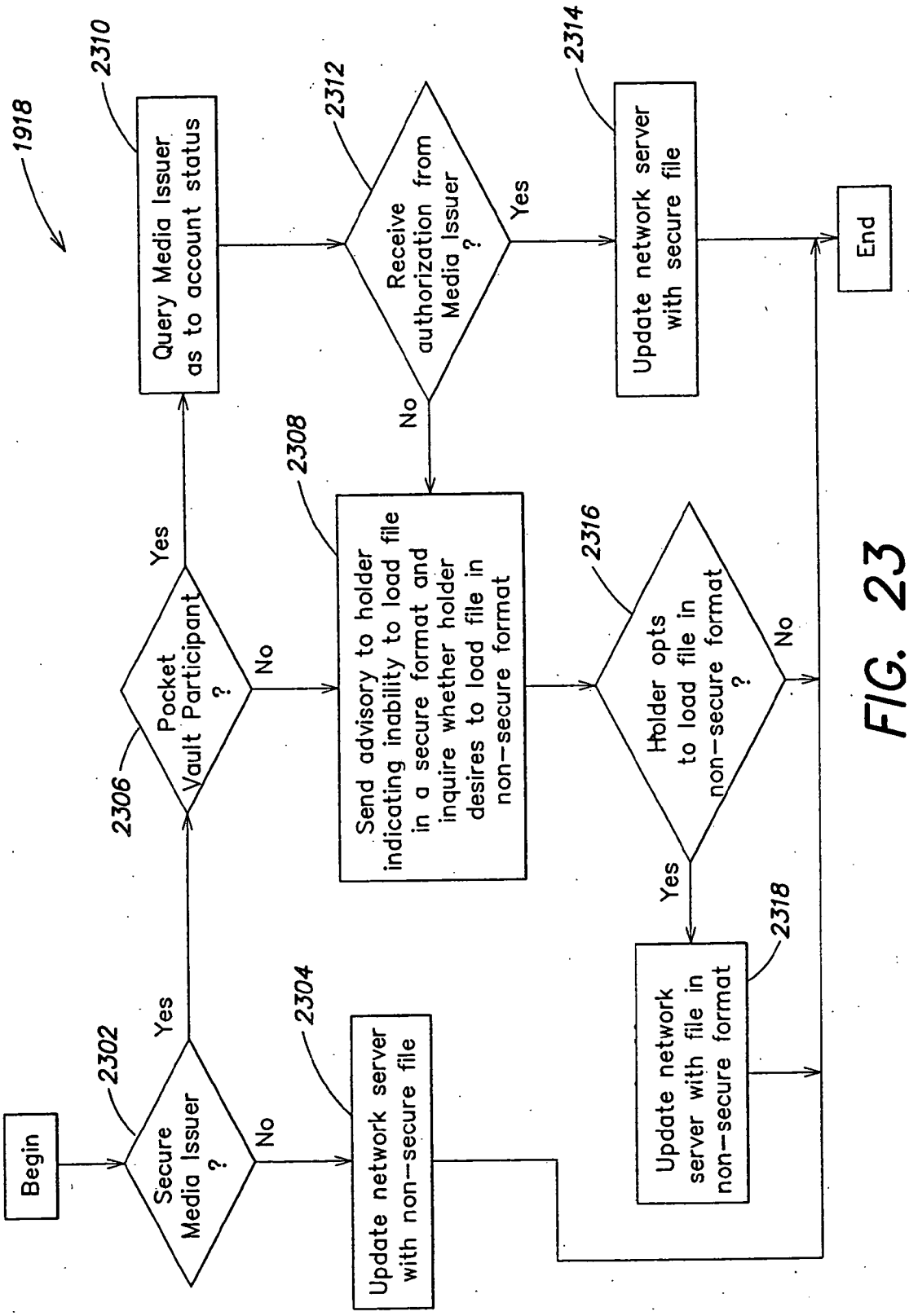

1918
Begin
2302
Secure Media Issuer ?
Yes
No
2304
Update network server with non-secure file
2306
Pocket Vault Participant ?
Yes
No
2308
Send advisory to holder indicating inability to load file in a secure format and inquire whether holder desires to load file in non-secure format
2310
Query Media Issuer as to account status
2312
Receive authorization from Media Issuer ?
Yes
No
2314
Update network server with secure file
2316
Holder opts to load file in non-secure format ?
Yes
No
2318
Update network server with file in non-secure format
End

FIG. 23

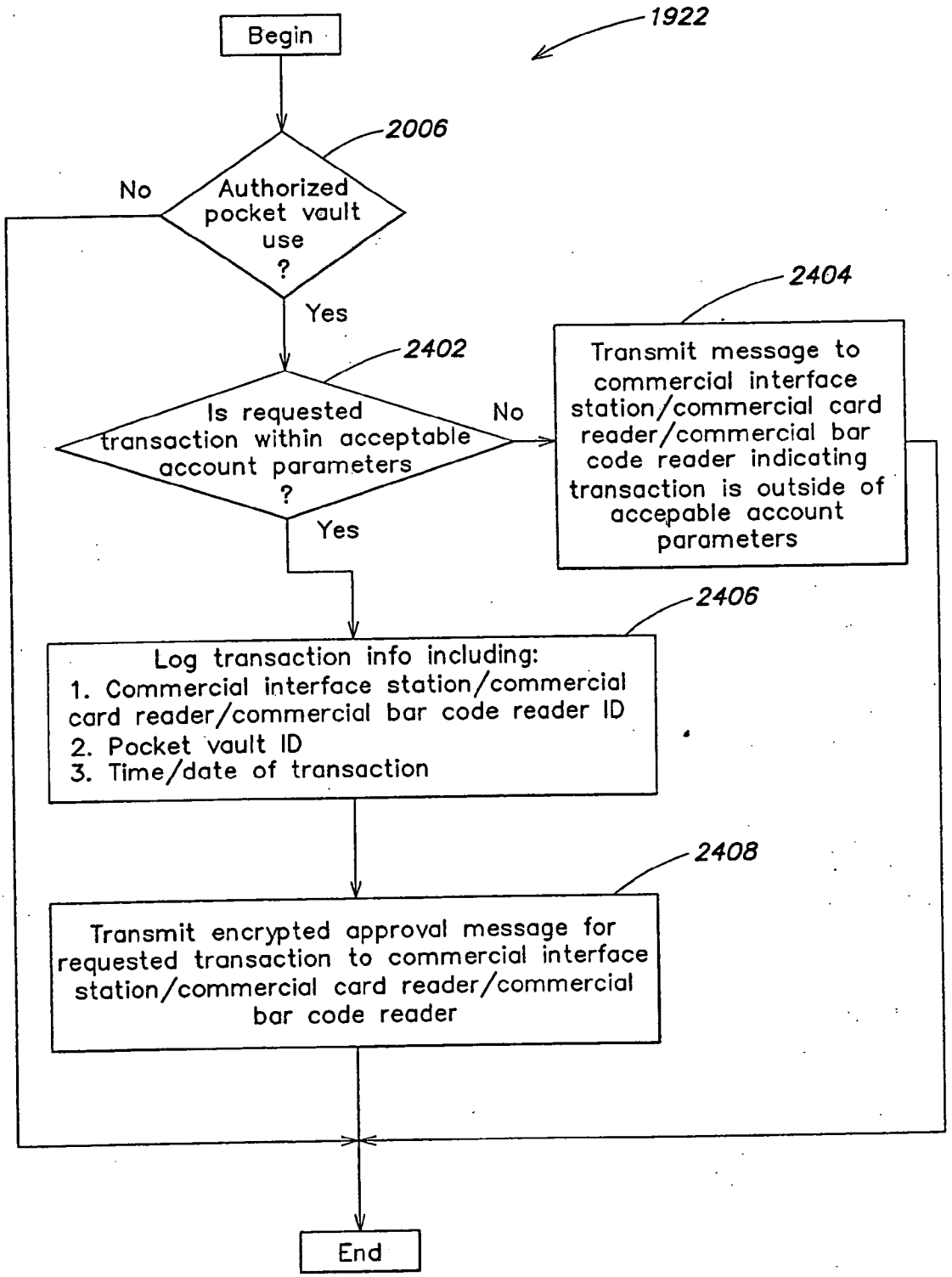

1922
Begin
2006
Authorized pocket vault use ?
No
Yes
2402
Is requested transaction within acceptable account parameters ?
No
Yes
2404
Transmit message to commercial interface station/commercial card reader/commercial bar code reader indicating transaction is outside of accepable account parameters
2406
Log transaction info including:
1. Commercial interface station/commercial card reader/commercial bar code reader ID
2. Pocket vault ID
3. Time/date of transaction
2408
Transmit encrypted approval message for requested transaction to commercial interface station/commercial card reader/commercial bar code reader
End

FIG. 24

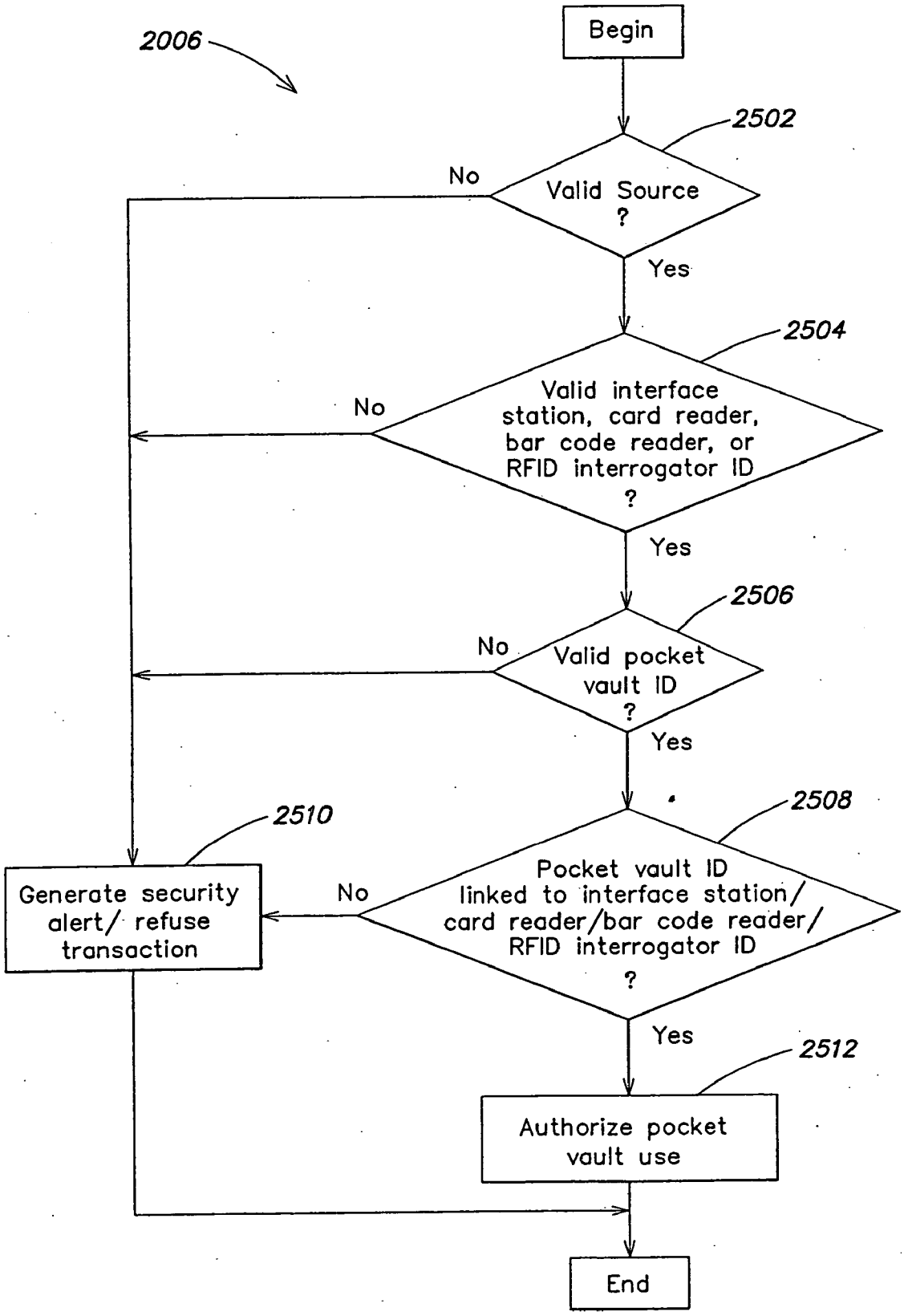

2006
Begin
2502
Valid Source ?
No
Yes
2504
Valid interface station, card reader, bar code reader, or RFID interrogator ID ?
No
Yes
2506
Valid pocket vault ID ?
No
Yes
2508
Pocket vault ID linked to interface station/ card reader/bar code reader/ RFID interrogator ID ?
No
Yes
2510
Generate security alert/ refuse transaction
2512
Authorize pocket vault use
End

FIG. 25

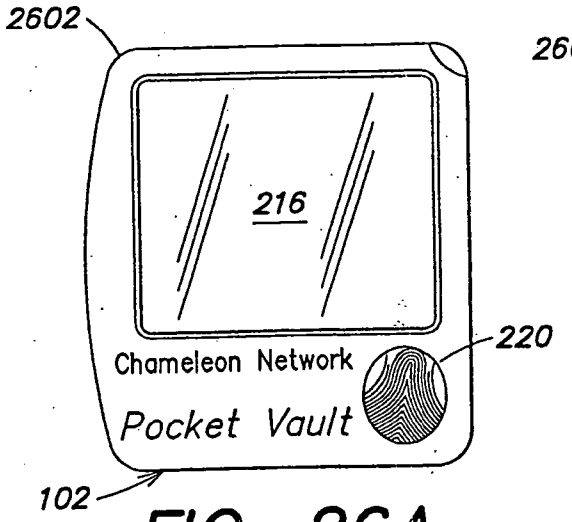


FIG. 26A

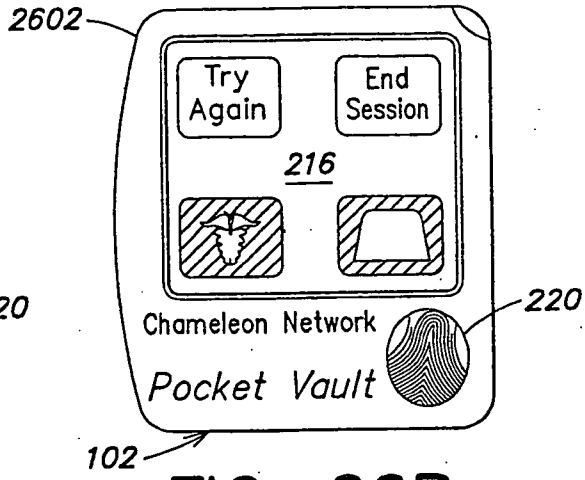


FIG. 26B

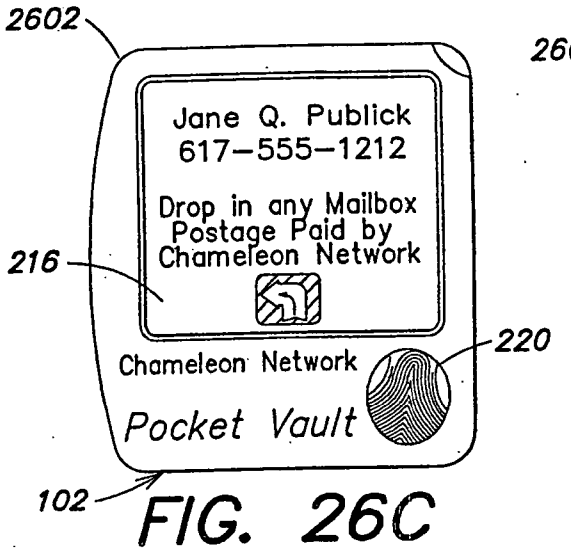


FIG. 26C

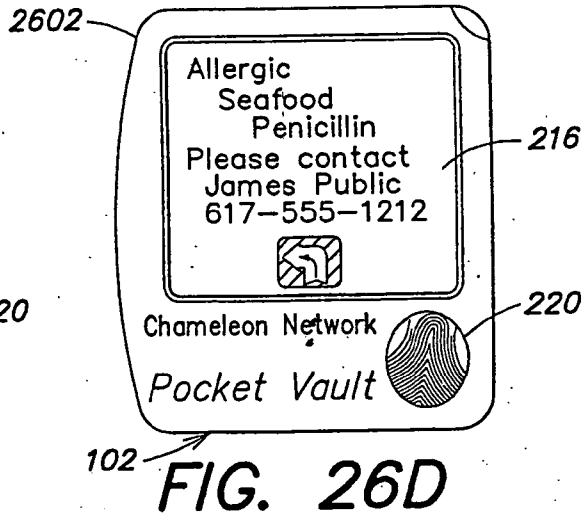


FIG. 26D

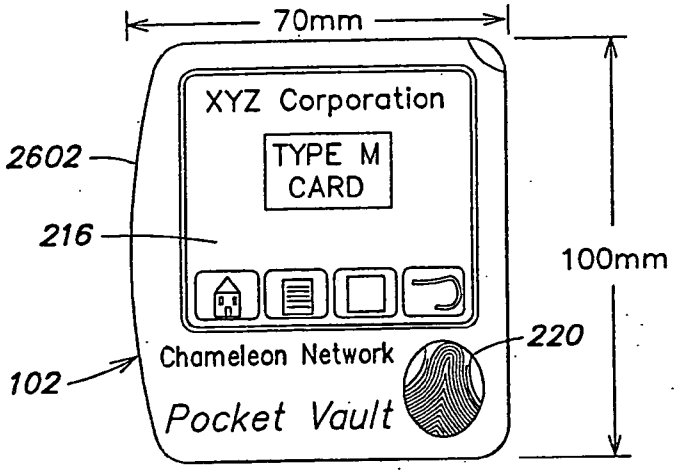


FIG. 26E

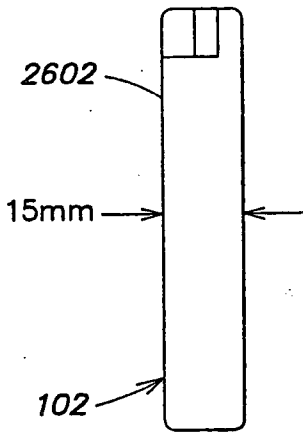


FIG. 26F

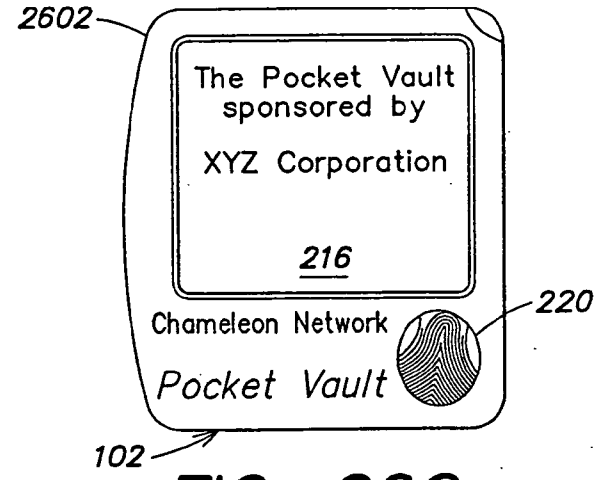


FIG. 26G

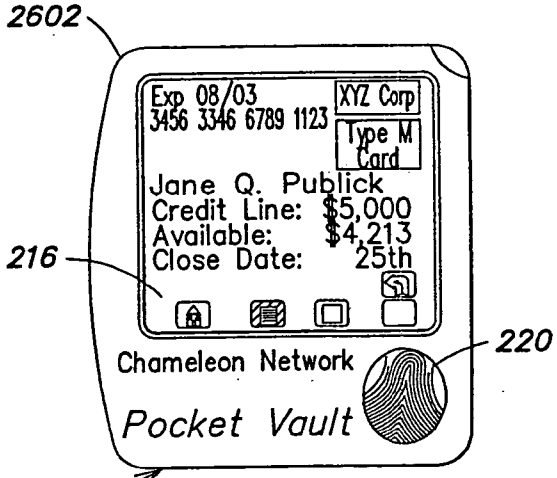


FIG. 26H

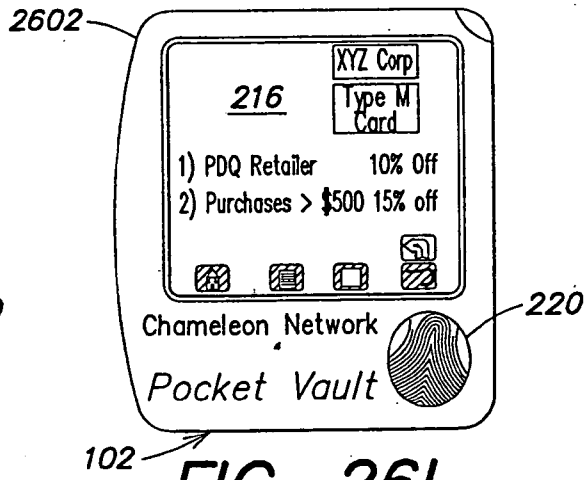


FIG. 26I

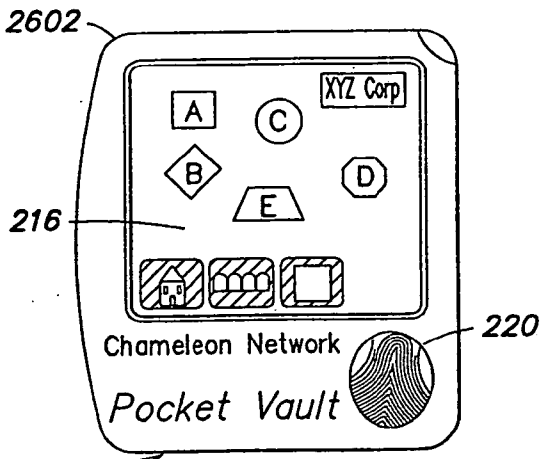


FIG. 26J

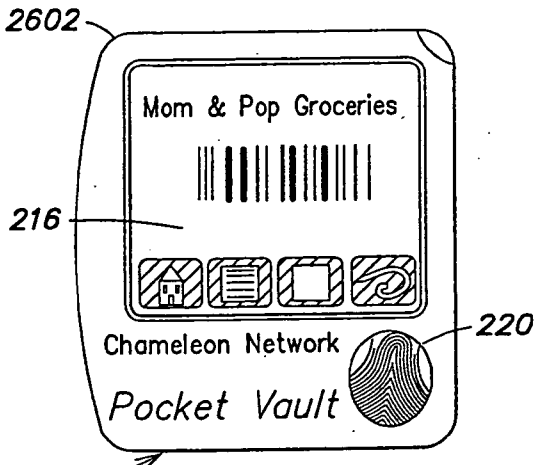


FIG. 26K

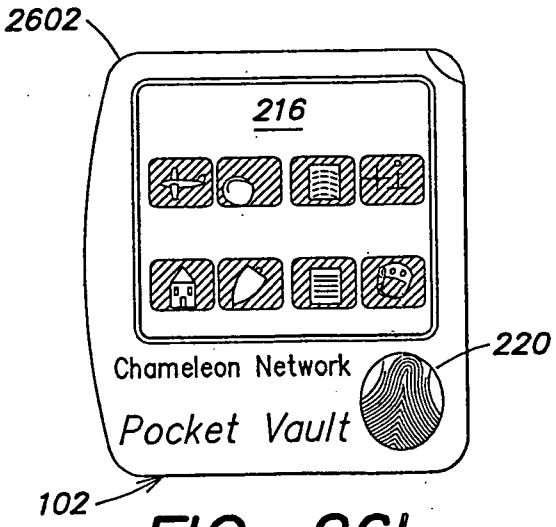


FIG. 26L

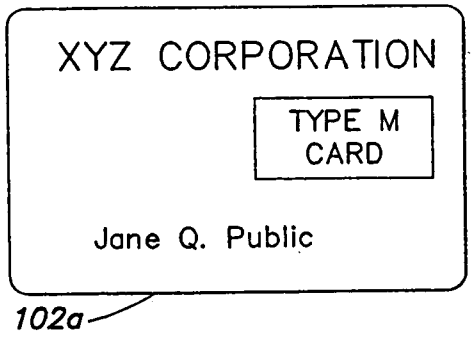


FIG. 26M

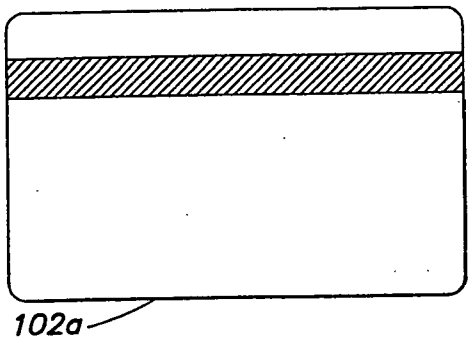


FIG. 26N

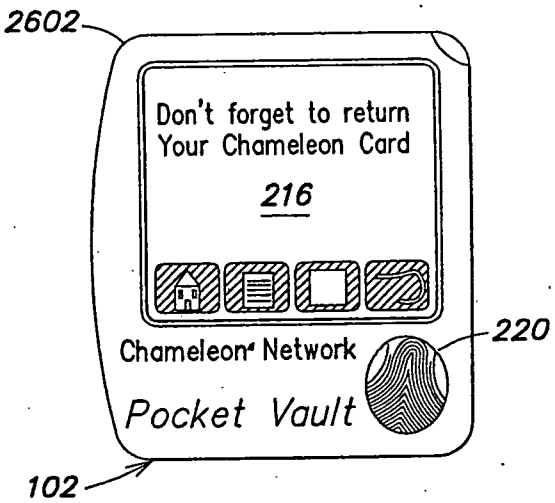


FIG. 26O

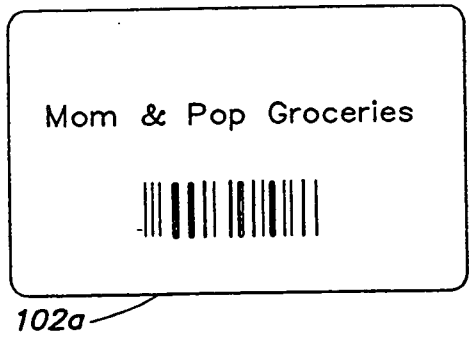


FIG. 26P

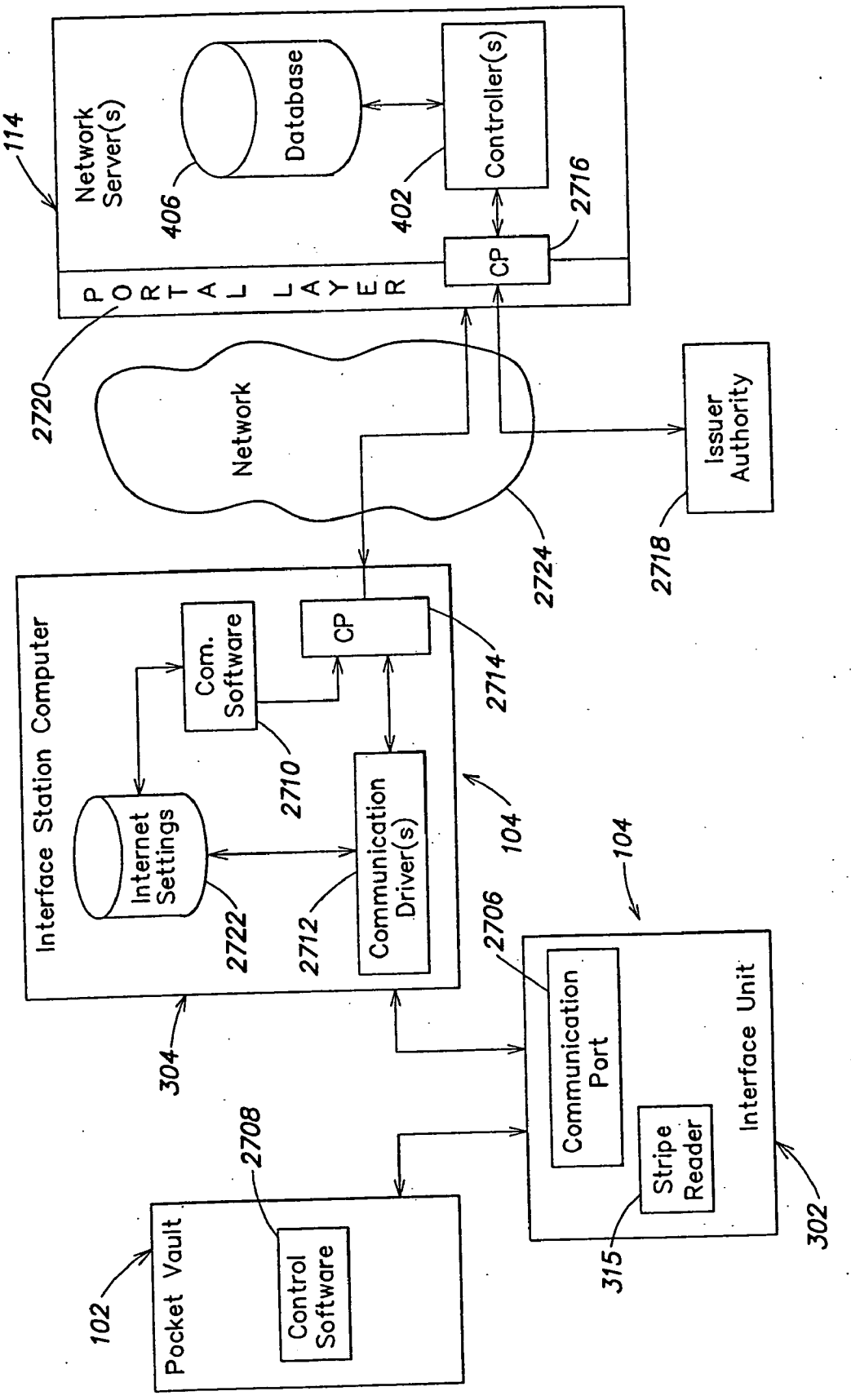

114
Network Server(s)
Database
406
Controller(s)
402
2716
CP
PORTAL LAYER
2720
Network
Issuer Authority
2724
2718
Interface Station Computer
Com. Software
CP
2714
2710
Internet Settings
2722
Communication Driver(s)
2712
104
104
2706
Communication Port
Stripe Reader
315
Interface Unit
302
304
2708
Control Software
Pocket Vault
102

FIG. 27

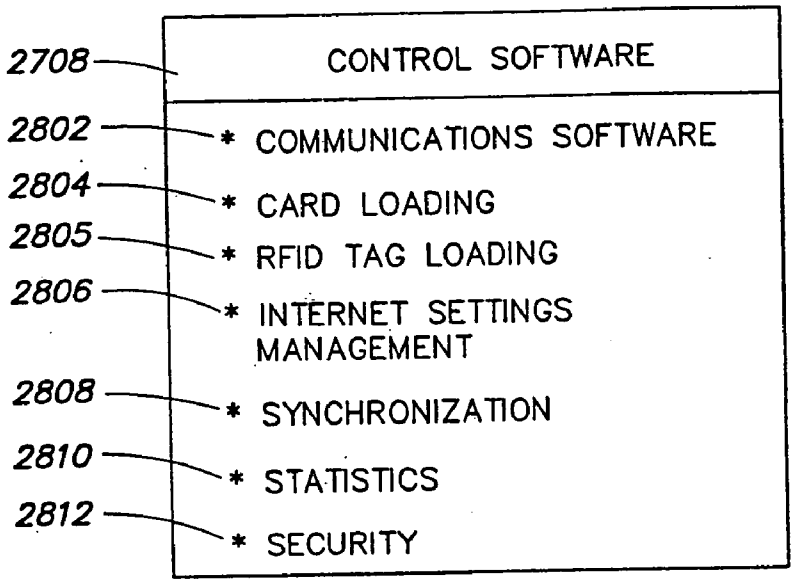

2708
CONTROL SOFTWARE
2802
* COMMUNICATIONS SOFTWARE
2804
* CARD LOADING
2805
* RFID TAG LOADING
2806
* INTERNET SETTINGS MANAGEMENT
2808
* SYNCHRONIZATION
2810
* STATISTICS
2812
* SECURITY

FIG. 28

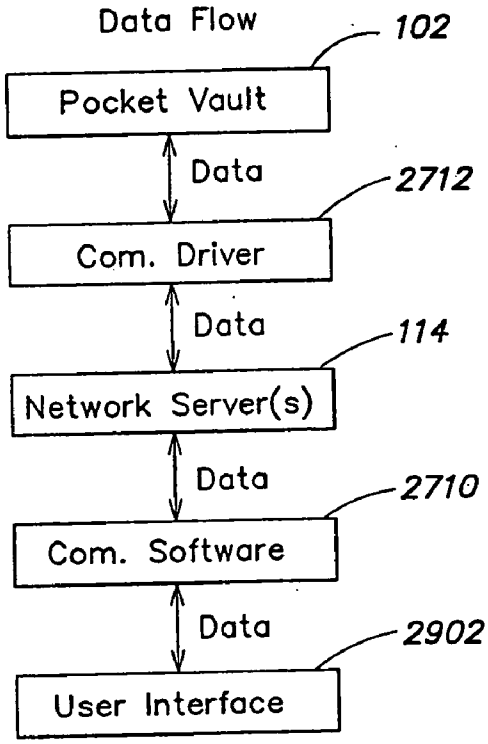

Data Flow
102
Pocket Vault
Data
2712
Com. Driver
Data
114
Network Server(s)
Data
2710
Com. Software
Data
2902
User Interface

FIG. 29

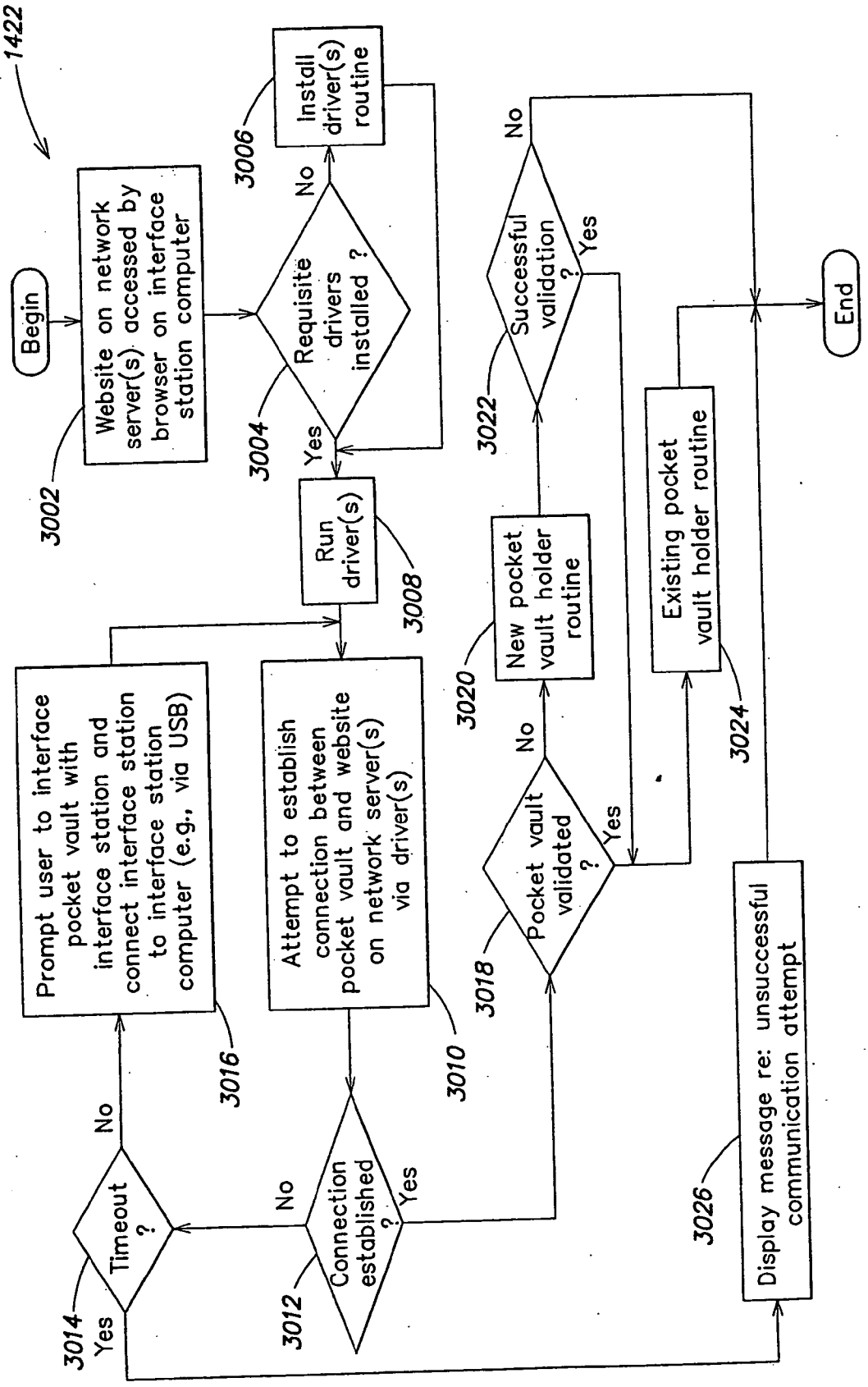

1422
Begin
Website on network server(s) accessed by browser on interface station computer
3002
Requisite drivers installed ?
3004
No
Install driver(s) routine
3006
Yes
Run driver(s)
3008
Prompt user to interface pocket vault with interface station and connect interface station to interface station computer (e.g., via USB)
3016
Attempt to establish connection between pocket vault and website on network server(s) via driver(s)
3010
Timeout ?
3014
No
Yes
Connection established ?
3012
No
Yes
Pocket vault validated ?
3018
No
Yes
New pocket vault holder routine
3020
Successful validation ?
3022
No
Yes
Existing pocket vault holder routine
3024
Display message re: unsuccessful communication attempt
3026
End

FIG. 30

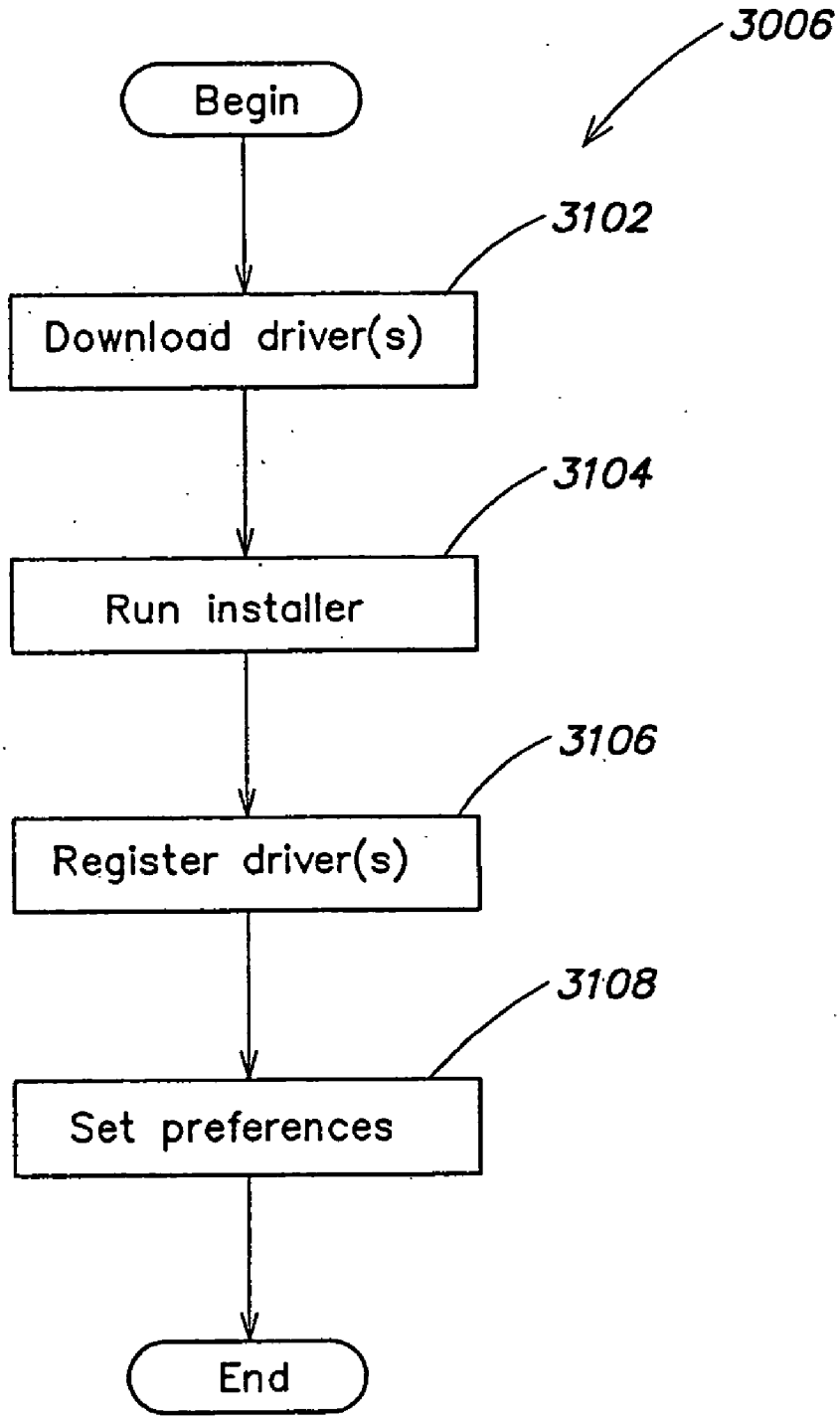

3006
Begin
3102
Download driver(s)
3104
Run installer
3106
Register driver(s)
3108
Set preferences
End

FIG. 31

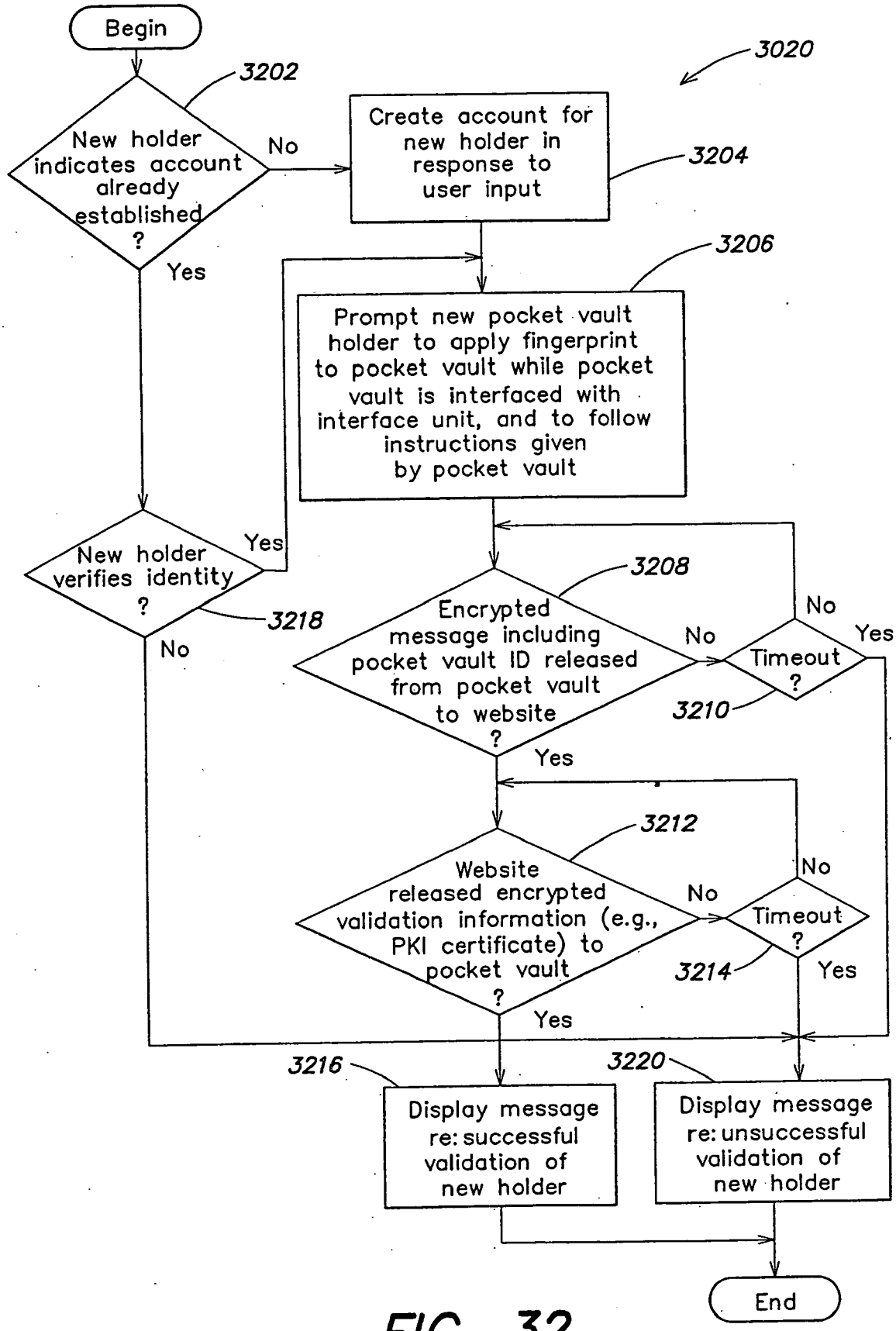

Begin
3020
3202
New holder indicates account already established ?
No
Create account for new holder in response to user input
3204
Yes
3206
Prompt new pocket vault holder to apply fingerprint to pocket vault while pocket vault is interfaced with interface unit, and to follow instructions given by pocket vault
New holder verifies identity ?
Yes
3218
No
3208
Encrypted message including pocket vault ID released from pocket vault to website ?
No
Timeout ?
Yes
No
3210
Yes
3212
Website released encrypted validation information (e.g., PKI certificate) to pocket vault ?
No
Timeout ?
No
3214
Yes
Yes
3216
Display message re: successful validation of new holder
3220
Display message re: unsuccessful validation of new holder
End

FIG. 32

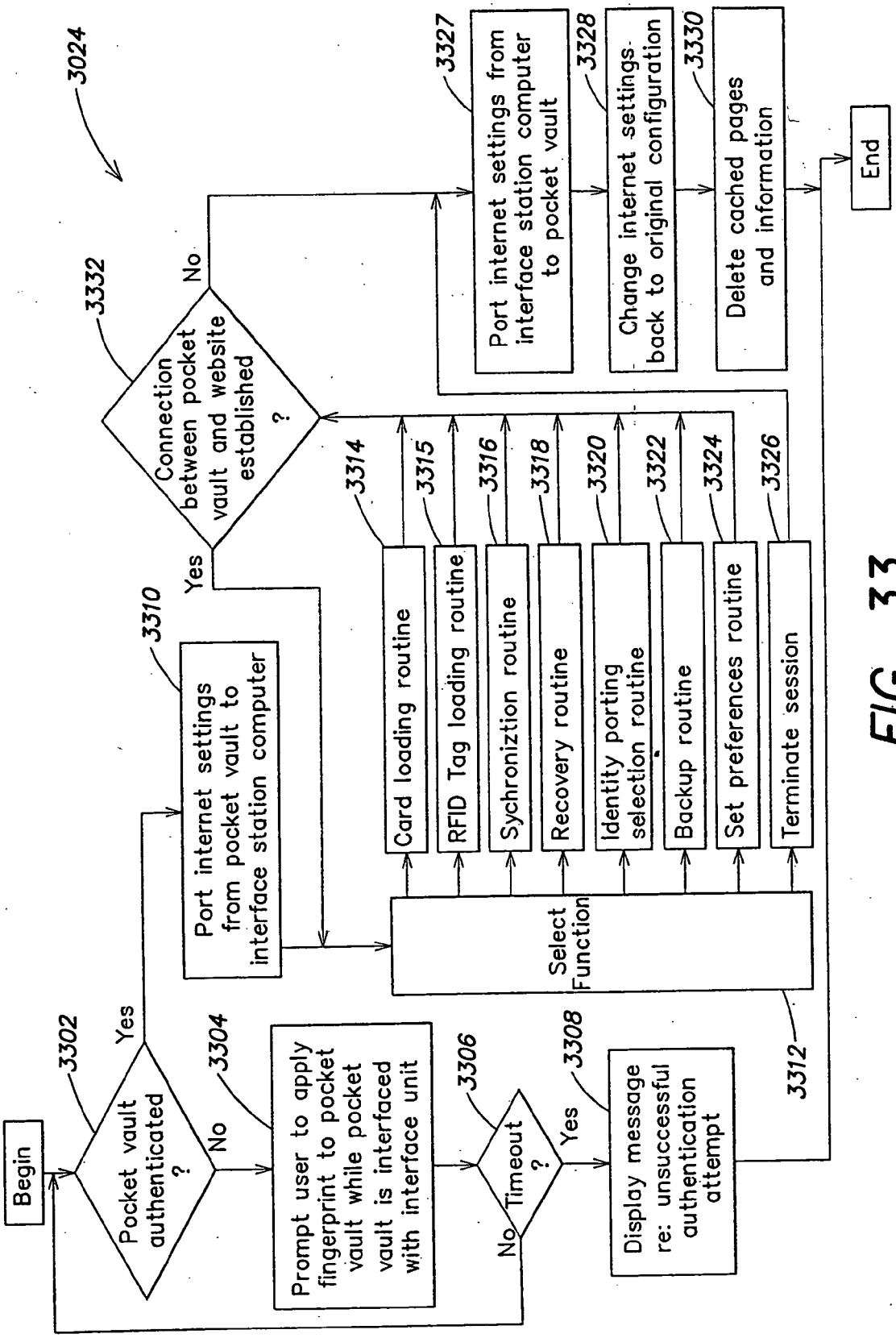

3024
Begin
3302
Pocket vault authenticated ?
Yes
No
3304
Prompt user to apply fingerprint to pocket vault while pocket vault is interfaced with interface unit
3306
Timeout ?
No
Yes
3308
Display message re: unsuccessful authentication attempt
3310
Port internet settings from pocket vault to interface station computer
3312
Select Function
3314
Card loading routine
3315
RFID Tag loading routine
3316
Sychroniztion routine
3318
Recovery routine
3320
Identity porting selection routine
3322
Backup routine
3324
Set preferences routine
3326
Terminate session
3327
Port internet settings from interface station computer to pocket vault
3328
Change internet settings back to original configuration
3330
Delete cached pages and information
End
3332
Connection between pocket vault and website established ?
Yes
No

FIG. 33

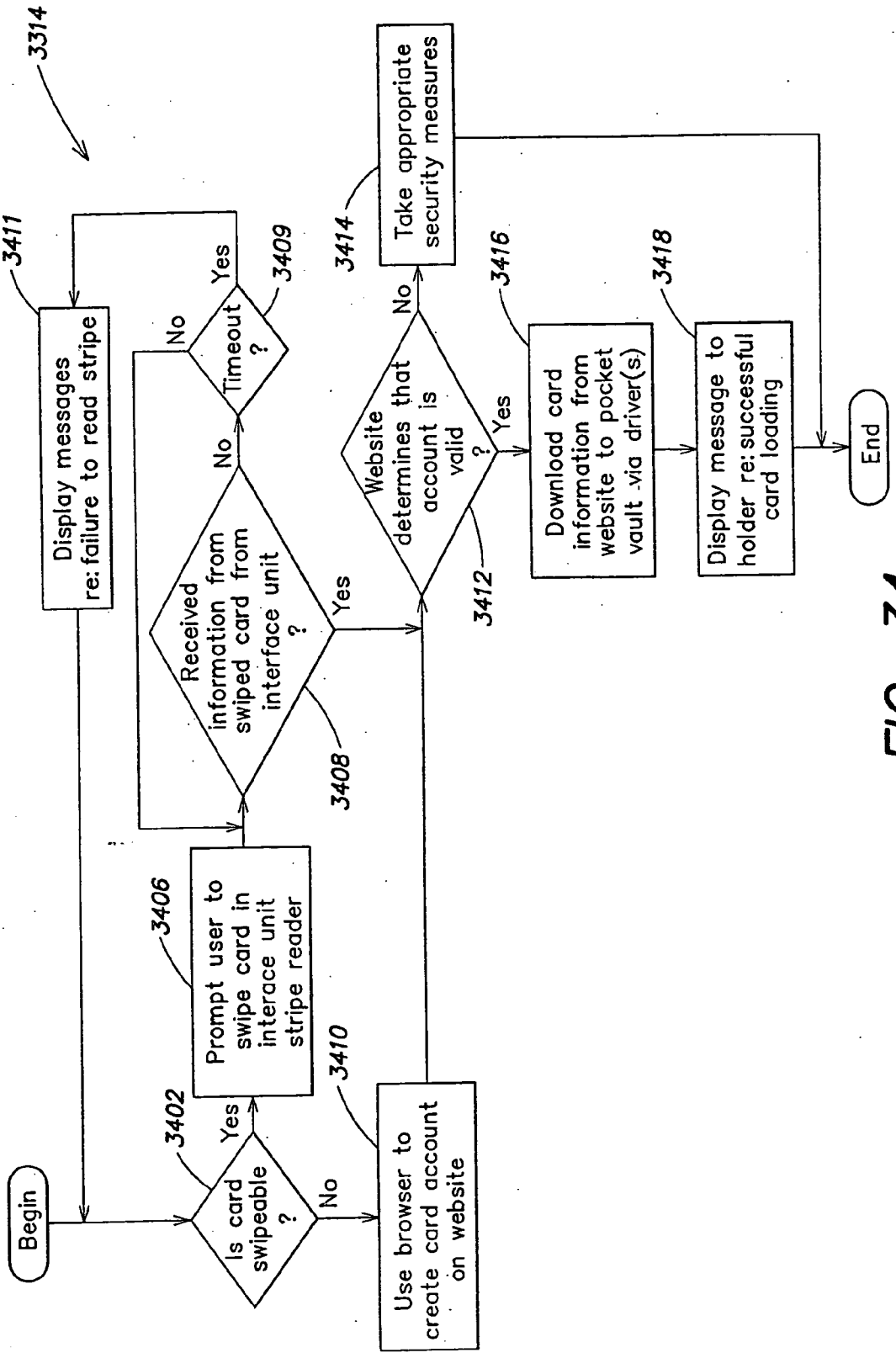

3314
Begin
3402
Is card swipeable ?
Yes
No
3406
Prompt user to swipe card in interace unit stripe reader
3410
Use browser to create card account on website
3408
Received information from swiped card from interface unit ?
No
Yes
3409
Timeout ?
Yes
No
3411
Display messages re: failure to read stripe
3412
Website determines that account is valid ?
No
Yes
3414
Take appropriate security measures
3416
Download card information from website to pocket vault via driver(s)
3418
Display message to holder re: successful card loading
End

FIG. 34

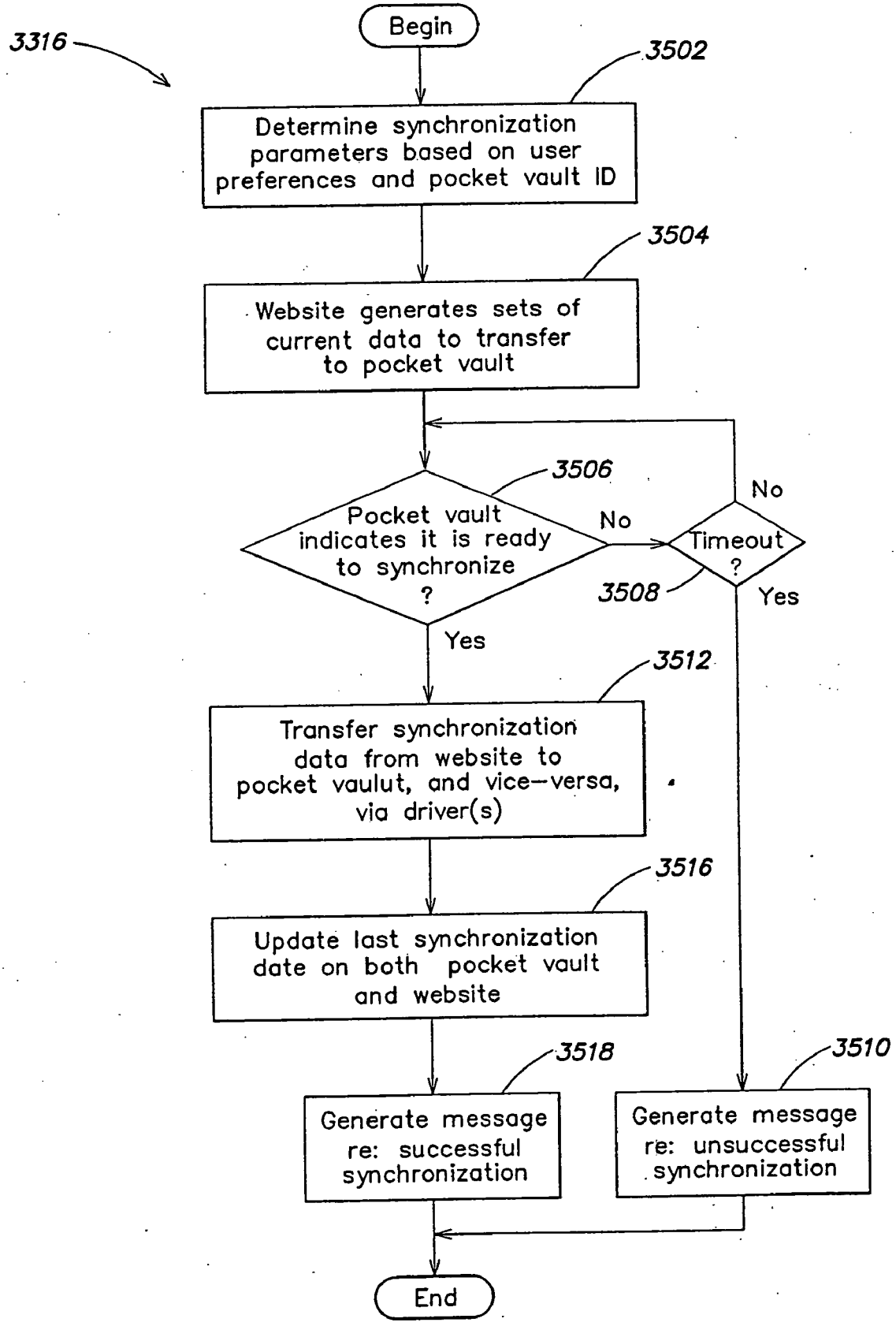

3316
Begin
3502
Determine synchronization parameters based on user preferences and pocket vault ID
3504
Website generates sets of current data to transfer to pocket vault
3506
Pocket vault indicates it is ready to synchronize ?
No
Timeout ?
No
Yes
3508
Yes
3512
Transfer synchronization data from website to pocket vaulut, and vice-versa, via driver(s)
3516
Update last synchronization date on both pocket vault and website
3518
Generate message re: successful synchronization
3510
Generate message re: unsuccessful synchronization
End

FIG. 35

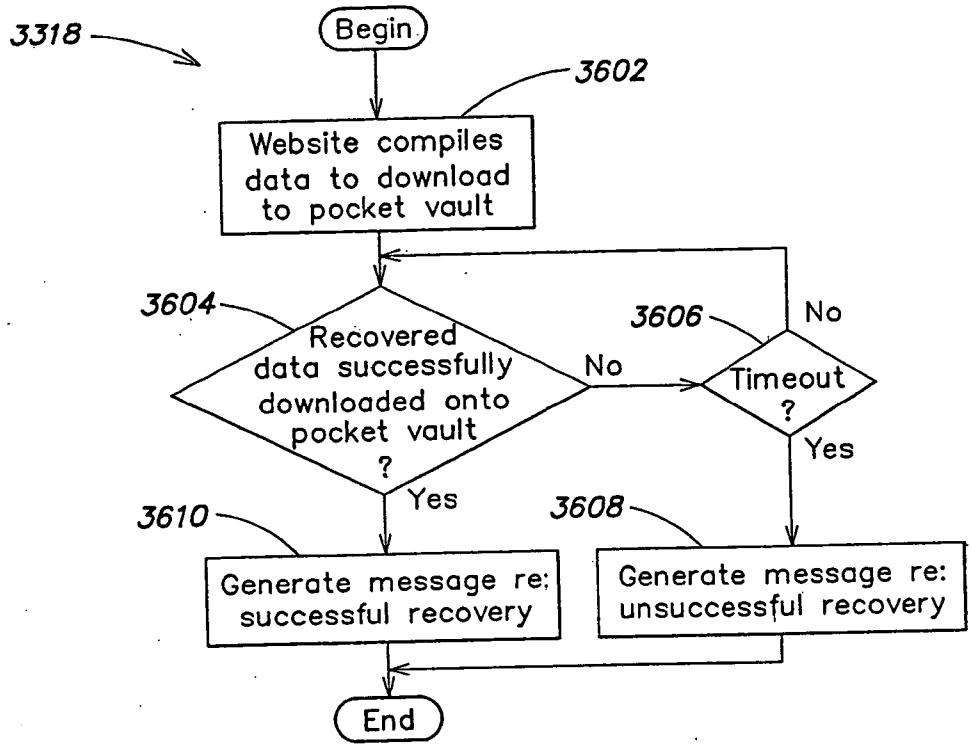

3318
Begin
3602
Website compiles data to download to pocket vault
3604
Recovered data successfully downloaded onto pocket vault ?
No
3606
Timeout ?
No
Yes
Yes
3610
Generate message re: successful recovery
3608
Generate message re: unsuccessful recovery
End

FIG. 36

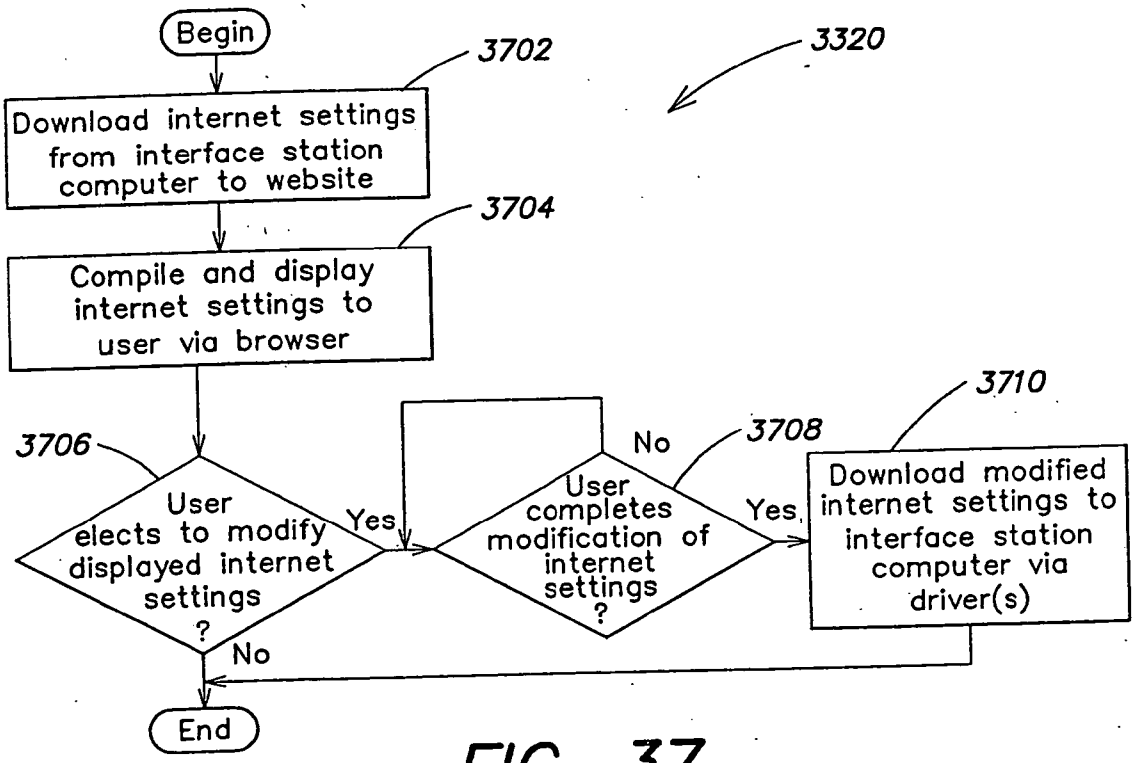

Begin
3702
3320
Download internet settings from interface station computer to website
3704
Compile and display internet settings to user via browser
3706
User elects to modify displayed internet settings ?
Yes
No
3708
User completes modification of internet settings ?
No
Yes
3710
Download modified internet settings to interface station computer via driver(s)
End

FIG. 37

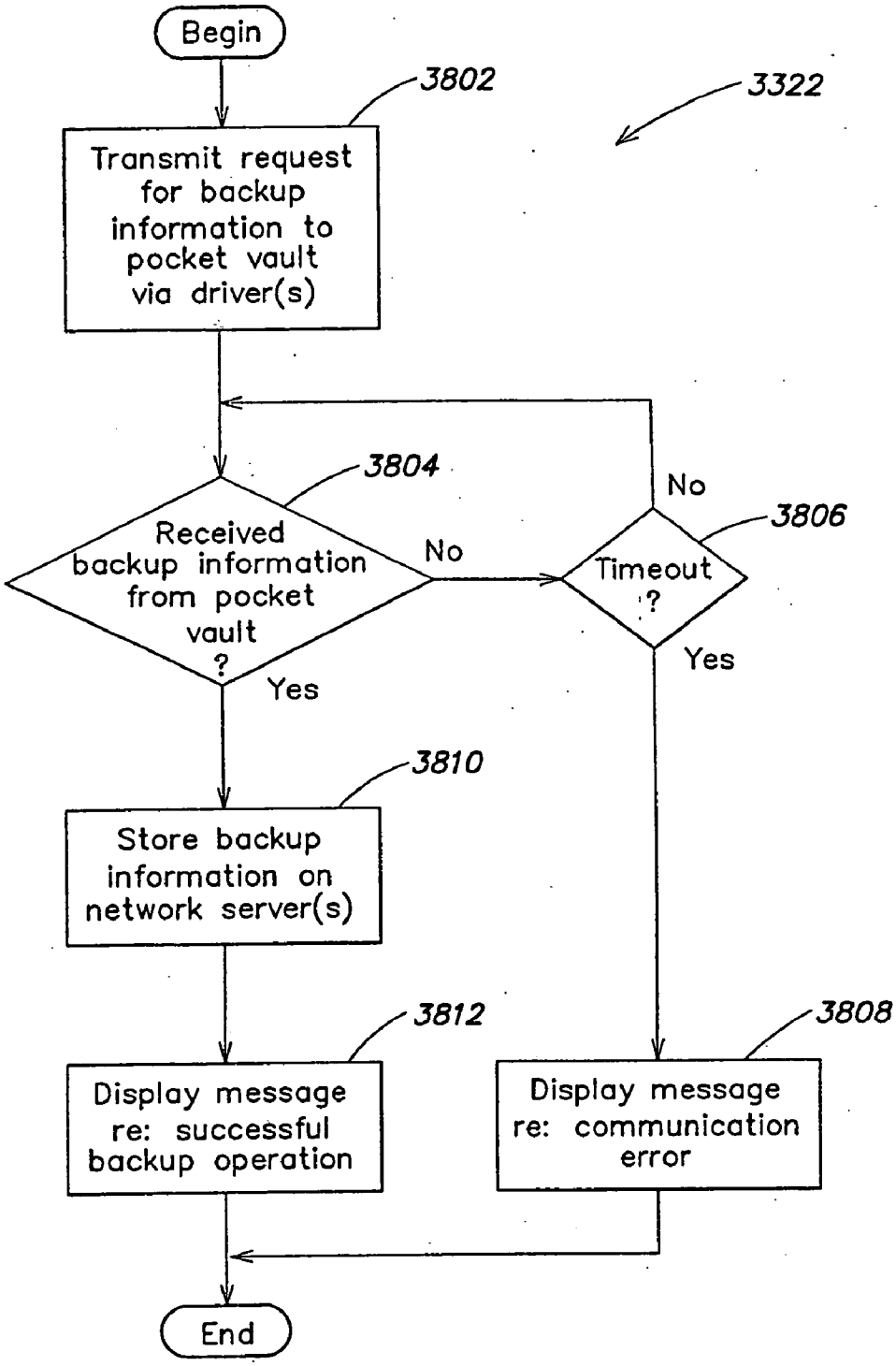

Begin
3802
3322
Transmit request for backup information to pocket vault via driver(s)
3804
Received backup information from pocket vault ?
No
Yes
3806
Timeout ?
No
Yes
3810
Store backup information on network server(s)
3812
Display message re: successful backup operation
3808
Display message re: communication error
End

FIG. 38

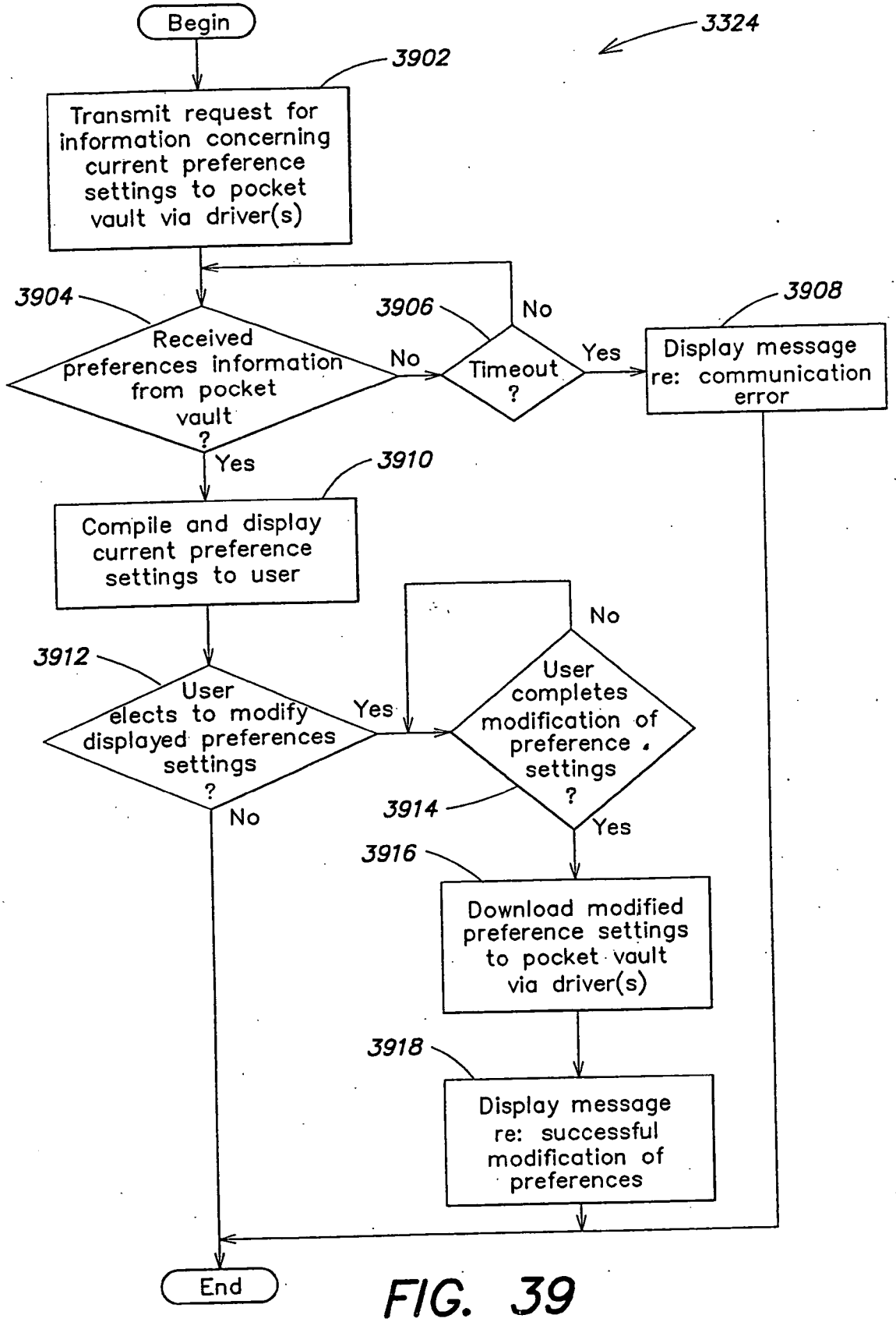

Begin
3324
3902
Transmit request for information concerning current preference settings to pocket vault via driver(s)
3904
Received preferences information from pocket vault ?
No
3906
Timeout ?
No
Yes
3908
Display message re: communication error
Yes
3910
Compile and display current preference settings to user
3912
User elects to modify displayed preferences settings ?
Yes
No
User completes modification of preference settings ?
No
3914
Yes
3916
Download modified preference settings to pocket vault via driver(s)
3918
Display message re: successful modification of preferences
End

FIG. 39

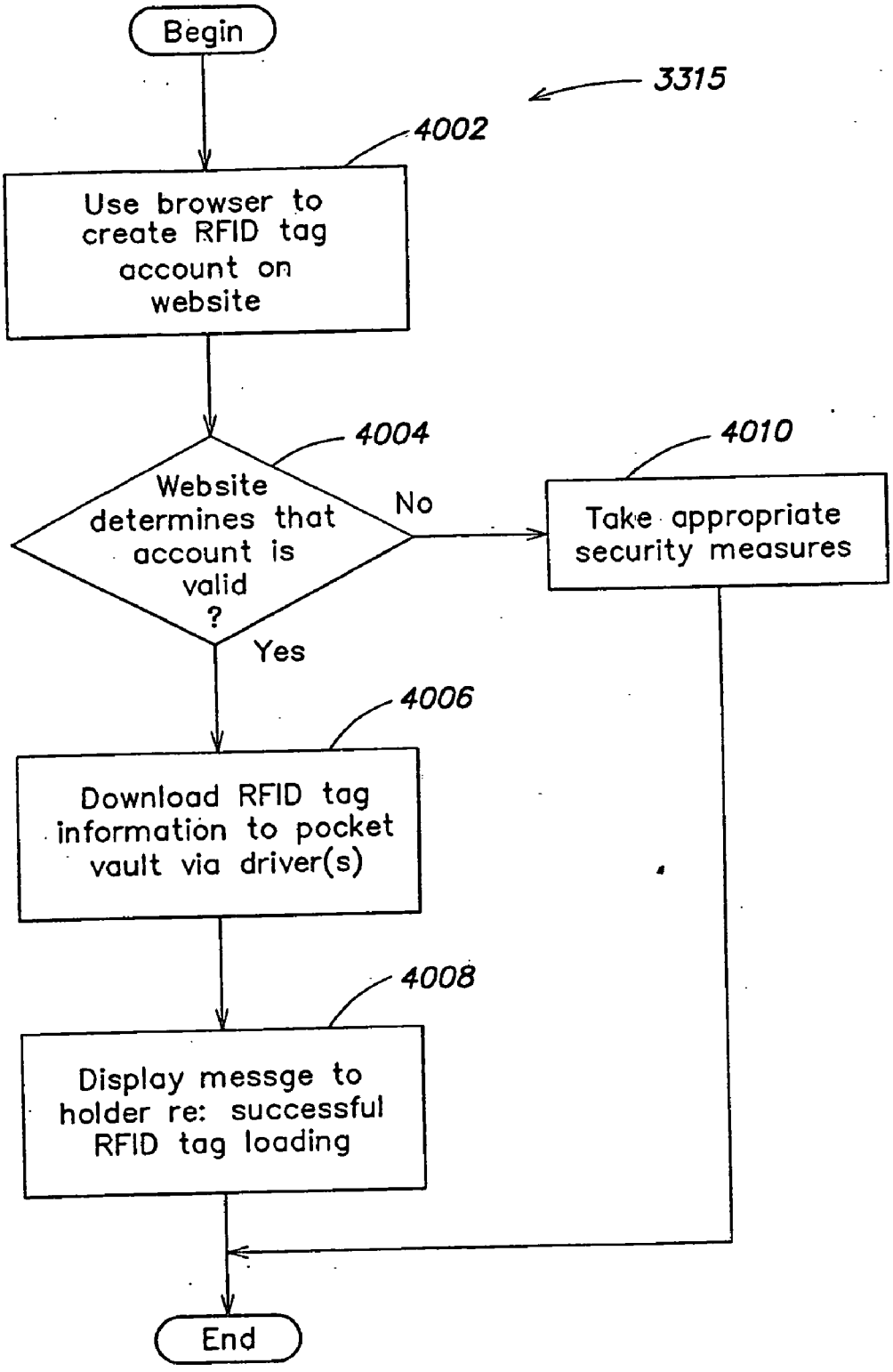

Begin
3315
4002
Use browser to create RFID tag account on website
4004
Website determines that account is valid ?
No
4010
Take appropriate security measures
Yes
4006
Download RFID tag information to pocket vault via driver(s)
4008
Display messge to holder re: successful RFID tag loading
End

FIG. 40

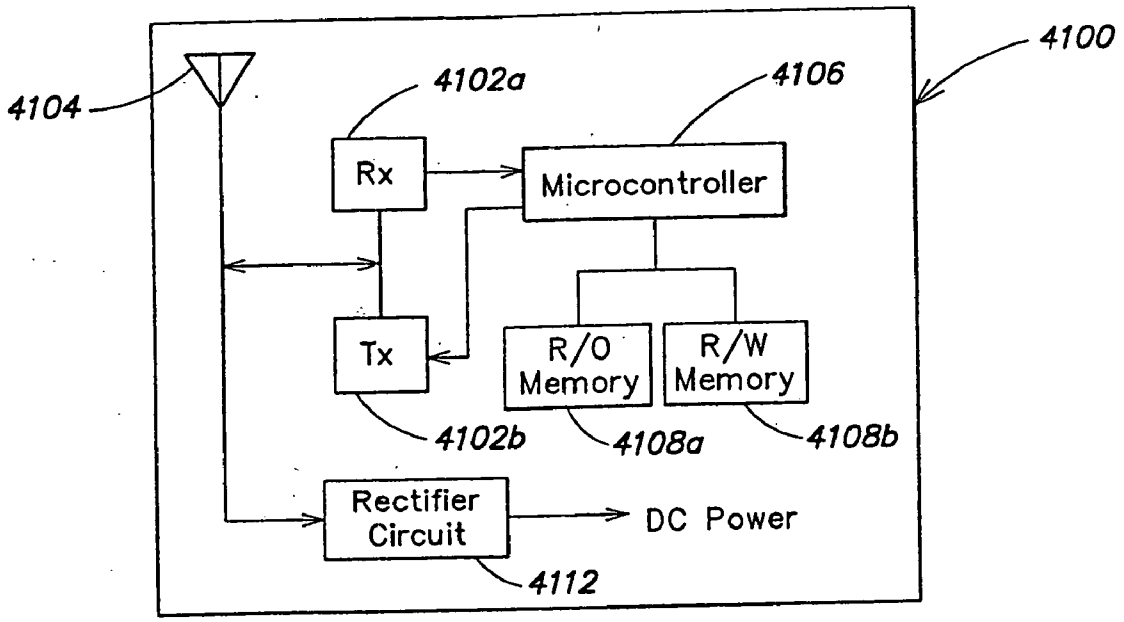


FIG. 41
(PRIOR ART)

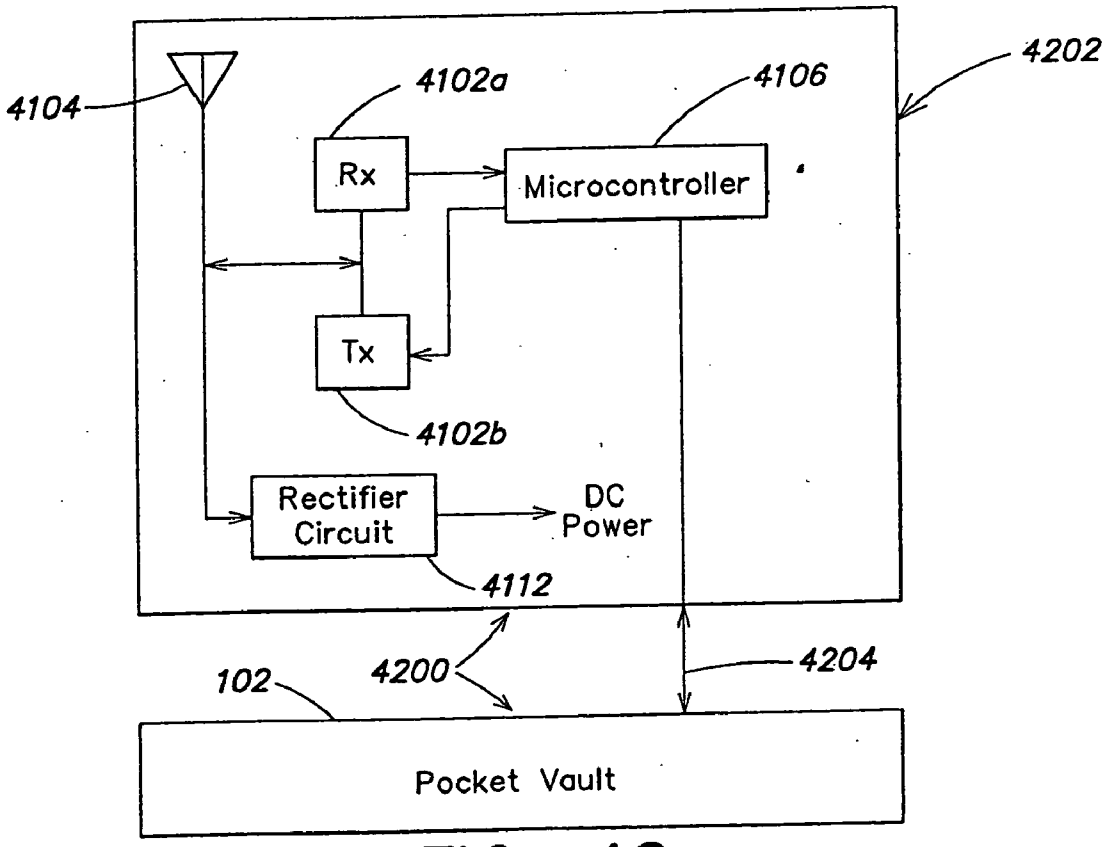


FIG. 42

PORTABLE ELECTRONIC AUTHORIZATION SYSTEM AND METHOD

RELATED APPLICATIONS

[0001] This application is a Divisional of application Ser. No. 10/392,319, filed Mar. 19, 2003, and now pending, which claims the benefit of each of (1) Application Ser. No. 60/366,098, filed Mar. 19, 2002, and (2) Application Ser. No. 60/379,964, filed May 13, 2002, and which is a Continuation-in-Part (CIP) of application Ser. No. 09/968,628, filed Oct. 1, 2001, and now pending, which is a CIP of application Ser. No. 09/675,438, filed Sep. 28, 2000, and now pending, which claims the benefit of each of the following U.S. Provisional Patent Applications: (1) Application Ser. No. 60/156,356, filed Sep. 28, 1999; (2) Application Ser. No. 60/167,050, filed Nov. 23, 1999; (3) Application Ser. No. 60/184,425, filed Feb. 23, 2000; and (4) Application Ser. No. 60/217,542, filed Jul. 12, 2000.

FIELD OF THE INVENTION

[0002] The present inventions are directed to novel systems and methods for engaging in transactions involving financial and/or non-financial media.

BACKGROUND OF THE INVENTION

[0003] People often times carry wallets with them when they engage in their day to day activities. A typical wallet is made of leather or other suitable material, and is generally a foldable structure that readily fits into a pocket or purse. A wallet typically includes a number of pockets, pouches, or the like for storing items such as a driver's license, a social security card, identification cards, credit cards, debit cards, membership cards, commuter passes, access tools, business cards, cash, coupons, event tickets, transportation tickets, frequent customer cards (e.g., a frequent flier card), medical information cards, receipts, photographs, etc.

[0004] Wallets are frequently stolen, lost, or misplaced. When any of these events occurs, not only must the wallet itself be replaced, but all of the contents of the wallet must be replaced as well. As anyone who has lost a wallet can testify, replacing the contents of a wallet can be cumbersome and expensive. In addition, if a wallet is stolen or if a lost wallet falls into the wrong hands, the contents of the wallet may be used to engage in unauthorized activities which financially detriment the wallet owner, as well as any banks, credit issuers, and/or other institutions that issued financial media to the wallet owner.

[0005] While the wallet owner is generally able to "cancel" financial media in such situations by contacting the respective financial media issuers, often times this is done too late, i.e., after one or more media have been exploited by the unauthorized user. In some cases, the wallet owner may not recall all of the contents of the now stolen wallet, and so may fail to report theft of one or more items. Further, in addition to any cash contained in a lost or stolen wallet, many media issued by non-financial media issuers have a significant cash value, e.g., transportation tickets, event tickets, commuter passes, and the like, and therefore represent an immediate (and often times unrecoverable) financial loss to the wallet owner. Moreover, the misappropriation of media issued by non-financial media issuers that contain personal information, e.g., a drivers license, social security card, identification card, etc., present the opportunity for an unauthorized possessor of a wallet to engage in the practice known as "identity theft," whereby the possessor may assume the identity of the wallet owner for various fraudulent purposes, e.g., using the assumed identity to obtain and exploit one or more new financial media.

[0006] Another device commonly used to engage in or authorize transactions is a radio frequency identification (RFID) tag. In an RFID system, an "interrogator" broadcasts a radio frequency (RF) signal which, if received by an RFID tag, causes the RFID tag to return an RF signal to the interrogator that includes information from the tag that may be used to authorize a transaction. Situations in which such tags have been employed include, e.g., automated toll booths and gasoline service stations. RFID tags may be made relatively small in size and therefore may be kept virtually anywhere, e.g., on a keychain or clipped to an automobile visor. Unfortunately, while this aspect of these devices make them convenient, it also makes them highly susceptible to loss or theft. Whenever an RFID tag falls into the wrong hands, there is potential for it to be misused for a long period of time before it is discovered to be missing and some action is take to disable the account associated with it so that it can no longer be used to authorize transactions.

SUMMARY OF THE INVENTION

[0007] According to one aspect of the present invention, an apparatus comprises a user authenticator and a transponder. The transponder is permitted to emit a wireless signal representing information stored in the apparatus in response to a wireless interrogation signal after the user authenticator has authenticated the identity of the user.

[0008] According to another aspect, an apparatus comprises, a memory, a user input, and a transponder. The memory stores at least first and second distinct codes. The user input permits a user to select any one of the at least first and second codes for transmission in response to a wireless interrogation signal. The transponder emits a wireless signal representing the selected one of the at least first and second codes in response to an interrogation signal.

[0009] According to yet another aspect, a token that may be used to engage in a transaction at a point of sale comprises a substrate, a rewritable memory, and a reconfigurable display. The rewriteable memory is supported by the substrate and can be selectively configured to store information on the token that identifies an account that is to be used to engage in the transaction at the point of sale. The substrate and memory are configured and arranged such that the substrate can be selectively interfaced with an apparatus at the point of sale to permit the apparatus to read the contents of the memory. The reconfigurable display is also supported by the substrate and displays at least some of the information that is stored in the rewritable memory.

[0010] According to another aspect, a method for using an apparatus comprises steps of using the apparatus to authenticate an identity of a user of the apparatus, and after the apparatus has authenticated the identity of the user, enabling a transponder of the apparatus to emit a wireless signal representing information stored in the apparatus in response to a wireless interrogation signal.

[0011] According to another aspect, a method for using an apparatus comprises steps of manipulating a user input on

the apparatus to select one of at least first and second codes stored in memory, and permitting a transponder of the apparatus to emit a wireless signal representing the selected one of the at least first and second codes in response to a wireless interrogation signal.

[0012] According to yet another aspect, a method for configuring a token to be used to engage in a transaction at a point of sale involves a step of configuring a rewritable memory of the token to store information that identifies an account that may be used to engage in the transaction at the point of sale. The memory is configured and arranged on the token such that the token can be selectively interfaced with an apparatus at the point of sale to permit the apparatus to read the contents of the memory. The method further involves a step of configuring a display on the token to display at least some of the information that is stored in the rewritable memory.

[0013] According to another aspect, a method is disclosed for enabling a software module on a computer operated by a user to access restricted information on a server. With an electronic device distinct from the computer, an identity of the user is authenticated to determine that the user is permitted to access the restricted information on the server. In response to the electronic device authenticating the identity of the user, the software module on the computer is permitted to access the restricted information on the server.

[0014] According to another aspect, a method is disclosed for altering settings on a computer to correspond to settings on an electronic device distinct from the computer. With the electronic device, an identity of a user is authenticated to determine that the user is authorized to use the electronic device. In response to authenticating the identity of the user, the settings on the computer are altered to correspond to settings on the electronic device.

[0015] According to another aspect, a system for enabling a software module on a computer operated by a user to access restricted information on a server includes an electronic device which includes a user-authenticator to authenticate an identity of the user to determine that the user is permitted to access the restricted information on the server. The system further comprises means for, in response to the electronic device authenticating the identity of the user operating the computer, enabling the software module on the computer to access the restricted information on the server.

[0016] According to yet another aspect, a system for altering settings on a computer to correspond to settings on an electronic device distinct from the computer comprises a user authenticator included in the electronic device to authenticate an identity of a user to determine that the user is authorized to use the electronic device. The system further comprises means for, in response to authenticating the identity of the user, altering the settings on the computer to correspond to settings on the electronic device.

[0017] According to another aspect, an apparatus includes a housing; a user authenticator, supported by the housing, that authenticates an identity of a user; at least one memory, supported by the housing, that stores transaction information for at least first and second media; and at least one output, supported by the housing, that releases at least a portion of the transaction information to a point-of-sale (POS) terminal after the user authenticator has authenticated the identity of the user.

[0018] According to another aspect, a method involves steps of: (a) storing transaction information for at least first and second media in a memory of a device (b) using the device to authenticate an identity of a user; and (c) after authenticating the identity of the user with the device, transferring at least a portion of the transaction information from the device to a point-of-sale (POS) terminal.

[0019] According to another aspect, an apparatus includes: a housing; at least one memory, supported by the housing, that stores transaction information for at least one media; a user authenticator, supported by the housing, that authenticates an identity of a user of the apparatus; and at least one output, supported by the housing, that, after the user authenticator has authenticated the identity of the user, releases an embedded identification code of the apparatus from the housing that enables a device receiving the embedded identification ID code to authenticate the identity of the apparatus.

[0020] According to another aspect, a method involves steps of: storing transaction information for at least one media in a memory of a first device; using the first device to authenticate an identity of a user; and after authenticating the identity of the user with the first device, releasing an embedded identification code of the apparatus from the housing that enables a second device receiving the embedded identification code to authenticate the identity of the first device.

[0021] According to another aspect, an apparatus includes: at least one memory that stores transaction information for at least first and second media; at least one input that enables a user to select one of the at least first and second media; a display that provides a visual indication to the user regarding which of the at least first and second media has been selected with the at least one input; and at least one output that selectively releases at least a portion of the transaction information to a point-of-sale (POS) terminal.

[0022] According to another aspect, a method involves steps of: storing transaction information for at least first and second media in a memory of a device; receiving as input a user's selection of one of the at least first and second media; displaying a visual indication to the user regarding which of the at least first and second media has been selected; and transferring at least a portion of the transaction information from the device to a point-of-sale (POS) terminal.

[0023] According to another aspect, an apparatus includes: at least one memory that stores transaction information for at least one financial media and at least one non-financial media; and at least one output that selectively releases at least a portion of the transaction information to a point-of-sale (POS) terminal.

[0024] According to another aspect, a method involves steps of: storing transaction information for at least one financial media and at least one non-financial media in a memory of a device; and transferring at least a portion of the transaction information from the device to a point-of-sale (POS) terminal.

[0025] According to another aspect, a system includes: a housing; at least one memory, supported by the housing, that stores transaction information for at least one media; a device releasably attached to the housing; and configuring means, supported by the housing, for selectively configuring

the device to hold the transaction information so that the device may be used to engage in a transaction involving the at least one media.

[0026] According to another aspect, a method involves steps of: (a) storing transaction information for at least one media in a memory of a first device, the first device having a second device releasably attached thereto; (b) while the second device is attached to the first device, configuring the second device to hold the transaction information for the at least one media based on the contents of the memory; (c) detaching the second device from the first device; and (d) using the second device to engage in a transaction involving the at least one media.

[0027] According to another aspect, a system includes: a first device including a user authenticator that authenticates an identity of a user; and a second device releasably attached to the first device, wherein the second device holds transaction information for at least one media so that the second device may be used to engage in a transaction involving the at least one media, and wherein the second device is detached from the first device after the user authenticator has authenticated the identity of the user.

[0028] According to another aspect, a method involves steps of: with a first device, authenticating an identity of a user; and after authenticating the identity of a user with the first device, detaching a second device from the first device, the second device holding transaction information for at least one media so that the second device may be used to engage in a transaction involving the at least one media.

[0029] According to another aspect, a system includes: a first device; a second device that has the first device releasably attached thereto, the second device including means for selectively configuring the first device to hold transaction information for a first media but not for a second media so that the first device may be used to engage in a transaction involving the first media but not the second media, and the second device further including means for selectively configuring the first device to hold transaction information for the second media but not for the first media so that the first device may be used to engage in a transaction involving the second media but not the first media.

[0030] According to another aspect, a method involves steps of: selectively configuring a device to hold transaction information for a first media but not for a second media so that the device may be used to engage in a transaction involving the first media but not the second media; and selectively configuring the device to hold transaction information for the second media but not the first media so that the device may be used to engage in a transaction involving the second media but not the first media.

[0031] According to another aspect, a system includes: at least one memory that stores first transaction information for a first media; at least one output that selectively releases at least a portion of the first transaction information to a point-of-sale (POS) terminal; and means for enabling a person to whom the first media is issued to selectively add second transaction information for a second media to the memory.

[0032] According to another aspect, a method involves steps of: storing first transaction information for a first media in a memory of a device; releasing at least a portion of the first transaction information to a point-of-sale (POS) terminal; and in response to a request by the person to whom the first transaction information is issued, adding second transaction information for a second media to the memory.

[0033] According to another aspect, a system includes: at least one memory that stores first transaction information for a first media and second transaction information for a second media; at least one output that selectively releases at least a portion of the first transaction information to a point-of-sale (POS) terminal; and means for enabling a person to whom the first media is issued to selectively remove at least a portion of the second transaction information from the memory.

[0034] According to another aspect, a method involves steps of: storing first transaction information for a first media and second transaction information for a second media in a memory of a device; releasing at least a portion of the first transaction information to a point-of-sale (POS) terminal; and, in response to a request by the person to whom the second media is issued, removing at least a portion of the second transaction information from the memory.

[0035] According to another aspect, a system includes: at least one memory that stores transaction information for at least one media; at least one output that selectively releases at least a portion of the transaction information to a point-of-sale (POS) terminal; and means for enabling at least one functional characteristic of the at least one media to be altered by altering the contents of the least one memory.

[0036] According to another aspect, a method involves: storing transaction information for at least one media in a memory of a device; releasing at least a portion of the transaction information to a point-of-sale (POS) terminal; and altering at least one functional characteristic of the at least one media by altering the contents of the least one memory.

[0037] According to another aspect, an apparatus includes: a housing; a user authenticator, supported by the housing, that authenticates an identity of a user; at least one memory that, supported by the housing, stores first transaction information for a first media and second transaction information for a second media; and at least one output, supported by the housing, that releases the first transaction information only after the user authenticator has authenticated the identity of the user, and that releases the second information without requiring the user authenticator to have authenticated the identity of the user.

[0038] According to another aspect, a method involves steps of: storing first transaction information for a first media and second transaction information for a second media in at least one memory of a device; using the device to authenticate an identity of a user; releasing the first transaction information only after the identity of the user has been authenticated; and releasing the second transaction information without requiring the identity of the user to be authenticated.

[0039] According to another aspect, a system includes: a first device; and a second device having the first device releasably attached thereto such that, when the first device is attached to the second device, the second device causes the first device to generate a machine-readable code for only a

predetermined, finite period of time after the first device is detached from the second device.

[0040] According to another aspect, a method involves a step of generating a machine-readable code on a device for only a predetermined, finite period of time.

[0041] According to another aspect, an apparatus includes: a portable substrate; a power supply supported by the substrate; and at least one controller supported by the substrate and powered by the power supply, the at least one controller being configured to generate a simulated magnetic stripe on the substrate.

[0042] According to another aspect, an method involves a step of generating a simulated magnetic stripe on a portable device.

[0043] According to another aspect, a system includes: at least one memory that stores transaction information for at least one media; a user authenticator that authenticates an identity of the user; and a display that provides a visual indication to the user regarding the at least one media, the visual indication being displayed for only a predetermined, finite period of time after the user authenticator has authenticated the identity of the user.

[0044] According to another aspect, a method involves steps of: authenticating an identity of a user; and displaying a visual indication to the user regarding the at least one media for only a predetermined, finite period of time after authenticating the identity of the user.

[0045] According to another aspect, a system includes a portable device that can be used to engage in point-of-sale (POS) transactions; and a device remote from the portable device, that can disable an ability of the portable device to engage in POS transactions.

[0046] According to another aspect, a method involves steps of: providing a portable device that can be used to engage in point-of-sale transactions; and at a location remote from the portable device, disabling an ability of the portable device to engage in POS transactions.

[0047] According to another aspect, a method involves steps of: storing transaction authorization information for at least two media in a first memory of a first device; and storing the transaction authorization information for the at least two media in a second memory, which is disposed at a location remote from the first device.

[0048] According to another aspect, a system includes: a first device; and a second device having the first device releasably attached thereto such that, when the first device is attached to the second device, the second device can cause the first device to generate a machine-readable code after the first device is detached from the second device, the second device including at least one controller configured so as to be capable of causing the first device to generate the machine-readable code only for a finite, predetermined period of time.

[0049] According to another aspect, a method involves a step of configuring a first device such that the first device is capable, for only a predetermined, finite period of time, of generating a machine-readable code on a second device.

[0050] According to another aspect, a method involves steps of: receiving information at a first device that has been transmitted over an electronic communication link; and after receiving the information at the first device, using a media at the first device to access a quantity of credit or cash reserves that could not be accessed prior to the first device receiving the information.

BRIEF DESCRIPTION OF THE DRAWINGS

[0051] **FIG. 1** is a block diagram illustrating an example of a network system in which a portable electronic authorization device (also referred to herein as a "Pocket Vault") may be employed according to one embodiment of the invention;

[0052] **FIG. 2** is a block diagram showing an illustrative embodiment of the Pocket Vault shown in **FIG. 1**;

[0053] **FIG. 3** is a block diagram showing an illustrative embodiment of one of the interface stations shown in **FIG. 1**;

[0054] **FIG. 4** is a block diagram showing an illustrative embodiment of the network server(s) shown in **FIG. 1**;

[0055] **FIG. 5** is a diagram showing an example of how the memory of the Pocket Vault shown in **FIG. 2** may be configured in accordance with one embodiment of the invention;

[0056] **FIG. 6** is a block diagram showing an illustrative embodiment of the token (e.g., a card) associated with the Pocket Vault shown in **FIG. 2**;

[0057] **FIG. 7** is a flow diagram illustrating a primary routine that may be executed by the controller of the Pocket Vault shown in **FIG. 2**;

[0058] **FIG. 8** is a flow diagram illustrating an example implementation of the PROCESS POCKET VAULT VALIDATION routine shown in **FIG. 7**;

[0059] **FIG. 9** is a flow diagram illustrating an example implementation of the UNAUTHORIZED HOLDER routine shown in **FIG. 7**;

[0060] **FIG. 10** is a flow diagram illustrating an example implementation of the AUTHORIZED HOLDER routine shown in **FIG. 7**;

[0061] **FIG. 11** is a flow diagram illustrating an example implementation of the PROCESS CARD TRANSACTION routine shown in **FIG. 10**;

[0062] **FIG. 12** is a flow diagram illustrating an example implementation of the VERIFY CARD RETURN routine shown in **FIG. 7**;

[0063] **FIG. 13** is a flow diagram illustrating an example implementation of a primary routine that may be executed by the controller of the pocket vault interface unit shown in **FIG. 3**;

[0064] **FIG. 14** is a flow diagram illustrating an example implementation of a primary routine that may be executed by the controller of the interface station computer shown in **FIG. 3**;

[0065] **FIG. 15** is a flow diagram illustrating an example implementation of the PROCESS REQUEST TO VALIDATE POCKET VAULT routine shown in **FIG. 14**;

[0066] **FIG. 16** is a flow diagram illustrating an example implementation of the PROCESS REQUEST TO UPDATE INFO ON POCKET VAULT routine shown in **FIG. 14**;

[0067] **FIG. 17** is a flow diagram illustrating an example implementation of the PROCESS REQUEST TO AUTHORIZE TRANSACTION routine in **FIG. 14**;

[0068] **FIG. 18** is a flow diagram illustrating an example implementation of the PROCESS UNSUCCESSFUL OPERATOR AUTHENTICATION routine shown in **FIG. 14**;

[0069] **FIG. 19** is a flow diagram illustrating an example implementation of a primary routine that may be executed by the controller(s) of the network server(s) shown in **FIG. 4**;

[0070] **FIG. 20** is a flow diagram illustrating an example implementation of the PROCESS REQUEST TO REGISTER NEW POCKET VAULT HOLDER routine shown in **FIG. 19**;

[0071] **FIG. 21** is a flow diagram illustrating an example implementation of the PROCESS REQUEST BY MEDIA ISSUER/ADVERTISER TO UPDATE NETWORK SERVER routine shown in **FIG. 19**;

[0072] **FIG. 22** is a flow diagram illustrating an example implementation of the PROCESS REQUEST TO UPDATE INFO ON POCKET VAULT routine shown in **FIG. 19**;

[0073] **FIG. 23** is a flow diagram illustrating an example implementation of the PROCESS REQUEST FROM HOLDER TO LOAD NEW FILE ONTO NETWORK SERVER routine shown in **FIG. 19**;

[0074] **FIG. 24** is a flow diagram illustrating an example implementation of the PROCESS REQUEST TO AUTHORIZE TRANSACTION routine shown in **FIG. 19**;

[0075] **FIG. 25** is a flow diagram illustrating an example implementation of the AUTHORIZED POCKET VAULT USE? routine shown in each of **FIGS. 20, 22**, and **24**; and

[0076] **FIGS. 26*a*-26*p*** are illustrations of the portable electronic authorization device, as well as the token (e.g., a card) associated therewith, as these items may appear when in use;

[0077] **FIG. 27** is a block diagram illustrating several additional features that may optionally be added to a network system such as that shown in **FIG. 1** so as to enhance the functionality of the network;

[0078] **FIG. 28** is a block diagram illustrating example components that may optionally be added to software executing on a controller of the Pocket Vault, such as the software described in connection with **FIGS. 7-12**, so as to enhance the functionality of the Pocket Vault in a network environment;

[0079] **FIG. 29** is a data flow diagram illustrating an example of how data may flow between the Pocket Vault and a user interface of an interface station computer to which the Pocket Vault is interfaced/docked;

[0080] **FIG. 30** is a flow diagram illustrating an example of a primary routine that may be executed by a website on the network server(s) shown in **FIG. 27**, which website may be accessed, for example, by a browser executing on the interface station computer shown in **FIG. 27**;

[0081] **FIG. 31** is a flow diagram illustrating an example implementation of the INSTALL DRIVER(S) routine shown in **FIG. 30**;

[0082] **FIG. 32** is a flow diagram illustrating an example implementation of the NEW POCKET VAULT HOLDER routine shown in **FIG. 30**;

[0083] **FIG. 33** is a flow diagram illustrating an example implementation of the EXISTING POCKET VAULT HOLDER routine shown in **FIG. 30**;

[0084] **FIG. 34** is a flow diagram illustrating an example implementation of the CARD LOADING routine shown in **FIG. 33**;

[0085] **FIG. 35** is a flow diagram illustrating an example implementation of the SYNCHRONIZATION routine shown in **FIG. 33**;

[0086] **FIG. 36** is a flow diagram illustrating an example implementation of the RECOVERY routine shown in **FIG. 33**;

[0087] **FIG. 37** is a flow diagram illustrating an example implementation of the IDENTITY PORTING SELECTION routine shown in **FIG. 33**;

[0088] **FIG. 38** is a flow diagram illustrating an example implementation of the BACKUP routine shown in **FIG. 33**;

[0089] **FIG. 39** is a flow diagram illustrating an example implementation of the SET PREFERENCES routine shown in **FIG. 33**;

[0090] **FIG. 40** is a flow diagram illustrating an example implementation of the RFID TAG LOADING routine shown in **FIG. 33**;

[0091] **FIG. 41** is a block diagram showing a prior art RFID tag; and

[0092] **FIG. 42** is a block diagram showing an example embodiment of an RFID system in which a Pocket Vault such as that shown in **FIG. 2** is used to selectively provide data to an RFID tag.

DETAILED DESCRIPTION

[0093] Disclosed herein is a new method and system for producing, distributing, storing, and using the typical contents of a person's wallet, as well as the multiple, separate transaction authorization devices, e.g., RFID tags, owned by the person. Essentially, the system may enable individuals to replace nearly all of the paper and plastic contents of their wallets and all of their other transaction authorization implements with a single, hand-held portable electronic authorization device. The system may include the portable electronic authorization devices, removable morphing tokens or cards associated with such devices, associated computer peripherals, software and certain network capabilities. As a whole, the system may eliminate virtually all of the distribution costs and security concerns associated with paper and plastic media.

[0094] Because the device may incorporate many different media that are commonly stored in a person's wallet or elsewhere, possibly including both financial and non-finan-

cial media, it is much more than a simple point-of-sale (POS) device. Therefore, the device may be more appropriately referred to as a multi-purpose, "point-of-transaction" device. In any situation of presentment, whether for purposes such as building security, demonstrating membership or using credit or debit capacity, the system is designed to perform tasks more safely, securely and with greater ease than is possible with prior art systems. Further, while certain computer technologies are involved, the preferred embodiment is such that some people may barely recognize it as a computer, seeing instead a more comfortable to carry, easier-to-use, safer and more securely packaged means of transporting typical wallet contents and other items.

[0095] The system's business model may comprise an independent organization acting as a media-neutral, multi-service provider of other issuers' various financial and non-financial media, that also may enable individuals and retailers to add or create their own secure (and where appropriate, non-secure media) using a device with a self-contained set of authentication security features, which may even be password-free. This device may operate over existing financial transaction networks, while also having links to a highly secure network system for certain functionality. The self-contained authentication functionality of the device itself ensures privacy, while providing sufficient accountability/traceability to satisfy law enforcement concerns.

[0096] A network system **100** configured according to one illustrative embodiment of the invention is shown in **FIG. 1**. As shown, the network system **100** may include a portable electronic authorization device **102** (alternatively referred to herein as a "Pocket Vault") and an associated token **102***a* (alternatively referred to herein as a "Chameleon Card"). Each person desiring to use the network system **100** may possess his or her own the Pocket Vault **102** and associated token **102***a*. Some individuals may choose to own multiple Pocket Vaults or Chameleon Cards. The system and software therefore may accommodate the use of multiple Pocket Vaults and multiple Chameleon Cards by one individual.

[0097] Referring to **FIG. 1**, in addition to the Pocket Vault **102**, the network system **100** may include one or more network servers **114** to which various other network components are coupled. Although multiple, load-sharing network servers **114** may be employed in a typical application, the network server(s) **114** will hereinafter, for convenience, occasionally be referred to as a single network server **114**. Coupled to the network server **114** are: several different types of interface stations **104** (i.e., a validation interface station **104***a*, a personal interface station **104***b*, and a commercial interface station **104***c*), one or more commercial card readers **106**, one or more commercial bar code readers **107**, one or more RFID interrogators **116**, and several computers **108**, **110**, and **112** operated by one or more advertisers, non-financial media issuers, and financial media issuers, respectively. The structure and functionality of each of the components of the network system **100** in accordance with illustrative embodiments of the invention are described below.

[0098] As shown in **FIG. 1**, the network server **114** may form the hub of the network system **100**, with each of the interface stations **104**, the commercial card readers **106**, the commercial bar code readers **107**, the RFID interrogators **116**, and the computers **108**, **110**, and **112** being coupled thereto. As discussed in more detail below, the network server **114** may therefore serve as: (1) a repository of information for the network, (2) the entity that controls access to the stored information by the other network devices, and (3) a service provider for financial and non-financial media issuers, advertisers, as well as Pocket Vault holders.

[0099] Any of a number of techniques may be used to interconnect the various elements of the network system **100**, and the invention is not limited to any particular networking technique. In one illustrative embodiment, for example, the network server **114** is coupled to the other elements in the network system **100** via the Internet or similar packet-switched communication system. Alternatively, dedicated or selectively established (e.g., using a dial-up modem) communication channels or time slots thereof may be employed between the respective devices. The connections between most of the network devices may be either hardwired (including fiber optic connections) or wireless (e.g., infrared (IR) or radio frequency (RF) links).

[0100] As shown in **FIG. 1**, the Pocket Vault **102** may be interfaced with any of the interface stations **104***a-c* so as to permit information to be uploaded from the network server **114** to the Pocket Vault **102**, or to be downloaded from the Pocket Vault **102** to the network server **114**. In one illustrative embodiment, each of the interface stations **104** includes a docking mechanism that permits a Pocket Vault **102** to be physically, as well as electronically, interfaced therewith. In such an embodiment, once the Pocket Vault **102** is physically "docked" with an interface station **104**, the Pocket Vault **102** may communicate with the interface station **104** using any now known or later discovered technique. For example, physical contact may be made between respective electrodes or plugs, a line of sight (e.g., infrared) wireless link may be established, or any other interfacing technique may be employed.

[0101] The Pocket Vault **102** may additionally or alternatively be configured such that it need not be physically docked with or even in the same room as the interface station **104**, as a wireless network such as Bluetooth may be employed to permit communication between devices on the network system **100**. In fact, in some embodiments wherein appropriate networking capabilities are provided, each Pocket Vault **102** may communicate directly with the network server **114**, without the interface stations **104***a-c* facilitating communication therebetween. In addition, in some embodiments, Pocket Vaults **102** may communicate directly with one another. In such embodiments, such inter-device communication may permit value to be exchanged directly between Pocket Vaults **102**.

[0102] The personal docking station **104***b* may allow setting or changing of user preferences, recording of miscellaneous information by the Pocket Vault holder, replenishment or deletion of information regarding particular media, and may also permit additional media (e.g., a library card) to be added to the device. The Pocket Vault holder may, for example, directly add non-value-based media (e.g., a membership number for the local Historical Society) and notes to the Pocket Vault **102**. In one embodiment, value-based and certain identification media (a driver's license, passport, building security ID, etc.) may be added or reinstated only through a secure connection to the network

server **114** (as described below), in response to an update request from the Pocket Vault holder. In addition, the personal interface station may provide a mechanism to download transaction activity involving the Pocket Vault **102** into an individual's home computer. There are many users of home finance software. These applications can be relatively "data hungry," and commonly require users to download checking and debit card data from their banks (or key it in manually) and to key in the details of credit card and cash purchases. All of this keying and internet file downloading from third parties may be replaced by a simple docking procedure, i.e., when the Pocket Vault **102** is interfaced with the personal docking station **102***b*.

[**0103**] As shown in **FIG. 1**, and as described below in more detail, the Pocket Vault **102** may be equipped to generate the token **102***a* such that the token **102***a* has transactional information regarding a media (e.g., an actual or simulated magnetic stripe or a bar code) produced thereon. In such an embodiment, after the token **102***a* has been generated, the token **102***a* may be used by the Pocket Vault holder to engage in a transaction wherein an entity swipes the magnetic stripe portion of the token **102***a* through a card reader **106** or scans the bar code on the token **102***a* using a bar code reader **107**. Additionally or alternatively, the token **102***a* may include a suitable Smartcard interface so that it may be used with Smartcard compatible devices.

[**0104**] Because the token **102***a* may be caused to take on a different personality each time it is released from the Pocket Vault **102**, a plurality of media may be stored electronically in memory of the Pocket Vault **102**, and the token **102***a* may, upon request, be generated to take on the personality selected by the Pocket Vault holder. The respective media stored on the Pocket Vault **102** may be issued by different and unrelated media issuers. As used herein, two media issuers are "unrelated" if there exists no legal relationship between them.

[**0105**] The token **102***a* may also have display capacity. Such a display may, for example, indicate the media personality the token **102***a* has taken on. In addition, for security purposes, the account number of the media, and perhaps other information, for example, the three digit security code typically found on credit cards, may be shown on the display of the token **102***a* after it is ejected from the Pocket Vault. The display of this information may help prevent fraudulent uses of the token **102***a* because the entity accepting it would be able to verify that the displayed information matched that read by the device used to read the token **102***a*, e.g., a magnetic card reader.

[**0106**] In some embodiments, value may be exchanged between two Pocket Vaults **102** when one the Pocket Vault **102** generates a token **102***a* having a value-based or value-linked media stored thereon, and the token **102***a* so generated is passed to the other the Pocket Vault **102**, which then may then access the media and extract value therefrom or add value thereto. As mentioned above, this sort of value exchange may also be accomplished directly between two Pocket Vaults **102** over a wireless network, such as Bluetooth.

[**0107**] As discussed in more detail below, in addition to or in lieu of the token **102***a*, the Pocket Vault **102** may also generate a bar code for a selected media on the Pocket Vault's display (not shown in **FIG. 1**), and the bar code reader **107** may be used to scan the displayed bar code to process a transaction. Further, a transaction may be processed via a commercial interface station **104***c* either by use of a docking terminal or via a wireless network scheme such a Bluetooth. In one embodiment, some commercial interface stations **104***c* may comprise an interface station linked to a standard commercial card reader **106** or commercial bar code reader **107**, with the card reader **106** or bar code reader **107** being modified to accept input from the station.

[**0108**] Moreover, as is also discussed in more detail below, the Pocket Vault **102** may be configured or programmed to function as an RFID tag that can be used only by an authorized user of the Pocket Vault **102**. For example, in response to an interrogation signal from the RFID interrogator **116** (e.g., an interrogator of an automated toll booth), the Pocket Vault **102** (if authorized) can return an appropriate RF signal to authorize payment of the required fee for the toll. In some embodiments, the RFID functionality of the Pocket Vault **102** can be altered by the user so that user is permitted to select the personality of the RFID tag that is embodied by the device. The user may, for example, first use the Pocket Vault **102** as an RFID tag to authorize payment of a toll, and later use the same Pocket Vault **102** as an RFID tag to authorize payment at a service station.

[**0109**] To permit the Pocket Vault holder to select from among the various media stored in memory of the Pocket Vault **102**, the Pocket Vault **102** may comprise a display (not shown in **FIG. 1**). By employing either a display having a user-manipulable touch screen or a separate user input device (not shown in **FIG. 1**), a Pocket Vault holder can effectively flip through the contents of the Pocket Vault **102** to locate and select a desired media (e.g., a credit card, driver's license, library card, frequent flier card, a particular RFID personality, etc.) much like a person can flip through the contents of his or her wallet to do the same.

[**0110**] The use of a display on the Pocket Vault **102** also creates an opportunity for media providers to go from a static presentation of their brand (logo, etc.) to having the option of dynamic branding and messaging. In addition, using the display, the presentment of active marketing at the "moment of buying decision" is possible. Specifically, the logo and message displayed to the Pocket Vault holder may incorporate motion, moving images and messages. To conserve power, moving images may be presented only at certain times, e.g., in response to internal or external events or communications.

[**0111**] In the embodiment of **FIG. 1**, the computers **108**, **110**, and **112**, together with the network server **114**, may represent a secure infrastructure of server databases capable of storing information for purposes of delivering personalized services to holders of Pocket Vaults **102**. The network server **114** may also track activity of Pocket Vault holders and compile marketing information based thereupon that may prove useful to media issuers and/or advertisers. The Pocket Vault holder may have control over the ability of the network server **114** to track activity. The information maintained on the network system **100** may originate with the holders of Pocket Vaults **102** and/or may originate with the other entities having access to the network system **100** (e.g., advertisers and media issuers).

[**0112**] As discussed below in more detail, in some embodiments of the invention, certain uses of the Pocket

Vault **102**, as well as each of the interface stations **104***a-c*, may be permitted only by pre-authorized individuals. To this end, a suitable user authentication technique may be employed in connection with each attempted use of any of these devices. One suitable user authentication technique that may be employed is the analysis of a bio-metric feature of the individual attempting use of the device (e.g., a fingerprint scan, retina scan, a speech pattern analysis, keystroke rhythm, etc.), and validating the identity of the individual on that basis. Alternatively or additionally, a personal identification (PIN) code may be entered by the holder to verify the holder's identity. In one illustrative embodiment, authentication information used to validate the holder's identity (e.g., the stored fingerprint and/or PIN code) is stored within the to-be-accessed device, and the validation is performed in its entirety on-board the same device, such that the user-specific authentication information never leaves the device in which it is stored. Thus, using this technique, the likelihood that such information will be intercepted by unauthorized third parties may be reduced significantly.

[**0113**] It should be appreciated that, for some applications, it may be desirable to receive and store authentication information (e.g., fingerprint data) of some or all Pocket Vault holders in the network server **114**. Accordingly, in some embodiments, such authentication information may be maintained by the network server **114**. This authentication information may be transmitted to the network server **114**, for example, when Pocket Vaults **102** are first validated.

[**0114**] As discussed below, great care may be taken to ensure that only authorized individuals are permitted to validate Pocket Vaults **102** by having their authentication information (e.g., their fingerprint data or PIN codes) stored therein. Therefore, after it has been confirmed that the holder's authentication information has been properly stored in the Pocket Vault **102**, a trust relationship may be established between the network server **114** and the Pocket Vault **102**. This relationship may involve, for example, the registration of a unique encrypted chip ID of the Pocket Vault **102** with the network server **114** through a secure Internet connection, the distribution of a digital certificate (e.g., a PKI certificate) to the Pocket Vault **102**, and the grant of authority to the Pocket Vault **102** to permanently store the Pocket Vault holder's authentication information.

[**0115**] A similar level of care may also be taken to ensure that only authorized individuals are permitted to validate interface stations **104***a-c* by having their authentication information (e.g., their fingerprint data or PIN codes) stored therein. Therefore, as with the Pocket Vaults **102**, after it has been confirmed that each interface station's authorization information has been properly stored in the interface station **104**, a trust relationship may be set up between the network server **114** and the interface station **104**. This relationship may also involve, for example, the registration of a unique encrypted chip ID of the interface station **104** with the network server **114** through a secure Internet connection, the distribution of a digital certificate to the interface station **104**, and the grant authority to the interface station **104** to permanently store the interface station operator's authentication information. While, in some embodiments, the Pocket Vault **102** and/or the interface stations **104** are each permitted to store authentication information for only one individual, it should be appreciated that, in alternative embodiments, the Pocket Vault **102** and/or the interface stations **104** may each store authentication information for more than one individual, thereby permitting multiple people to use them.

[**0116**] Because of the creation of the above-described trust relationships, each Pocket Vault **102** and each interface station **104** may communicate securely with the network server **114**, as well as with any other networked devices or sites that require a high level of trust. Also, the existence of these trust relationships enable individual Pocket Vaults **102** to accept other services provided by the network servers **114**, such as the backup and recovery of information stored within the Pocket Vaults **102**. That is, the network servers **114** can serve as a repository for all of the information stored on every validated Pocket Vault **102** (except the holder's authentication information—which, in some embodiments, is stored only in the Pocket Vault **102**). To ensure that the network server **114** stores an accurate version of the contents of each Pocket Vault **102**, information may, for example, be uploaded from the network server **114** to a Pocket Vault **102** or downloaded from the Pocket Vault **102** to the network server **114** each time the Pocket Vault **102** is interfaced with any of the interface stations **104***a-c*. Therefore, if a Pocket Vault **102** is lost or stolen, the Pocket Vault holder need only obtain a new Pocket Vault **102**, and the entire contents of the lost Pocket Vault **102** can be uploaded thereto, in a single communication, in a matter of seconds. In addition, in the event that a validated Pocket Vault **102** is lost or stolen, the network server **114** may void the chip ID of that Pocket Vault **102**, so that the Pocket Vault **102** cannot be used by a third party, even if the holder validation security (e.g., the bio-metric scanning or PIN entry requirement) is somehow breached. Voiding the chip ID of the Pocket Vault **102** may, for example, prevent the Pocket Vault **102** from assigning any media information to the associated Chameleon Card.

[**0117**] In addition to serving as a repository for Pocket Vault information, the network server **114** may also serve as a repository for information regarding media issuers or advertisers, and may further provide various services to these entities. For example, the network server **114** may facilitate transactions involving media issued by media issuers, and may permit new media to be issued or lost media to be replaced at a fraction of the cost of generating new physical tokens or replacing lost ones. Additionally, the network server **114** may serve as a conduit for advertisers to target particular classes of Pocket Vault holders, and channel information to them. The network server **114** may also function as an advocate for Pocket Vault holders, advertisers, and/or media issuers when it utilizes its portfolio of Pocket Vault holders, media issuers, and/or advertisers to secure privileges. Examples of such advocacy include the ability to secure buying power for Pocket Vault holders as a group or to provide media issuers and advertisers with a highly efficient tool for generating awareness for affinities or causes that fit appropriate holder markets. In sum, the services provided by the network server **114** enable Pocket Vault holders to combine and manage their media data using a single, hand-held device, and enables advertisers and media issuers to understand more about, and more readily reach more of, their customers than ever before.

[**0118**] **FIG. 2** shows an example embodiment of the Pocket Vault **102** of **FIG. 1**. The Pocket Vault **102** may employ components similar to those used in modern personal digital assistants (PDAs) and palm top computers.

Examples of such products include PDAs such as the "Palm Pilot" from Palm, Inc. (www.palm.com), and the "Casiopedia" from Casio, Inc. of Dover, N.J. (www.casio.com). As shown, the Pocket Vault **102** may include a controller **202**, as well as a transceiver **204**, a user input device **206**, a docking interface **208**, a read/write memory **210**, a write-once memory **212**, a power manager **214**, an indicator **215**, a display **216**, a token port **218**, and a fingerprint scanner **220**, all coupled to the controller **202**. In addition, the Pocket Vault **102** may include a hard-wired memory (not shown) to store device serial numbers and key operating system and encryption software components.

[**0119**] Actual views of an example embodiment of the Pocket Vault **102**, as well as the token **102***a* associated therewith, are shown in **FIGS. 26A-26P**. The views of FIGS. **26**A-P, including the items displayed on the display **216**, are discussed in more detail below in connection with the flow diagrams of **FIGS. 7-12**. At this point, however, with reference to FIGS. **26**A-L and **26**O, it may be noted that the Pocket Vault **102** may comprise a housing **2602** in which the components shown in **FIG. 2** may be disposed. As illustrated in **FIGS. 26E and 26F**, the housing **2602** may be approximately seventy millimeters wide, approximately one hundred millimeters long, and approximately fifteen millimeters deep. Thus, in the embodiment shown, the housing **2602** has an internal volume of less than **105** cubic centimeters.

[**0120**] Of course, in alternative embodiments, the housing **2602** may be slightly larger or smaller than that shown. For example, in different embodiments, the housing **2602** may have an internal volume of less than five hundred cubic centimeters, or less than four hundred cubic centimeters, or less than three hundred cubic centimeters, or less than two hundred cubic centimeters, or less than one hundred cubic centimeters, or less than any other volume value that falls between one hundred and five hundred centimeters. In one embodiment, the housing **2602** is sized so that the Pocket Vault **102** may readily fit into the rear pocket of a pair of pants. One feature of the illustrative embodiment of the Pocket Vault **102** shown in **FIG. 2** which may permit its size to be reduced below that of a standard personal computer is the fact that the embodiment shown lacks a disk drive (either hard or floppy) or any similar memory storage device (e.g., a tape drive) that consumes a significant volume within the housing **2602**. It should be appreciated, of course, that alternative embodiments may include such memory devices, and that the invention is not necessarily limited to embodiments that exclude them. In addition to the lack of a disk drive or the like, in some embodiments, the power manager **214** may reduce the power consumption of the active components of the Pocket Vault **102** well below that of a standard personal computer, thereby enabling a very small and light weight battery to be employed, as opposed to the relatively large and heavy batteries typically employed in personal computers.

[**0121**] The housing **2602** may provide a water-resistant or waterproof environment for the components housed thereby. The housing **2602** may further be sealed in a manner suitable to prevent tampering, for example, using a plastic potting compound, and may even be designed such that any attempt to invade the housing **2602** will damage the Pocket Vault **102** such that it may no longer be used. The housing materials of Pocket Vaults **102** may be brightly colored, in addition to traditional black or brown, thereby helping their holders to make a fashion statement and/or permitting them to be readily spotted if misplaced. Deluxe versions may be clad in leather, Kevlar™, Gortex™, aluminum and/or stainless steel. In some embodiments, the housing **2602** may even be woven into garments.

[**0122**] Referring again to **FIG. 2**, any of a number of devices may be used to implement the controller **202**, and the invention is not limited to any particular type of controller. In one illustrative embodiment, for example, the controller **202** comprises a low-power multiprocessor or microcomputer having an on-board SRAM and/or flash memory and a real time clock calendar. One example of a suitable controller is the "Motorola Dragonball" Processor from Motorola, Inc. (www.motorola.com). The controller **202** may include a software-programmable and encryption-protected or hard-wired unique chip ID. In one embodiment, this chip ID is released from the Pocket Vault **102** only after the fingerprint scanner **220** (discussed below) has successfully authenticated the identity of the holder. A signal processor for Bluetooth or another wireless connection may also be employed within or along with the controller **202**.

[**0123**] The transceiver **204** may include one or more antennas and may be any type of transceiver (or separate transmitter and receiver) capable of communicating with other devices in the network **100** to enable the functionality described herein. For example, either an RF or an IR transceiver may be employed. Some embodiments may, in fact, include both an IR and an RF transceiver to be used in different applications. For example, an IR transceiver may be employed to interface the Pocket Vault with a "docking station" type interface unit, and a separate RF transceiver may be employed to communicate over a wireless network such as Bluetooth. Multiple transceivers (or transmitter/receiver pairs) of the same type may also be employed, if desired.

[**0124**] As discussed in more detail below in connection with **FIGS. 41 and 42**, the transceiver **204** may, for example, serve as the transmitter and receiver of an RFID transponder used to respond to an interrogation signal from an interrogator **116**.

[**0125**] In one illustrative embodiment, the user input device **206** is implemented as part of a touch-screen display used as the display **216** (described below). Additionally or alternatively, the user input device **206** may include dedicated buttons, a keypad, a touch pad, a microphone and speech recognition software, a wand or joystick, or any other suitable implement that permits a person to provide input to the controller **202**. The user input device **206** may also be integrated into the fingerprint scanner **220** or into an alternative bio-metric input device. By manipulating the user input device **206**, a Pocket Vault holder may select one of a number of media stored in memory of the Pocket Vault **102** for display and/or use in connection with a transaction, and may otherwise control or provide input to software executing on the controller **202**. In one embodiment, a keypad is employed as the user input device **206**, thereby permitting the holder to input a PIN code as a means of authenticating the holder's identity.

[**0126**] The docking interface **208** may take on any of numerous forms, and the invention is not limited to any particular type of interface device. The docking interface

208 may, for example, include a multi-pin plug adapted to mate with a receptacle disposed on the interface units **104***a-c,* or vice versa. The docking interface **208** may also comprise one or more implements (e.g., grooves or keys) to ensure that the plug or other docking interface **208** mates correctly with the reciprocal device on an interface unit **104** when the two are physically mated together.

[**0127**] The read/write memory **210** may take on any of a number of forms, and the invention is not limited to any particular type of memory. The memory **210** may, for example, comprise a suitable non-volatile SRAM. Similarly, any suitable memory device that permits a only single write operation to take place may be employed as the write-once memory **212**. The memory **210** may have instructions stored therein which, when executed by the controller **202**, cause the controller **202** to implement the routines/software described below in connection with **FIGS. 7-12** and/or **FIG. 28**. Of course, the memory **210** may also contain a suitable operating system (e.g., Palm OS, Microsoft's Windows CE, Microsoft's Windows for Smartcards, or some similar offering), appropriate device drivers, and other software employed in connection with the controller **202** and/or the peripherals thereof. The memory **210** may also be used to store the various media and personal information retained by the Pocket Vault **102**. In one illustrative embodiment, the memory **210** stores a plurality of different media issued by different and unrelated media issuers, including both financial (e.g., a credit or debit card) and non-financial media (e.g., a drivers license or a library card). Other examples of media or information that may be stored in the memory **210** include: a social security card, identification cards, membership cards, discount cards, commuter passes, toll passes, data for various RFI) tags, transit cards, access tools such as hotel keys, business cards, coupons, concert and theatre tickets, transportation tickets, frequent customer cards (e.g., a frequent flier card), medical information cards, receipt information, photographs, etc.

[**0128**] As used herein, "financial media" refers to any media which can, as a matter of course, be used to purchase goods or services, whereas "non-financial media" refers to any media which, while possibly having some value to the Pocket Vault holder, cannot, as a matter of course, be used to purchase goods or services. Examples of financial media include value-linked and value-based media such as debit or credit cards issued by a bank or other financial institution, telephone calling cards, etc. Examples of non-financial media include: library cards, driver's licenses, building access cards, etc. In one embodiment, the memory **210** is large enough to store as many as one hundred compressed graphic image files, and full data sets for as many as one hundred types of media.

[**0129**] In addition, the memory **210** may store status information, where useful, for each type of media. Examples of this sort of status information include: information regarding the value remaining on a pre-paid phone card, information regarding an accumulated number of frequent flier miles, information regarding a total number of cups of coffee that have been purchased at a particular coffee shop (e.g., in connection with a buy-ten-get-one-free special), etc. The portion of the memory **210** devoted to memory storage may be divided into three sections: (1) a high-security section, (2) a medium security section, and (3) a non-secure section. The high security section may be used to store value-based or value-linked media such as debit and credit cards and certain ID information such as driver's licenses, passports, building security passes, etc. The medium security section may be used to store low-value, limited use media that may be accessed, for example, by retailers to keep track of frequent purchase credits or the like. The non-secure section may, for example, be used to store notes, membership ID records, emergency contact information, etc. Access to the information included in the various sections may require security or user authentication procedures commensurate with the indicated security level. For example, an accurate fingerprint scan and an accurate pin code entry may be required to access the high-security section, only an accurate PIN code entry (even by the retailer) may be required to access the medium-security section, and anyone may be permitted to access the non-secure section.

[**0130**] The power manager **214** may comprise any of numerous devices, and the invention is not limited to any particular type of power supply/management device. The power manager may, for example, employ a flat, rechargeable, lithium battery, and associated regulator and power management software. Alternatively, the battery used may be non-rechargeable and/or coin cell-shaped. Solar powered cells may also be a viable option as at least a supplement to battery power, if not a primary source of power for the Pocket Vault **102**. This may be made possible because of the typically modest on-time requirements for a Pocket Vault **102**. Power management software may also assist in minimizing the power consumption of the Pocket Vault **102**. Such software may, for example, invoke an auto-shutdown feature after a preference-set number of seconds, may control the level of screen back-lighting in response to feedback received from a photo-sensor that registers ambient light, and/or may provide battery charge level warnings to Pocket Vault holders.

[**0131**] The indicator **215** may be any device capable of generating a perceptible indication to the holder such as a bell, chime, buzzer, light, vibration, etc., and the invention is not limited to any particular type of device for accomplishing such a result. In one embodiment, for example, the indicator is a chime generator that generates a "chime" sound that can be heard by the Pocket Vault holder.

[**0132**] Any of a number of devices may also be used for the display **216**, and the invention is not limited to any particular type of display. As mentioned above, in one embodiment, a touch-screen display may be employed such that at least a portion of the functionality of the user input device **206** may be incorporated therein. Suitable displays may, for example, include any of a black & white, gray-scaled, or color LCD display, or an LCD bi-stable display.

[**0133**] As mentioned above, the use of the display **216**, together with the user input device **206** (which may constitute the touch-screen functionality of the display **216**) permits the Pocket Vault holder to flip or scroll through the various media stored in the memory **210** in much the same way as a person flips through the contents of his or her wallet. As mentioned above in connection with the description of the indicator **215**, in addition to or in lieu of the display **216**, other user output devices may also be employed to provide information to the Pocket Vault holder. For example, light emitting diodes (LEDs), a beeper or buzzer,

a speech synthesizer, a vibrator, etc., may be employed in some embodiments of the Pocket Vault **102**.

[**0134**] The token port **218** of the Pocket Vault **102** may comprise a cavity or slot in which the token **102***a* is retained until it is released to be used to engage in a transaction, as well as the hardware employed to secure the token **102***a* in place when the token **102***a* has not been authorized to be released. In one embodiment, the token **102***a* stores a unique (and possibly encrypted) chip ID which is accessible to another device only when the token **102***a* is successfully released form the token port **218**. In addition to the elements described above, the card port **218** may include additional hardware employed in connection with properly generating or configuring the token **102***a* prior to its release. This hardware is discussed in more detail below in connection with **FIG. 6**.

[**0135**] The fingerprint scanner **220** may comprise any device capable of accurately scanning a fingerprint of an individual for comparison with one or more fingerprint images stored in memory. The fingerprint scanner **220** may, for example, be a solid-state (non-optical) device. Devices that may be suitable for use as the fingerprint scanner **220** are available, for example, from Veridicom, Inc., of Santa Clara, Calif. (www.veridicom.com), from Polaroid Corporation of Cambridge, Mass. (www.polaroid.com), and from Identix Incorporated of Sunnyvale, Calif. (www.identix-.com). The fingerprint scanner **220** may incorporate a temperature sensor that enables it to ensure that a live finger is contacting the scanning surface when the scanning function is employed. In addition to or in lieu of a fingerprint scanner, other bio-metric scanning devices may also be employed to verify the identity of the holder. For example, some embodiments may employ a charge coupled device (CCD) to serve as an iris or retina scanner, an optical sensor, and/or a voiceprint. Alternatively or additionally, a keystroke rhythm may be measured, either alone or in combination with another user authentication technique (e.g., a successful PIN code entry requirement), to validate the identity of the holder. The fingerprint scanner **220** and/or other bio-metric scanners may have touch pad capabilities built into them, thereby permitting them to constitute at least a part of the user input device **206** shown in **FIG. 2**.

[**0136**] **FIG. 3** is a block diagram showing an example embodiment of one of the interface stations **104***a-c* shown in **FIG. 1**. The hardware employed to implement each of the stations **104***a-c* may be identical to the others or may be substantially different, depending on the environment in which the station **104** is to be used, as well as the functional requirements of the particular station. Therefore, while the example embodiment described herein may be suitable for use as any of the stations, it should be appreciated that each of the stations may, in fact, be configured quite differently than the others.

[**0137**] As shown in **FIG. 3**, each interface station **104** may include both an the interface station computer **304** and a pocket vault interface unit **302**. The interface station computer **304**, for example, may be a standard desktop personal computer (PC), and may, as shown, comprise a controller **308**, a user input device **318**, a memory **320**, a modem **322**, and a display **324**. These components are well known in the art and therefore will not be described in detail herein. The memory **320** of the interface station computer **304** may have instructions stored therein which, when executed by the controller **308**, cause the controller to implement the routine described below in connection with **FIGS. 14-18** as well as any other software, e.g., a browser, drivers, etc., executing on the interface station computer **304**.

[**0138**] The pocket vault interface unit **302** is coupled to the interface station computer **304** such that a controller **306** of the pocket vault interface unit **302** can communicate with the controller **308** of the interface station computer **304**. The communications interface between these devices may, for example, comprise a Smartcard, Bluetooth or USB interface. As shown, in addition to the controller **306**, the pocket vault interface unit **302** may comprise a transceiver **310**, a docking interface **312**, a finger print scanner **316**, a stripe reader **315**, and a memory **314**. Further, although not shown in **FIG. 3**, the pocket vault interface unit **302** may also comprise a display and/or another device used to provide feedback to the operator, e.g., an audio indicator or LED.

[**0139**] The stripe reader **315** may be any conventional device for electronically reading the magnetic stripe on a token card such as a credit/debit card or drivers license. The stripe reader **315** may be used, for example, to read information from a token card so that such information can be downloaded to the network server **114** or the Pocket Vault **102**.

[**0140**] The memory **314** may be any conventional memory suitable to store the software executed by the controller **306**, as well as any data, e.g., stored fingerprint data, used in connection therewith. For example, the memory **314** of the pocket vault interface unit **302** may have instructions stored therein which, when executed by the controller **306**, cause the controller **306** to implement the routine described below in connection with **FIG. 13**.

[**0141**] As with the transceiver **204** of the Pocket Vault **102**, the transceiver **310** of the pocket vault interface unit **302** may be any type of transceiver (or separate transmitter and receiver) capable of communicating with the other devices in the network **100** to enable the functionality described herein. For example, either an RF or an IR transceiver may be employed. Some embodiments may even include both an IR and an RF transceiver to be used in different applications. For example, an IR transceiver may be employed to interface the pocket vault interface unit **302** with a Pocket Vault **102**, and a separate RF transceiver may be employed to communicate over a wireless network such as Bluetooth.

[**0142**] As with the docking interface **208** of the Pocket Vault **102**, the docking interface **312** of the pocket vault interface unit **302** may take on any of numerous forms, and the invention is not limited to any particular type of interface device. The docking interface **312** may, for example, include a multi-pin plug adapted to mate with a receptacle used as the docking interface **208** of a Pocket Vault **102**, or vice versa. The docking interface **312** may also comprise one or more implements (e.g., keys or grooves) to ensure that the plug or the like of the docking interface **208** of the Pocket Vault **102** mates correctly with the corresponding implement of the docking interface **312** when the Pocket Vault **102** and pocket vault interface unit **302** are physically mated together.

[**0143**] Finally, as with the fingerprint scanner **220** of the Pocket Vault **102**, the fingerprint scanner **316** of the pocket

vault interface unit **302** may comprise any device capable of accurately scanning a fingerprint of an individual for comparison with one or more fingerprint images stored in memory. The fingerprint scanner **316** may, for example, be a solid-state (non-optical) device. Devices that may be suitable for use as the fingerprint scanner **220** are available, for example, from Veridicom, Inc., of Santa Clara, Calif. (www.veridicom.com), from Polaroid Corporation of Cambridge, Mass. (www.polaroid.com), and by Identix Incorporated of Sunnyvale, Calif. (www.identix.com). The fingerprint scanner may incorporate a temperature sensor that enables it to ensure that a live finger is contacting the scanning surface when the scanning function is performed. In addition to or in lieu of a fingerprint scanner, other bio-metric scanning devices may also be employed to verify the identity of the interface station operator. For example, some embodiments may employ a charge coupled device (CCD) to serve as an iris or retina scanner, an optical sensor, and/or a voiceprint. Alternatively or additionally, a keystroke rhythm may be measured, either alone or in combination with another user authentication technique (e.g., a successful PIN code entry requirement), to validate the identity of the operator. Although not shown, the pocket vault interface unit **302** may additionally comprise one or more user input devices enabling the operator to control or provide input to the pocket vault interface unit **302** or the software executing thereon. The fingerprint scanner **316** and/or other bio-metric scanners may, for example, have touch pad capability capabilities built into them, thereby permitting them to constitute such a user input device. Separate user input devices may also be employed.

[**0144**] **FIG. 4** shows an example embodiment of the network server **114** shown in **FIG. 1**. As shown, the network server **114** may comprise one or more controllers **402**, as well as a local memory **404**, a database **406**, and a transceiver **408** coupled thereto. The illustrated components of the network server **114** are well known, and therefore will not be described in detail. The transceiver **408** may, for example, be used to communicate with other devices in the network system **100 (FIG. 1)** using a wireless network such as Bluetooth. The controller **404** may also communicate with other network devices via the Internet or a direct connection such as the type established using a dial up modem.

[**0145**] The local memory **404** may have instructions stored therein which, when executed by the controller **402**, cause the controller **402** to implement the routines described below in connection with **FIGS. 19-25** and/or **FIGS. 30-39**. In some embodiments, the local memory **404** and/or database **406** act as a website and execute software which may be accessed by a browser or similar software module operating on a computer. One such embodiment is described below in connection with **FIGS. 28-39**.

[**0146**] The database **406** may, for example, comprise a relational database, and may be used to store the majority, if not all, of the data maintained by the network server **114**. The database **406** may, for example, keep a real-time record of critical reference data along with transaction histories, back-up files, and security audit trail information for key events. Examples of specific items that may be stored in the database **406** include: a list of current Pocket Vault holders and appropriate contact information for each; records regarding the versions of software loaded onto each Pocket Vault **102**, each pocket vault interface unit **302**, and each interface station computer **304**; a list of currently authorized or registered Pocket Vaults **102**, identified by chip ID and linked to the holder list; a list of currently authorized or registered tokens **102***a*, identified by chip ID and linked to the holder list; a list of currently authorized locations for interface stations **104** and telephone or other access lines therefor, including business information for each such location and an indication as to the type of interface station **104** it is (e.g., a validation interface station, a personal interface station, or a commercial interface station); a list of currently authorized or registered interface station operators and the interface stations **104** with which they are associated; a list of currently authorized or registered interface stations **104**, identified by chip ID and linked to the list of authorized operators therefor, as well as encrypted cookie ID information (if any) for the respective interface stations **104**; authorized media data received from media issuers that has not yet been downloaded to individual Pocket Vaults **102**; backup data sets for individual Pocket Vault holders; detailed transaction histories for Pocket Vault registrations indicating where each Pocket Vault **102** was shipped from and to, where each Pocket Vault **102** was registered, which authorized interface station operator conducted the registration process, when that authorized operator was added to the list of authorized operators at a particular location, who submitted the key information to add the operator, which corporate representative associated with the network server **114** met with which representative associated with the interface station in establishing each new location for a validation interface station **104***a*, to whom and when each Pocket Vault **102** was issued; and communication encryption protocols. Each Pocket Vault account defined on the network server **114** may be defined to support multiple Pocket Vaults **102**, as well as to identify other family members who may share certain contents of the Pocket Vaults **102** (e.g., family membership in a local museum).

[**0147**] The network server **114** may analyze data regarding consumer transactions, and thereby accumulate demographic information. Using this information, merchants, media issuers, and/or advertisers may, for example, define targeted marketing programs, which the network server **114** may then deliver to Pocket Vault holders that meet particular demographic profiles.

[**0148**] **FIG. 5** shows how the memory **210** of the Pocket Vault **102 (FIG. 2)** may be organized (conceptually) in accordance with one embodiment of the invention. The purpose of each of the illustrated memory components will be readily understood by those skilled in the art of the invention, and therefore will not be explained in detail.

[**0149**] **FIG. 6** is a block diagram showing an example embodiment of the token **102***a* shown in **FIGS. 1 and 2**. As shown, the token **102** may be equipped with a controller **602**. In the embodiment shown, the controller **602** may be selectively programmed, for example, via interface terminals **606** to generate a current in a wire loop **608** so as to generate a magnetic field about the wire loop **608** that simulates a magnetic stripe of a standard credit card-like token. In other words, a magnetic field may be generated along the edge of the token **102***a* as if a magnetic stripe were present on that edge. The location of the simulated magnetic stripe on the token **102***a* is identified in **FIG. 6** as a virtual magnetic stripe **610**.

[0150] Appropriate software may be loaded onto the controller **602** (e.g., in an on-board memory of the controller **602**) so as to enable the controller to generate the virtual magnetic stripe **610**. When the token **102***a* is disposed in the token port **218**, the terminals **606** of the token **102***a* may engage corresponding terminals of the token port **218**, thereby enabling the controller **602** to be programmed appropriately. The programming of the controller **602** may be effected, for example, in response to commands from the controller **202** of the Pocket Vault **102**, which commands may be generated in response to software executing on the controller **202**.

[0151] As shown, the controller **602** may be powered by an appropriate resistor-capacitor (RC) circuit which stores a charge that decays over time. The RC circuit may be initially charged via the terminals **606** when the token **102***a* is disposed in the token port **218** and the controller **602** is being programmed. After the token **102***a* is removed from the token port **218**, the controller **602** will remain powered only so long as sufficient charge remains stored by the RC circuit **604**. Because the controller **602** can generate the virtual magnetic stripe **610** only when it is driven by an adequate power supply, the virtual magnetic stripe will disappear after the charge in the RC circuit **604** has decayed beyond a certain threshold level. Because the decay of an RC circuit is reasonably predictable, the virtual magnetic stripe **610** is disposed on the token **102***a* only for a finite, predetermined period of time after the token **102***a* is removed from the token port **218**. In one embodiment, after the controller **602** loses power, the information with which it was programmed to enable it to generate the virtual magnetic stripe **610** is also lost. Therefore, the virtual magnetic stripe **610** of the token **102***a* cannot be used again until the controller **602** is again powered up and reprogrammed. Alternatively, the controller **602** may cut off the power to the wire loop **608** after a preset amount of time or an amount of time determined by the Pocket Vault holder (possibly within preset limits). Additionally or alternatively, the token **102***a* may have its own embedded chip ID, which may be accessible only when the token **102***a* is successfully released form the token port **218**.

[0152] In some embodiments, the token **102***a* may possess the characteristics of a bank-issued Smartcard, either in addition to or in lieu of the virtual magnetic stripe **610**. Accordingly, the token **102***a* may include a specialized Smartcard chip or the controller **602** may be programmed to mimic such a chip. In any event, the token **102***a* may be preloaded with the bank's chip operating system (OS) and possibly customer-specific secure information. In such embodiments, the functionality of the Smartcard components may, for example, be enabled only in response to successful authentication of the Pocket Vault holder, e.g., using the fingerprint scanner **220** of the Pocket Vault **102**. Therefore, the customer-specific "Smartcard" information may remain inaccessible so long as the Pocket Vault holder's identity has not been authenticated using the Pocket Vault **102**.

[0153] In addition to or in lieu of the virtual magnetic stripe **610** and/or Smartcard components described herein, the token **102** may have disposed on it a conventional magnetic stripe that can be selectively written to by a magnetic read/write head in the Pocket Vault **102** before the token **102***a* is released from the token port **218**. Like the other embodiments described above, the programming and/or use of such a token **102***a* could be restricted until after the identify of the Pocket Vault holder has been verified via biometric authentication, PIN code entry, or otherwise.

[0154] Moreover, in some embodiments, the token **102***a* may also have disposed on it a flexible LCD **612** or other suitable display mechanism or device. Prior to ejection of the token **102***a* from the token port **218**, the Pocket Vault **102** may transfer information to the token **102***a* (e.g., via terminals **606**) for display on the LCD **612**. This transfer may either be direct or indirect (e.g., via a separate integrated circuit on the token **102***a*), and may involve the transfer of alphanumeric information (which may or may not include a hash code) and/or graphics, such as icons or barcodes. This information transferred may be encrypted, and de-encryption may be employed either in the separate integrated circuit on the token **102***a* or in a processor packaged with the LCD **612**. In any event, the LCD **612** may receive the proper data to display, which would match all or part of the code stored on the card by means of the virtual magnetic stripe **610**, a writeable magnetic stripe, Smartcard simulation circuitry, etc.

[0155] In some embodiments, the LCD **612** may be powered by a capacitor configured and arranged to drain after a preset time, thereby rendering the LCD **612** inoperable until programmed again by the Pocket Vault **102**. Thus, even if the token **102***a* were still swipeable or otherwise useable, a merchant could opt not to accept it because the requisite authorization information would not longer be displayed for certification purposes.

[0156] Instead of or in addition to an LCD or other type of display, some suitable technology may be employed to cause account information, and perhaps other information that is typically embossed or printed on credit cards or Smartcards, to appear temporarily on the token **102***a* after the token **102***a* is ejected from the token port **218**. One technology that may be appropriate for this purpose is available from E-ink (www.Eink.com).

[0157] Thus, when an LCD display, a temporary ink technology, or the like, is employed on the token **102***a*, not only may the token **102***a* be selectively configured to have an actual or simulated magnetic stripe (or Smartcard personality) like a typical credit card or Smartcard, but it also may be configured to display information that is typically embossed or printed on such cards, including security enhancing information.

[0158] When used by a consumer, retailers may verify authenticity by matching the information displayed on the token **102***a* with that revealed in the swipe or other token reading process. Without a match, the token **102***a* may be rejected.

[0159] As discussed above, in some embodiments of the Pocket Vault **102**, the transceiver **204** (**FIG. 2**) may be used as the transmitter and receiver of an RFID transponder, and thereby function as an RFID tag. Such an RFID tag may be selectively configured to have one of several personalities and may be rendered operable only when the holder of the Pocket Vault **102** authenticates his or her identity (e.g., in response to an accurate fingerprint scan by fingerprint scanner **220**).

[0160] To appreciate the manner in which the Pocket Vault **102** may achieve this functionality, a prior art RFID tag

system (shown in **FIG. 41**) will be briefly described. An RFID system includes at least one "RFID tag" and at least one "interrogator." The interrogator communicates with the RFID tag via an RF signal at some suitable frequency, e.g., somewhere between 10 kilohertz and about 5 gigahertz. The distance between the RFID tag and the interrogator can be as short as near contact or as far as tens of feet away, depending upon the specific technology used. In most applications the RFID tag is a sealed device with no displays or user controls. The interrogator can be a hand held device that is manually operated or can be automated and included in a piece of stationary equipment, for example, at a parking garage, a toll booth, or a service station.

[**0161**] When the RFID tag comes within range of the interrogator, the two devices communicate in a session that may be a one-way read of the RFID tag information by the interrogator, or may be a two-way session in which the interrogator stores information in the RFID tag. The information stored in an RFID tag is typically an identification code such as a serial number. An RFID tag therefore functions much like a bar code, except that it is read by RF. To prevent counterfeiting, the information released from an RFID tag may be signed with a one-way cryptographic key so that it is difficult to decode or duplicate the code.

[**0162**] There are four possible types of RF HD tags: (1) active, read only RFID tags, (2) passive, read only RFID tags, (3) active, read/write RFID tags, and (4) passive, read/write RFID tags. Read only RFID tags have information that is stored in them at time of manufacture and can only be read (and not written to) by the interrogator. A Read/Write tag might include a mix of read only information but will have some memory in the tag that can be altered by the interrogator. A passive tag has no battery or other permanent energy source. An active tag, on the other hand, has a battery or is plugged into an external energy source.

[**0163**] An example of a prior art RFID tag **4100** is shown in **FIG. 41**. As shown, the RFID tag **4100** is a self-contained electronic device that includes a receiver **4102***a* and a transmitter **4102***b* that share an antenna **4104** and are connected to a micro-controller **4106**. The micro-controller **4106** is further connected to either a read-only memory **4108***a* or a read/write memory **4108***b*. The RFID tag **4100** is powered by rectifying the RF energy supplied to the antenna **4104** by the interrogator (not shown). If the RFID tag **4100** were of the "active" type, then an internal battery (not shown) would be employed.

[**0164**] In operation, when the RFID tag **4100** receives an interrogation signal from an interrogator (not shown) via the antenna **4104** and receiver **4102***a*, the micro-controller **4106** retrieves the tag's serial number from the memory **4108** and passes it to the transmitter **4102***b* and antenna **4104** for RF transmission to the interrogator. When a read/write memory **4108***b* is employed, the micro-controller **4106** may also write information received from the interrogator to that memory.

[**0165**] In addition to typical electronic transponders such as that shown in **FIG. 41**, there also exist some RFID technologies that use non-electronic RFID tags. For example, interrogators can gather information from some types of RFID tags based solely on some physical property of the tags. For example, each RFID tag may employ several variable length antennas on a dielectric substrate, so that the interrogator can detect the length of the antennas present by sweeping through a range of frequencies. The specific pattern of antennas on the substrate thereby forms a unique code that can be recognized by the interrogator. Yet another approach is to use a surface acoustic wave (SAW) filter in which a surface electrode pattern determines a particular code that can be read by an interrogator.

[**0166**] Once programmed, the prior art RFID tag **4100** performs a single, dedicated function, namely, to release a serial number stored in memory **4108** in response to an interrogation signal, and there exists no control over who can use it for that purpose. In contrast, in some embodiments of the present invention, an RFID tag is provided wherein the personality of the tag, e.g., the code that is released upon interrogation, can be selected by the user from a number of possible personalities, and/or wherein the RFID tag can be rendered operational only by authorized users.

[**0167**] An example embodiment of an RFID tag system **4200** configured in accordance with this aspect of the invention is shown in **FIG. 42**. As shown, the system **4200** may include an RFID tag **4202** that is identical to the prior art RFID tag **4100**, except that memory **4108** of the prior art device has been bypassed or replace by an I/O connection **4204** to the Pocket Vault **102**. In such an embodiment, the Pocket Vault **102**, rather than the memory **4108**, can supply the information to the micro-controller **4106** of the RFID tag **4202** that is to be released to the interrogator (via the transmitter **4102***b* and antenna **4104**) in response to an interrogation signal from the interrogator.

[**0168**] Accordingly, in such an embodiment, the information that is to be released by the RFID tag **4202** in response to an interrogation signal may be controlled by the holder of Pocket Vault **102**. The Pocket Vault's holder may therefore select the personality to be taken on by the RFID tag **4202**, for example, by using the user input device **206** (**FIG. 2**) to scroll through various personalities for the RFID tag **4202** that are displayed on the display **216**, much like the holder is able to select a desired personality that is to be taken on by the token **102***a*. The holder of the Pocket Vault **102** could therefore, for example, at one time select a "FastLane" personality for the RFID tag **4202**, enabling the RFID tag to respond to an interrogator at a toll booth, and then at another time select a "Mobile Speedpass" personality, enabling the RFID tag to respond to an interrogator at a Mobile Service Station.

[**0169**] In some embodiments, at least some aspects of the RFID functionality of the Pocket Vault **102** may be exploited only after the identity of the Pocket Vault holder has been authenticated, e.g., using the fingerprint scanner **220** or by proper PIN code entry, thereby providing a level of security for RFID tags that has not heretofore been provided. The Pocket Vault **102** may, of course, permit some non-secure RFID personalities to be taken on by the RFID tag **4202** even without holder authentication.

[**0170**] In some embodiments, the data passed to the RFID tag **4202** can be made to be dependent not just on the recognition of a fingerprint, but based on an actual number tied to a feature extracted from the fingerprint. For example, the area of the finger may be such a feature. The number may then be used as a seed to a cryptographic code generator that creates the data to be sent to the RFID tag **4202**.

[**0171**] In the embodiment shown in **FIG. 42**, the I/O connection **4204** between the Pocket Vault **102** and the RFID

tag **4202** may be established in any of a number of ways and the invention is not limited to any particular mechanism or technique for establishing such a connection. In some embodiments, for example, the controller **202** of the Pocket Vault **102** may communicate with the micro-controller **4106** of the RFID tag **4202** via a cable connected between serial or parallel ports on the two devices. Alternatively, the two devices may be directly mated to one another in some suitable manner, or may communicate wirelessly if suitable security precautions are taken. The docking interface **208** of the Pocket Vault **102** may even provide a suitable mechanism for mating the two devices.

[**0172**] In some embodiments, the Pocket Vault **102** may have a separate memory (not shown in **FIG. 2**) dedicated to the storage of the RFID tag personality that is to be taken on by the RFID tag **4202**, and the I/O connection **4204** may give the micro-controller **4106** of the RFID tag **4202** access to that memory. Alternatively, as mentioned above, the personality of the RFID tag **4202** may be communicated directly from the controller **202** of the Pocket Vault **102** to the micro-controller **4106** of the RFID tag **4202** via the I/O connection **4204**.

[**0173**] The functionality of the RFID tag **4202** may additionally or alternatively be built directly into the Pocket Vault **102** (**FIG. 2**), rather that existing as a separate item. In some embodiments, for example, the functionality of the transceiver **4102** and micro-controller **4106** of the RFID tag **4202** may be embodied by the transceiver **204** and the controller **202** of the Pocket Vault **102**. Alternatively, the Pocket Vault **102** may include a separate micro-controller, transceiver and/or memory dedicated to the RFID functionality discussed above. In yet another alternative embodiment, the functionality of the RFID tag **4202** may be embodied on the token **102***a* or on different device that may be selectively released from the housing of the Pocket Vault **102**. The token **102***a* or other releasable device may, for example, include a memory that stores a selected personality for an RFID tag for only a predetermined, finite period of time, and then goes blank.

[**0174**] In some embodiments, the Pocket Vault **102** may also control the content of RFID tags that do not use an electronic circuit. This control can be accomplished in a number of different ways, and the invention is not limited to the use of any particular technique. In one embodiment, for example, the Pocket Vault **102** may activate one or more switches to short out one or more antennas, thereby changing the RFID code represented by them. As with the other embodiments, this selective configuration of an RFID tag may at least in certain circumstances be permitted only after proper authentication of the Pocket Vault holder's identity.

[**0175**] It should be appreciated that the RFID functionality discussed above need not be combined with some or all of the other aspects of the Pocket Vault **102**. For example, some embodiments of the invention may comprise simply an RFID tag for which one of several personalities can be selected by the user, and/or an RFID tag that is selectively enabled only following proper user authentication, e.g., using a fingerprint scanner or PIN code entry.

[**0176**] As mentioned above, **FIGS. 7-12** are flow diagrams illustrating an example implementation of software that may be executed by the controller **202** of the Pocket Vault **102**. As described below, this or additional proprietary software may enable menu structures, handle preference management, provide the data on and safeguard the programmability of the virtual magnetic stripe **610** (if so equipped), and ensure proper encryption data management. In one embodiment, local software for each Pocket Vault **102** and pocket vault interface station **104** may be upgraded from time to time by automatic download from the network server **114**.

[**0177**] During execution of the routines of **FIGS. 7-12**, various items may be displayed on the display **216**, including prompts or icons regarding user input options (when a touch-screen display is employed as the display **216** or a point and click mechanism is employed herewith), and various items may also be displayed on the token **102***a* when the token **102***a* is ejected from the token port **218** of the Pocket Vault **102**. FIGS. **26**A-P show examples of how the display **216** and the token **102***a* may appear as the routines of **FIGS. 7-12** are executed, and therefore will be discussed in connection with the description of these routines.

[**0178**] **FIG. 7** is a flow diagram illustrating an example implementation of a primary routine **700** that may be executed by the controller **202** of the Pocket Vault **102**. Instructions for the routine **700** may be stored, for example, in the "applications" section **508** of the memory **210** of the Pocket Vault **102**.

[**0179**] As shown, the routine **700** begins at a step **702**, wherein it is determined whether the Pocket Vault holder has applied his/her fingerprint to the fingerprint scanner **220** of the Pocket Vault **102**. At the step **702**, the display **216** of the Pocket Vault **102** may appear as shown in **FIG. 26A**. That is, the display **216** may be blank at the step **702**, as the Pocket Vault **102** is currently powered down.

[**0180**] When, at the step **702**, it is determined that the holder has applied his/her fingerprint to the fingerprint scanner **220**, the routine **700** proceeds to a step **704**, wherein the power manager **214** powers on the Pocket Vault **102**. The routine **700** otherwise waits at the step **702** until the Pocket Vault holder has applied a fingerprint to the fingerprint scanner **220**. Is should be appreciated, however, that, in some embodiments, the step **702** may not represent an instruction set executed by the processor **202**. Instead, the step **702** may represent the detection of the occurrence of a physical action, e.g., the activation of a hardware switch, and the power manager **214** may be activated in response to the detection of such an action, without requiring intervention by the processor **202**.

[**0181**] After the step **704**, the routine **700** proceeds to a step **706**, wherein the fingerprint scanner **220** scans the applied fingerprint of the Pocket Vault holder.

[**0182**] After the step **706**, the routine **700** proceeds to a step **708**, wherein it is determined whether the Pocket Vault **102** has been validated. In one embodiment, the Pocket Vault **102** is not validated until: (1) a user's fingerprints have been stored in the fingerprint memory (e.g., the write-once memory **212** of **FIG. 2**), and (2) the Pocket Vault **102** has received and stored encrypted validation information (e.g., a PKI certificate) from the network server **114**, as described below.

[**0183**] When, at the step **708**, it is determined that the Pocket Vault **102** has not yet been validated, the routine **700** proceeds to a step **710**, wherein a PROCESS POCKET

VAULT VALIDATION routine (described below in connection with **FIG. 8**) is executed.

[**0184**] When, at the step **708**, it is determined that the Pocket Vault **102** has already been validated, the routine **700** proceeds to a step **712**, wherein it is determined whether Pocket Vault **102** has been authenticated, e.g., whether the fingerprint scanned at the step **706** matches one of the fingerprints stored in the fingerprint memory **212**.

[**0185**] When, at the step **712**, it is determined that the Pocket Vault has not been properly authenticated, the routine **700** proceeds to a step **714**, wherein an UNAUTHORIZED HOLDER routine (discussed below in connection with **FIG. 9**) is executed. FIGS. **26**B-D show how the display **216** of the Pocket Vault **102** may appear during the UNAUTHORIZED HOLDER routine, and therefore are also discussed below in connection with **FIG. 9**.

[**0186**] When, at the step **712**, it is determined that the Pocket Vault **102** has been properly authenticated, the routine **700** proceeds to a step **713**, wherein an encrypted message including the unique Pocket Vault chip ID is transmitted to the pocket vault interface unit **302**, in the event that the Pocket Vault **102** is interfaced or in communication with such a device.

[**0187**] In some embodiments, before a Pocket Vault holder is granted access to the contents of his or her Pocket Vault **102**, a check may be made to ensure that the components used to interface the Pocket Vault **102** with the other components in the network **100** (either wirelessly or directly) are in place and operating correctly, and have not been compromised. Alternatively, the operability and integrity of such components may be checked just prior to their use.

[**0188**] Moreover, in some embodiments, prior to granting a holder access to the contents of the Pocket Vault **102**, a check may be made to ensure that the contents of the Pocket Vault **102** have been updated recently. For example, the Pocket Vault **102** may forbid its holder from accessing its contents if the Pocket Vault **102** has not been updated at least 48 hours (or some other specified time period) prior to the attempted use. Updating of the Pocket Vault **102** may be accomplished, for example, using the synchronization or backup and recovery methods described herein.

[**0189**] After the step **713**, the routine **700** proceeds to a step **716**, wherein it is determined whether the Chameleon Card (i.e., the token **102***a*) is presently on-board the Pocket Vault **102** (i.e., whether the token **102***a* is disposed within the card port **218** of **FIG. 2**).

[**0190**] When, at the step **716**, it is determined that the token **102***a* is not on-board the Pocket Vault **102**, the routine **700** proceeds to a step **718**, wherein the Pocket Vault holder is informed that the Chameleon Card is not on board, and is asked whether he/she wants to engage in a non-card transaction (i.e., a transaction not involving the token **102***a*).

[**0191**] After the step **718**, the routine **700** proceeds to a step **720**, wherein it is determined whether the holder has selected to engage in a non-card transaction.

[**0192**] When, at the step **720**, it is determined that the holder has selected not to engage in a non-card transaction, routine **700** returns to the step **716** (described above), wherein it is again determined whether the Chameleon Card is on board the Pocket Vault **102**. Therefore, the holder is permitted to engage in a transaction involving the Chameleon Card only when it has been confirmed that the Chameleon Card is on board the Pocket Vault **102**.

[**0193**] When, at the step **720**, it is determined that the holder has selected to engage in a non-card transaction, the routine **700** proceeds to the step **722**, wherein the AUTHORIZED HOLDER routine (discussed below in connection with **FIGS. 10 and 11**) is executed.

[**0194**] When, at the step **716**, it is determined that the Chameleon Card is on-board the Pocket Vault **102**, the routine **700** also proceeds to the step **722**, wherein the AUTHORIZED HOLDER routine (discussed below in connection with **FIGS. 10 and 11**) is executed. FIGS. **26**G-N and **26**P show how the display **216** of the Pocket Vault **102** and the token **102***a* ejected therefrom may appear (when employed) during the AUTHORIZED HOLDER routine, and therefore are also discussed below in connection with **FIGS. 10 and 11**.

[**0195**] After each of the steps **710**, **714**, and **720** (only one of which is executed during each iteration of the routine **700**), the routine **700** proceeds to a step **724**, wherein the VERIFY CARD RETURN routine (discussed below in connection with **FIG. 12**) is executed. **FIG. 260** shows how the display **216** of the Pocket Vault **102** may appear during the VERIFY CARD RETURN routine, and therefore is also discussed below in connection with **FIG. 12**.

[**0196**] After the step **724**, the routine **700** proceeds to a step **726**, wherein the screen of the display **216** is caused to flash to indicate that the Pocket Vault **102** is being shut down.

[**0197**] After the step **726**, the routine **700** proceeds to a step **728**, wherein the Pocket Vault **102** is powered down.

[**0198**] After the step **728**, the routine **700** returns to the step **702**, wherein the Pocket Vault **102** again waits for a fingerprint to be applied to the fingerprint scanner **220**, and wherein the display **216** may again appear as shown in **FIG. 26A**.

[**0199**] **FIG. 8** is a flow diagram illustrating an example embodiment of the PROCESS POCKET VAULT VALIDATION routine shown in **FIG. 7** (step **710**).

[**0200**] As shown, the routine **710** begins at a step **801**, wherein the holder is informed (e.g., on the display **216**) that the Pocket Vault **102** is not currently validated, and that the holder must interface the Pocket Vault **102** with an interface unit **302** of an appropriate interface station **104** (e.g., a validation interface station **104***a*) if the holder desires to validate the Pocket Vault **102**.

[**0201**] After the step **801**, the routine **710** proceeds to step **802**, wherein it is determined whether the Pocket Vault **102** has been interfaced with an appropriate interface unit **302**.

[**0202**] When, at the step **802**, it is determined that the pocket vault **102** has not yet been interfaced with an appropriate interface unit **302**, the routine **710** returns to the step **801** (discussed above).

[**0203**] When, at the step **802**, it is determined that the Pocket Vault **102** has been interfaced with an appropriate interface unit **302**, the routine **710** proceeds to a step **803**,

wherein it is determined whether the fingerprint memory, e.g., the write-once memory **212**, is empty.

[**0204**] When, at the step **803**, it is determined that the fingerprint memory is empty, the routine **710** proceeds to a step **804***a*, wherein the holder is prompted to apply a fingerprint from one finger of his or her left hand to the fingerprint scanner **220**, waiting for a "beep" to be emitted (e.g., by indicator **215**) after each fingerprint application.

[**0205**] Next, during steps **806***a*-**810***a*, the routine proceeds until the fingerprint of the selected finger has been scanned three times successfully.

[**0206**] After the steps **806***a*-**810***a*, the routine proceeds to a step **804***b*, wherein the holder is prompted to apply a fingerprint from one finger of his or her right hand to the fingerprint scanner **220**, waiting for a "beep" to be emitted (e.g., by indicator **215**) after each fingerprint application.

[**0207**] Next, during steps **806***b*-**810***b*, the routine proceeds until the fingerprint of the selected finger has been scanned three times successfully.

[**0208**] After completing the steps **806***b*-**810***b*, when a total of six fingerprints have been stored in memory, the routine **710** proceeds to a step **812**, wherein an encrypted message including the pocket vault ID is transmitted to the interface unit **302**, for ultimate transmission to the network server **114**.

[**0209**] When, at the step **803**, it is determined that the fingerprint memory, e.g., the write-once memory **212**, is not empty, the routine **710** proceeds to a step **811**, wherein it is determined whether the fingerprint scanned at the step **706** (**FIG. 7**) matches one of the stored fingerprints.

[**0210**] When, at the step **811**, it is determined that the fingerprint scanned at the step **706** does match one of the stored fingerprints, the routine **710** proceeds to the step **812** (discussed above).

[**0211**] When, at the step **811**, it is determined that the fingerprint scanned at the step **706** does not match any of the stored fingerprints, the routine **710** proceeds to a step **818**, wherein an indication (e.g., a message on the display **216** or an audio signal from the indicator **215**) is generated to inform the holder that the validation attempt was unsuccessful.

[**0212**] After the step **818**, the routine **710** terminates.

[**0213**] After the step **812**, the routine **710** waits at steps **814** and **816** to determine whether an encrypted message including validation information (e.g., a PKI certificate) has been received from the interface unit **302**. This encrypted validation information may, for example, be received by the Pocket Vault **102** via either the docking interface **208** or the transceiver **204** of the pocket vault interface unit **302** of a validation interface station **104***a*. As discussed in more detail below, this encrypted validation information may, for example, be generated by the network server **114** and forwarded to the pocket vault interface unit **302** of a validation interface station **104***a* (via the interface station computer **304** of the validation interface station **104***a*) after certain conditions have been met. The network server **114** may therefore ultimately determine whether each Pocket Vault **102** is permitted to receive this validation information.

[**0214**] When, at the step **816**, it is determined that the time-out period has elapsed, the routine **710** proceeds to the step **818** (discussed above).

[**0215**] When, at the step **814**, it is determined that encrypted validation information has been received before the timeout period of the step **816** has elapsed, the routine **710** proceeds to a step **820**, wherein the validation information is stored in memory.

[**0216**] After the step **820**, the routine **710** proceeds to a step **822**, wherein an indication (e.g., a message on the display **216** or an audio signal from the indicator **215** of the Pocket Vault **102**) is generated to inform the holder that the Pocket Vault **102** has been successfully validated.

[**0217**] After the step **822**, the routine **710** terminates.

[**0218**] **FIG. 9** is a flow diagram illustrating an example implementation of the UNAUTHORIZED HOLDER routine shown in **FIG. 7** (step **714**).

[**0219**] As shown, the routine **714** begins at a step **902**, wherein a menu is displayed on the display **216** that permits the holder to select one of several options: (1) TRY AGAIN, (2) POCKET VAULT RETURN INFORMATION, (3) EMERGENCY INFORMATION, or (4) END SESSION. **FIG. 26B** shows how the display **216** may appear when the step **902** is reached. As shown, textual information and/or icons representing the various menu options may be displayed to the holder.

[**0220**] After the step **902**, the routine **714** proceeds to a step **904**, wherein the routine **714** waits for one of the displayed menu items to be selected by the holder (e.g., when the holder touches the location on the screen of the display **216** at which the menu item is displayed).

[**0221**] After one of the menu items has been selected at the step **904**, the routine **714** proceeds to a step **906**, wherein it is determined whether the TRY AGAIN option was selected. By selecting TRY AGAIN, the holder may request that the holder again be permitted to attempt to access the secure contents of the Pocket Vault **102** by reapplying the holder's fingerprint to the fingerprint scanner **220**.

[**0222**] When, at the step **906**, it is determined that the user has selected the TRY AGAIN option, the routine **714** proceeds to a step **912**, wherein it is determined whether this is the third sequential time that the scanned fingerprint has failed to match the fingerprint stored in memory.

[**0223**] When, at the step **912**, it is determined that three sequential failed matches have occurred, the routine **714** proceeds to a step **914**, wherein certain security precautions are taken in light of the multiple failed attempts to match the holder's fingerprint with that stored in the Pocket Vault **102**. For example, when multiple failed matches have occurred, the Pocket Vault's secure memory may be erased, a security alert message may be broadcast by the transceiver **204** and/or any other prudent steps may be taken to ensure that an unauthorized user does not access the Pocket Vault's sensitive contents.

[**0224**] After the step **914**, the routine **714** terminates.

[**0225**] When, at the step **912**, it is determined that this is not the third consecutive time that the holder's fingerprint has failed to match that stored in the Pocket Vault's memory, the routine **714** terminates, and the holder may then again

attempt (at the step **702**) to access the Pocket Vault **102** by reapplying his/her fingerprint to the fingerprint scanner **220**.

[**0226**] When, at the step **906**, it is determined that the TRY AGAIN option has not been selected, the routine **714** proceeds to a step **908**, wherein it is determined whether there exist any nested menu items for the menu item selected at the step **904**.

[**0227**] When, at the step **908**, it is determined that nested menu items do exist for the selected menu item, the routine **714** proceeds to a step **910**, wherein the nested menu items for the selected menu item are displayed to the holder on the display **216**.

[**0228**] After the step **910**, the routine **714** returns to the step **904**, wherein the routine **714** again waits for the holder to select one of the displayed menu items.

[**0229**] When, at the step **908**, it is determined that no nested menu items exist for the selected menu item, the routine **714** proceeds to a step **916**, wherein it is determined whether the END SESSION option has been selected.

[**0230**] When, at the step **916**, it is determined that the END SESSION option has been selected, the routine **714** terminates.

[**0231**] When, at the step **916**, it is determined that the END SESSION option has not been selected, the routine **714** proceeds to a step **918**, wherein the information, if any, for the selected menu item is displayed to the holder on the display **216**. Because the step **918** is reached only after a failed attempt to match the holder's fingerprint with that stored in the memory of the Pocket Vault **102**, the information displayed at the step **918** may, for example, include information as to where the Pocket Vault **102** may be returned if it is found by someone other than the Pocket Vault holder (see **FIG. 26C**), or may be emergency information regarding the holder such as the holder's blood type, allergies, persons to contact in case of an emergency, etc. (see **FIG. 26D**). It should be appreciated that any of a number of non-secure media may be selected using the menu access routine discussed above in connection with steps **904-910**, and may be displayed to the person accessing the Pocket Vault **102**, regardless of the identity of that person. Of course, this non-secure information may be information that the holder would not mind falling into the hands of a stranger should the holder misplace or have his/her Pocket Vault **102** stolen.

[**0232**] After the step **918**, the routine **714** proceeds to a step **920**, wherein after a delay of a certain period of time (e.g., thirty seconds), the holder is prompted to reapply his/her fingerprint within a particular period of time (e.g., ten seconds) to avoid shut down of the Pocket Vault **102**.

[**0233**] After the step **920**, the routine **714** proceeds to a step **922**, wherein it is determined whether a fingerprint has been reapplied to the fingerprint scanner **220** within ten seconds.

[**0234**] When, at the step **922**, it is determined that a fingerprint has been reapplied to the fingerprint scanner **220** within ten seconds, the routine **714** returns to the step **918** (discussed above), wherein the selected information is again displayed to the user.

[**0235**] When, at the step **922**, it is determined that a fingerprint has not been reapplied to the fingerprint scanner **220** within ten seconds, the routine **714** terminates.

[**0236**] **FIG. 10** is a flow diagram illustrating an example implementation of the AUTHORIZED HOLDER routine of **FIG. 7** (step **722**).

[**0237**] As shown, the routine **722** begins at a step **1002**, wherein it is determined whether an advertisement is scheduled for display on the Pocket Vault **102**. Information regarding whether certain advertisements are to be displayed by the Pocket Vault **102** may have been uploaded, for example, from the personal interface station **104***b* in response to the holder previously interfacing the Pocket Vault **102** with the personal interface station **104***b* to synchronize the contents of the Pocket Vault **102** with information stored on the network server **114**. The advertiser **108** (**FIG. 1**) may, for example, have made arrangements with the company operating the network server **114** to have certain advertising information uploaded to Pocket Vaults **102** when particular Pocket Vault holders interface their Pocket Vaults **102** with their personal interface stations **104***b*.

[**0238**] When, at the step **1002**, it is determined that an advertisement has been scheduled, the routine **722** proceeds to a step **1004**, wherein the scheduled advertisement is displayed, for example, for approximately two seconds. **FIG. 26I** shows an example of how the display **216** may appear when such an advertisement is displayed.

[**0239**] After the step **1004**, the routine **722** proceeds to a step **1006**, wherein a "welcome screen" is displayed for a brief period (e.g., one second). **FIG. 26G** shows an example of how the display **216** may appear when such a welcome screen is displayed.

[**0240**] When, at the step **1002**, it is determined that an advertisement is not scheduled, the routine **722** proceeds immediately to the step **1006**, and no advertisement is displayed to the Pocket Vault holder.

[**0241**] After the step **1006**, the routine **722** proceeds to a step **1008**, wherein it is determined whether a "preferred" menu has been selected or pre-set for initial display to the Pocket Vault holder.

[**0242**] When, at the step **1008**, it is determined that a preferred menu has been selected or pre-set, the routine **722** proceeds to a step **1012**, wherein the display **216** fades to the preferred menu. **FIGS. 26H and 26J** show examples of how the display **216** may appear when such a preferred menu is displayed. In the example of **FIG. 26H**, the preferred menu immediately shows the holder's preferred credit card as the selected menu item. Should the holder opt to use this media to engage in a transaction, the holder can simply choose the media directly. Alternatively, the holder may opt to access the HOME menu or other menu items by selecting appropriate icons displayed on the screen. In the example of **FIG. 26J**, the preferred menu immediately shows, perhaps, a selected group of the holder's most frequently used menu items.

[**0243**] When, at the step **1008**, it is determined that a preferred menu has not been selected or pre-set, the routine **722** proceeds to a step **1010**, wherein the display **216** fades to a standard HOME menu of secure items. **FIG. 26L** shows an example of how the display **216** may appear when the HOME menu is displayed.

[0244] After either one of the steps **1010** and **1012** has been executed, the routine **722** proceeds to a step **1014**, wherein the routine **722** waits for the holder to select one of the displayed menu items.

[0245] When, at the step **1014**, it is determined that the holder has selected a particular menu item, the routine **722** proceeds to a step **1016**, wherein it is determined whether the holder has selected to enter or return to the HOME menu.

[0246] When, at the step **1016**, it is determined that the holder has selected the HOME option, the routine **722** proceeds to the step **1010**, wherein the HOME menu of secure items is displayed.

[0247] When, at the step **1016**, it is determined that the holder has selected a menu item other than the HOME option, the routine **722** proceeds to a step **1018**, wherein it is determined whether there exist any nested menu items for the selected menu item.

[0248] When, at the step **1018**, it is determined that nested menu items do exist for the selected menu item, the routine **722** proceeds to a step **1020**, wherein the nested menu items for the selected menu item are displayed. Thus, the holder may work his/her way through various layers of menu items until the desired menu item is reached. It should be appreciated that the menu items on the higher-level layers therefore may be categorized so as to enable the holder to quickly reach the desired media or other menu option.

[0249] When, at the step **1018**, it is determined that no nested menu items exist for the selected menu item, the routine **722** proceeds to a step **1022**, wherein it is determined whether the holder has selected a media from among the available menu items.

[0250] When, at the step **1022**, it is determined that the holder has not selected a media, the routine **722** proceeds to a step **1040**, wherein information relating to the selected non-media item may be displayed, or some other function may performed in accordance with the holder's selection. A non-media menu selection may involve, for example, preference settings for certain functional aspects of the Pocket Vault **102**, e.g., whether the holder has a preferred secure menu (see step **1008**). Preferences for the services or the device can be selected and, as appropriate, distributed to the Pocket Vault **102** either on the spot or the next time the Pocket Vault **102** is interfaced with an appropriate interface station **104**. Preferences may, for example, include definition of home pages, connection of secure and non-secure media, order of media presentment, sort orders, user interface options, synchronization defaults, etc. Preferences that determine which items are displayed on the home page or on other pages may be defined. For example, a Pocket Vault holder may set up three preference sets: one for "business," one for "personal," and one for "vacation." The "personal" and "business" preference sets may be set to be effective at different times of the day and/or different days of the week. The "vacation" preference set may be made effective for specific blocks of time determined by the Pocket Vault holder, possibly overriding the normal timing of the "personal" and "business" sets. The Pocket Vault holder may choose to establish the various preference settings based on his or her judgment or he or she may choose to allow the network server **114**, supported by various databases, knowledge of the Pocket vault holder's various media and goals set by the Pocket Vault holder (e.g., minimize interest cost on credit cards or maximize frequent flyer miles, etc.), to determine optimal media use patterns and resulting media menu contents for a particular Pocket Vault holder. Preferences may also be defined between media that will link them for: (a) affiliate credits (like frequent flyer miles) that may be automatically presented to a merchant and tracked for a holder, (b) available discounts afforded by a membership (like senior citizen or AAA discounts), and/or (c) process improvement purposes (e.g., when information needs to be presented in a certain order to work properly). For example, a linkage preference may facilitate presentation of a discount card before presentation of a payment card when buying groceries.

[0251] After the step **1040**, the routine **722** proceeds to a step **1042**, wherein the holder is prompted either to END the session, or to return to the HOME menu.

[0252] After the step **1042**, the routine **722** proceeds to a step **1044**, wherein it is determined whether the holder has opted to END the session or to return to the HOME menu.

[0253] When, at the step **1044**, it is determined that the holder has selected to return to the HOME menu, the routine **722** proceeds to the step **1010** (discussed above).

[0254] When, at the step **1044**, it is determined that the holder has opted to END the session, the routine **722** terminates.

[0255] When, at the step **1022**, it is determined that the holder has selected a media from the displayed menu items, the routine **722** proceeds to a step **1024**, wherein the selected media is displayed to the holder on the display **216**. The selected media may, for example, be a particular credit card, in which case the name of the credit card and/or the logo for the credit card and any preferred advertisement, specials, etc., for the selected media may be displayed to the holder as well.

[0256] After the step **1024**, the routine **722** proceeds to a step **1026**, wherein the holder is prompted to choose to: (1) EJECT the card, (2) to invoke a WIRELESS transaction, or (3) to return to the HOME menu.

[0257] After the step **1026**, the routine **722** proceeds to a step **1028**, wherein it is determined which of these three options has been selected by the holder.

[0258] When, at the step **1028**, it is determined that the holder has opted to return to the HOME menu, the routine **722** proceeds to the step **1010** (discussed above).

[0259] When, at the step **1028**, it is determined that the holder has selected the EJECT card option, the routine **722** proceeds to a step **1032**, wherein it is determined whether the Chameleon Card is on board the Pocket Vault **102** (i.e., whether the token **102***a* is disposed in the token port **218**).

[0260] When, at the step **1032**, it is determined that the Chameleon Card is not on board the Pocket Vault **102**, the routine **722** proceeds to a step **1034**, wherein the holder is informed that the Chameleon Card is not on board the Pocket Vault **102**.

[0261] After the step **1034**, the routine **722** proceeds to the step **1026** (discussed above).

[0262] When, at the step **1032**, it is determined that the Chameleon Card is on board the Pocket Vault **102**, the routine **722** proceeds to a step **1036**, wherein the PROCESS CARD TRANSACTION routine (discussed below in connection with **FIG. 11**) is executed.

[0263] After the step **1036**, the routine **722** proceeds to a step **1038**, wherein the VERIFY CARD RETURN routine (discussed below in connection with **FIG. 12**) is executed.

[0264] After the step **1038**, the routine **722** proceeds to the step **1042** (discussed above).

[0265] When, at the step **1028**, it is determined that the holder has opted to invoke a wireless transaction, the routine **722** proceeds to a step **1030**, wherein the wireless transaction involving the selected media is executed. This wireless transaction may be invoked, for example, using the transceiver **204** of the Pocket Vault **102** to communicate with the transceiver **310** (**FIG. 3**) of a commercial interface station **104***c* (**FIG. 1**) over a wireless network, such as Bluetooth. Alternatively, the selected wireless transaction may be an RFID transaction if an RFID personality has been selected from amongst the available media. If such an RFID transaction has been selected, an appropriate RFID code may be supplied to the controller responsible for broadcasting an RF signal containing that code in response to an interrogation signal. If that controller is on the Chameleon card, then these steps may alternatively be performed in connection with the PROCESS CARD TRANSACTION routine (step **1036**) discussed below.

[0266] As mentioned above, in embodiments that permit wireless transactions, a check of the wireless components may be made (e.g., verifying that an internal antenna (not shown) is in place and connected, and that related circuitry is not defeated or compromised in any way), prior to granting the holder access to the contents of the Pocket Vault **102**. Alternatively, such a check may be made in response to such a wireless transaction being requested, e.g., at the step **1030**.

[0267] After the step **1030**, the routine **722** proceeds to the step **1042** (discussed above).

[0268] **FIG. 11** is a flow diagram illustrating an example implementation of the PROCESS CARD TRANSACTION routine of **FIG. 10** (step **1036**).

[0269] As shown, the routine **1036** begins at a step **1102**, wherein the Chameleon Card is configured to carry the selected media, and is ejected from the card port **218** (**FIG. 2**). As discussed above, the token **102***a* may be configured to carry the selected media in any of a number of ways, and the invention is not limited to any particular type of configuration technique. The card may be configured, for example, by using a magnetic read/write head to write to a conventional magnetic stripe on the token **102***a*, by causing the token **102***a* to generate a simulated magnetic stripe, by causing the token **102***a* to have a bar code disposed on it, and/or simply by causing a card number and perhaps security-related information to be visibly displayed it (e.g., using an LCD display or some type of printing technique). The token **102***a* may possibly be configured to hold such information for only a predetermined, finite period of time, so that it is not useable after such time. It should be appreciated, of course, that the card need not be temporarily configured in all embodiments, and may alternatively be configured in a more permanent manner in some embodiments.

[0270] After the step **1102**, the routine **1036** proceeds to a step **1104**, wherein the selected media is grayed out on the display **216** to indicate that the media is currently in use by the Chameleon Card. When the selected media is grayed out, the Pocket Vault's ability to configure another Chameleon Card with the grayed out media may also be disabled. Therefore, in such an embodiment, even if the Pocket Vault holder had an additional Chameleon Card available, the Pocket Vault **102** would be incapable of loading that media onto that Chameleon Card.

[0271] After the step **1104**, the routine **1036** proceeds to a step **1106**, wherein it is determined whether the selected media has stored value associated with it. The selected media may, for example, represent a pre-paid calling card from which value is deducted each time the media is used in a particular transaction, or a frequent flier card to which value (e.g., miles) is added in connection with each airline ticket purchased.

[0272] When, at the step **1106**, it is determined that the selected media does have stored value associated with it, the routine **1036** proceeds to a step **1108**, wherein a "stored value flag" (discussed below in connection with step **1126** of routine **1036** (**FIG. 11**) and step **1212** of routine **724** (**FIG. 12**)) is set to TRUE.

[0273] After the step **1108**, the routine **1036** proceeds to a step **1110**, wherein it is determined whether the holder has set a default option so as to permit the holder to maintain expense records by recording transactions into registers assigned to expense categories.

[0274] When, at the step **1106**, it is determined that the selected media does not have stored value associated with it, the routine **1036** proceeds immediately to the step **1110**.

[0275] When, at the step **1110**, it is determined that the holder has not opted for the ability to maintain expense records, the routine **1036** terminates.

[0276] When, at the step **1110**, it is determined that the holder has opted for the ability to maintain expense records, the routine **1036** proceeds to a step **1112**, wherein the holder is prompted to decide whether to record the currently-pending transaction.

[0277] After the step **1112**, the routine **1036** proceeds to a step **1114**, wherein it is determined whether the holder has opted to record the pending transaction.

[0278] When, at the step **1114**, it is determined that the holder has not opted to record the transaction, the routine **1036** terminates.

[0279] When, at the step **1114**, it is determined that the holder has opted to record the transaction, the routine **1036** proceeds to a step **1116**, wherein a menu including a number of options involving expense categories are displayed to the holder on the display **216**.

[0280] After the step **1116**, the routine **1036** proceeds to a step **1118**, wherein the routine **1036** waits for the holder to select one of the displayed menu options.

[0281] When, at the step **1118**, it is determined that the holder has selected a menu item, the routine **1036** proceeds to a step **1120**, wherein it is determined whether the holder selected the SKIP RECORD option, e.g., when the holder has changed his or her mind and opted not to record a particular transaction.

[0282] When, at the step **1120**, it is determined that the holder has selected the SKIP RECORD option, the routine **1036** terminates.

[0283] When, at the step **1120**, it is determined that holder has not selected the SKIP RECORD option, the routine **1036** proceeds to a step **1122**, wherein it is determined whether any nested menu items exist for the selected menu item.

[0284] When, at the step **1122**, it is determined that nested menu items do exist for the selected menu item, the routine **1036** proceeds to a step **1124**, wherein the nested menu items are displayed to the holder on the display **216**.

[0285] After the step **1124**, the routine **1036** returns to the step **1118** (discussed above).

[0286] When, at the step **1122**, it is determined that no nested menu items exist for the selected menu item, the routine **1036** proceeds to a step **1126**, wherein it is determined whether the stored value flag was set to TRUE at the step **1108** (discussed above).

[0287] When, at the step **1126**, it is determined that the stored value flag is set to TRUE, the routine **1036** proceeds to a step **1128**, wherein a "record stored value transaction" flag (discussed below in connection with step **1216** of routine **724** (**FIG. 12**)) is set to TRUE.

[0288] After the step **1128**, the routine **1036** terminates.

[0289] When, at the step **1126**, it is determined that the "stored value" flag is not TRUE, the routine **1036** proceeds to a step **1130**, wherein the holder is prompted to enter a dollar amount to be recorded for the transaction.

[0290] After the step **1130**, the routine **1036** proceeds to a step **1132**, wherein the routine **1036** waits for the holder to enter a transaction amount. After the holder has entered a transaction amount, the routine **1036** proceeds to a step **1134**, wherein a "transaction summary approval" menu is displayed to the holder on the display **216**. In the example shown, this menu permits the holder to select (1) to APPROVE the recordation, (2) to change the expense CATEGORY for the transaction, or (3) to change the AMOUNT to be recorded.

[0291] After the step **1134**, the routine **1036** proceeds to a step **1136**, wherein it is determined which of the menu items displayed in step **1134** the holder has selected.

[0292] When, at the step **1136**, it is determined that the holder has selected to change the transaction AMOUNT, the routine **1036** returns to the step **1130** (discussed above).

[0293] When, at the step **1136**, it is determined that the holder has opted to change the expense CATEGORY, the routine **1036** returns to the step **1116** (discussed above).

[0294] When, at the step **1132**, it is determined that the holder has opted to APPROVE the recordation, the routine **1036** proceeds to a step **1138**, wherein the entered transaction amount is added to the expense register for the selected category, and the balances associated therewith are updated accordingly.

[0295] After the step **1138**, the routine **1036** terminates.

[0296] **FIG. 12** is a flow diagram illustrating the VERIFY CARD RETURN routine of **FIG. 7** (step **724**).

[0297] As shown, the routine **724** begins at a step **1202**, wherein it is determined whether the Chameleon Card is currently on board the Pocket Vault **102** (i.e., whether the token **102***a* is disposed within the token port **218**).

[0298] When, at the step **1202**, it is determined that the Chameleon Card is not on board the Pocket Vault **102**, the routine **724** proceeds to a step **1204**, wherein the holder is prompted to return the Chameleon Card to the token port **218** (see **FIG. 260**).

[0299] After the step **1204**, the routine **724** proceeds to a step **1206**, wherein it is determined whether a timeout period (e.g., ten seconds) has elapsed since the user was last prompted to return the Chameleon Card to the token port **218**.

[0300] When, at the step **1206**, it is determined that the timeout period has not yet elapsed, the routine **724** returns to the step **1202** (discussed above).

[0301] When, at the step **1206**, it is determined that the timeout period has elapsed, the routine **724** proceeds to a step **1208**, wherein the user is again prompted to return the Chameleon Card, this time with an audio indication (e.g., a "chime" sound generated by the indicator **215** of **FIG. 2**).

[0302] After the step **1208**, the routine **724** proceeds to a step **1210**, wherein it is determined whether an extended timeout period (e.g., **10** minutes) has elapsed since the user was first prompted to return the Chameleon Card to the token port **218**.

[0303] When, at the step **1210**, it is determined that the extended timeout period has not yet elapsed, the routine **724** returns to the step **1202** (discussed above).

[0304] When, at the step **1210**, it is determined that the extended timeout period has elapsed, the routine **724** terminates.

[0305] When, at the step **1202**, it is determined that the Chameleon Card is on board the Pocket Vault **102** (i.e., the token **102***a* is disposed within the token port **218**), the routine **724** proceeds to a step **1212**, wherein it is determined whether the "stored value" flag was set to TRUE in step **1108** of the routine **1036** (**FIG. 11**).

[0306] When, at the step **1212**, it is determined that the "stored value" flag is not TRUE, the routine **724** terminates.

[0307] When, at the step **1212**, it is determined that the "stored value" flag is TRUE, the routine **724** proceeds to a step **1214**, wherein the stored value for the selected media is updated based on the amount deducted from the Chameleon Card during its use.

[0308] After the step **1214**, the routine **724** proceeds to a step **1216**, wherein it is determined whether the "record stored value transaction" flag was set to TRUE in the step **1128** of the routine **1036** (**FIG. 11**).

[0309] When, at the step **1216**, it is determined that the "record stored value transaction" flag is FALSE, the routine **724** proceeds to a step **1222**, wherein the "stored value" flag is set to FALSE.

[0310] When, at the step **1216**, it is determined that the "record stored value transaction" flag is TRUE, the routine **724** proceeds to a step **1218**, wherein the dollar amount of the transaction is added to the selected expense register (i.e., the expense register selected at the step **1118** of the routine **1036** (**FIG. 11**)). The dollar amount entered is determined based on the dollar amount that was deducted from the stored value on the Chameleon Card as a result of the transaction.

[0311] After the step **1218**, the routine **724** proceeds to a step **1220**, wherein the "record stored value transaction" flag is set to FALSE.

[0312] After the step **1220**, the routine **724** proceeds to the step **1222** (discussed above)

[0313] After the step **1222**, the routine **724** terminates.

[0314] In addition to a routine such as that discussed above in connection with **FIGS. 7-12**, certain software enhancements may also be disposed in the memory **210** of a Pocket Vault **102** for use with the controller **202**. One such software enhancement involves the use of "system preference file" software. This software may establish certain preferences that cannot be altered on the Pocket Vault **102** by the holder, and which may be stored in encrypted form, along with certain information regarding value-based media. For example, Pocket Vaults **102** may be sold with a choice of two or three advertising profiles. During the Pocket Vault registration and validation process (described below), an encrypted system preference file may be created that indicates whether the device was, for example, subject to a "Premium,""Plus" or "Base" profile status. This status may have been selected, for example, on the Pocket Vault **102** itself, or using one of the interface stations **104***a-c* when the Pocket Vault **102** was interfaced therewith.

[0315] Under the "Premium" profile, the Pocket Vault **102** may be advertising-free, but cost a significant amount. Under the "Plus" profile, the Pocket Vault **102** may display only advertising related to shops or services you currently patronize, but cost significantly less than the "Premium" version. Under the "Base" profile, the Pocket Vault **102** may have a variety of advertising on a regular basis, subject only to network "saturation effectiveness" limitations, and the Pocket Vault **102** may be free, or nearly so (e.g., a small purchase charge to generate in-store revenue for the retailer may be charged).

[0316] A holder's choice about participation in specific promotional campaigns linked to the holder's buying behavior may also be part of the registration process and affect retail pricing. Once chosen, the network server **114** may send a message to the Pocket Vault **102**, e.g., via the validation interface station **104***a*, and direct the storage of necessary encrypted information on the Pocket Vault **102** (e.g., "Buyer Profile Participant").

[0317] The advertising and marketing choices may be changed at a date after purchase and result in a changed set of costs (either credits or debits) to the Pocket Vault holder. Other system preference data may include the "saturation effectiveness" limitations on the amount of advertising that can appear during any given single use window (a particular period during which the device is powered on), any given hour, any given day and/or any given month. The limitations may control both the number of advertisements permitted and the amounts of advertisement time permissible (e.g., seconds per advertisement), by category (e.g., such limitations may, for example, based on categories of advertisements be imposed general advertising, advertising from retailers that the Pocket Vault holder already patronizes and advisory notices from the network server **114**. For example, these limits may be set to balance the need for advertising revenue with the need to not overwhelm or annoy Pocket Vault holders. This preference file may, for example, limit all advertising to one advertisement per "on-session," two advertisements per hour, four advertisements per day and/or twenty advertisements per month. General advertisements might get priority claim on this time up to a set limit (say 75% of all advertisement time), with targeted advertisements next, and advisory messages last.

[0318] Another software enhancement that may be employed is software used for preference file management. Such "preference file management" software may, for example, include a default file which is periodically updated from the network server **114**, and a Pocket Vault holder custom file. Using this software, the holder may, for example, be able to modify: (1) the initial on-screen backdrop and message greeting; (2) the menu structure and media order within menu screens; (3) some (but not all) of the bio-metric input requirement parameters; (4) the amount of on-time after the bio-metric data is confirmed (within pre-set limits); (5) the ability to conceal all or part of the credit or debit account information on the Chameleon Card display area; (6) the normal restaurant tip percentage; (7) the links between certain media; and/or oversight preference restrictions.

[0319] For example, some of the menu tree structures for the Pocket Vault **102** may be set by the holder. This may include the sequence in which certain screens appear (e.g., debit screens before credit screens), among credit screens (e.g., Visa before MasterCard) and media order-of-appearance within a screen (e.g., FirstCard Visa before ChaseVisa).

[0320] Generally, a retailer does not need to see a credit or debit account number, while the approving entity contacted on the dialup modem does. Today, credit and debit cards have this information embossed on the card and recorded in the magnetic stripe on the back of the card. If the magnetically encoded information is unreadable due to mechanical wear of the magnetic stripe or for other reasons, the embossed image can always be read by the clerk and manually keyed in. There is no way for this embossing to disappear when it is not needed and appear at just the right time, either with a standard card or a Smartcard. As a result, such numbers are generally in view and this visibility may lead to fraud. In one embodiment, the Pocket Vault **102** may be programmed to conceal this number, unless prompted to the contrary by the holder. A retailer may confirm the kind of credit or debit being presented and the full name on the card, without having to see or be told the account number. On the rare occasion when the number itself is needed, the holder may, for example, repeat the bio-metric input to the Pocket Vault **102** to reveal the card account number. If placed in the personal interface station **104***c*, such account

numbers may be automatically revealed (e.g., through detection of an encrypted cookie on the interface station computer **304** of the personal interface station **104***c*).

[**0321**] If the holder establishes a preferred tip percentage, this preferred tip amount may be automatically applied to restaurant checks. This may eliminate a step in restaurant check close-out and reduce the hassle of calculating an appropriate tip and eliminate the need for waitstaff to return to pick up the credit receipt with the tip.

[**0322**] The holder may also choose to link certain media on the Pocket Vault **102** to reduce selection tasks at the point-of-transaction. For example, the holder may link certain credit or debit cards to certain frequent buyer ID cards, thereby enabling the holder to pick a grocery store frequent buyer card (which would be linked to a debit card and brought up automatically after the grocery store card).

[**0323**] At the point of registration or issuance, a Pocket Vault holder may be asked if there is to be any transaction oversight security. If the answer is yes, a second bio-metric input may be required from the individual endowed with that oversight role. For example, a parent may choose to get a Pocket Vault **102** for a child or other relative who may lack certain fiscal discipline. At issuance, and prior to any credit or debit media being added to the Pocket Vault **102**, the oversight authority may need to be established. The person having such oversight authority may then have sole access to a profile of transaction preference data. The person having the oversight authority may therefore create and modify this profile any time after issuance. This data set may limit one or more of the following: (1) debit and credit transaction dollar volume per day, per week and/or per month; (2) certain purchase restrictions such as the types of retailers to whom payments are permitted, such as exclusion of gambling establishments or liquor stores; and (3) geographic restrictions such as payments within 10 miles of a son's or daughter's college campus, but not beyond).

[**0324**] Another software enhancement that may be employed is software for managing media image libraries. Every media image sent to the display **216** may actually be a composite of from two to five layers of graphics files. Layers one, two and four may, for example, be stored in media library files while layers three and five may include text and data files stored in memory on the Pocket Vault **102**. For example, a credit card image may comprise separate layers for: (1) the standard credit card background and icon; (2) the issuing bank's overlay icons and text; (3) the individual's account number; and (4) customized advertising from the issuing bank and/or credit card company.

[**0325**] Layering the image in this fashion may minimize data transmission requirements, reduce memory storage requirements, and speed up screen display. For example, Pocket Vaults **102** may be preloaded at point of manufacture with background images of the top ten credit images, three passport images (e.g., EU, US, Japan), and a handful of other globally-relevant backgrounds. When, for example, a Pocket Vault holder living in Boston initially registers a device, it may trigger downloading of the top five additional background images prevalent in that area. When the individual applies for and is electronically issued a new credit card over the network system **100**, the download from the network server **114** may include a second layer credit card company overlay for the credit card, along with the third layer of account and name information, and the fourth layer of the most recent customized advertisement from the credit card company related to a seasonal promotion of card usage.

[**0326**] The advertisement layer may be temporary in nature. This layer may, for example, remain on-screen for a given number of seconds, predetermined by the time period of the advertisement paid for by the advertiser. Underneath such an advertisement, a fifth layer of Pocket Vault holder-determined data may appear, also for a temporary period, in this case for privacy reasons and for a period set by the holder. This positioning of the holder's data below the advertising data increase the value of the advertisement time, since holders will be likely to view the display **216** awaiting the appearance of their data, which may also remain on-screen for only a set number of second. For example, such holder-specific data may include the last date of the next billing period, or the total charges since the last billing period on this particular card or on all of the holder's credit cards. Such balance information may be generated, for example, by the financial management software. The initial on-screen image may also be layered, for example, with a market-tailored backdrop and a sign-on message, both of which possibly being modifiable could be modified by the appropriate setting of user preferences.

[**0327**] Another software enhancement that may be employed is software to manage memos. Certain screen choices may, for example, result in the viewing of memos created by and for the Pocket Vault holder. These memos may be written on a home PC and transferred to a Pocket Vault **102** when the Pocket Vault **102** is interfaced with the personal interface station **104***c* for an update/download session. Alternatively, such memos may be created on the Pocket Vault **102** using a screen-based keyboard function similar to that of a Palm Pilot. The memo template software may provide certain standard backgrounds and layouts to support this feature. This feature may help to eliminate the need for scraps of various notes now found in most wallets.

[**0328**] Yet another software enhancement that may be employed is software to manage advertising messages. Such advertising message management software may, for example, perform several noteworthy functions: (1) limiting the appearance of advertising in accordance with the advertising profile (e.g., stored in the network server **114**) of the particular Pocket Vault holder; (2) limiting the appearance of advertising to a certain number of times per on-session, per hour, per day, per week and/or per month; (3) tracking the number of times each advertisement appears since the last download/update session (since the number of on-sessions during any period will govern the number of opportunities certain advertisements have to run, this tracking may be necessary to enable billing of advertisers for actual advertisement exposure levels; (4) generating reminder advertisements for frequent buyer cards (e.g., a message such as "Ten weeks since your last car wash! One more and the next is free!"); and (5) tracking the effectiveness of advertising through linkage to the transaction files (e.g., the ability to build more accurate, comprehensive buying profiles since all of an individual's media are now "under one roof").

[**0329**] Another software enhancement that may be employed is software to process transaction data. Such transaction processing software may, for example, include the ability to track total outstanding transactions on particu-

lar media and compare those to media limits at the time of the next transaction, along with date validity of the media. If a particular piece of media is no longer valid, selection of this item from a menu may produce a message such as "expired," or "requires update to extend period of validity," or "payment of balance required before re-use."

[0330] Another software enhancement that may be employed is software to manage frequent buyer data. Such frequent buyer data management software may, for example, track purchases at stores with frequent buying programs that participate in the network system **100**. This software may also indicate any frequent buyer credits that are about to expire or create advertisements that remind their Pocket Vault holders that they are about to qualify for a free item. For example, a tenth gasoline purchase at a service station/car wash may generate a message indicating that the holder is "now entitled to free car wash."

[0331] Yet another software enhancement that may be employed is software for managing financial information. This type of software may, for example, enable easy download advertisements into personal finance software used by some PC owners. It may also support certain on-board functionality in the Pocket Vault, such as charge card management, automatically shifting from the preferred credit card to another credit card, for example: (1) when a transaction would cause a credit limit to be exceeded, (2) when using a different card would lengthen the time after which actual payment would be due, (3) when using another card would garner desired contest eligibility, or maximize cash back points for a particular period, and/or (4) when use of another card would preclude having to pay annual dues.

[0332] Another software enhancement that may be employed is Global Positioning Software. Integration of this functionality with memo information and frequent buyer information may induce visits to nearby stores at convenient times to take advantage of sales, frequent buyer credits, etc.

[0333] **FIG. 13** is a flow diagram illustrating an example implementation of a primary routine **1300** that may be executed by the controller **306** of the pocket vault interface unit **302** (**FIG. 3**).

[0334] As shown, the routine **1300** begins at a step **1346**, wherein it is determined whether a card has been swiped through the stripe reader **315** of the interface unit **302**.

[0335] When, at the step **1346**, it is determined that a card has been swiped, the routine **1300** proceeds to a step **1348**, wherein information from the swiped card read by the stripe reader **315** is transmitted to the interface station computer **304**.

[0336] After the step **1348**, the routine **1300** proceeds to a step **1302**, wherein it is determined whether a first encrypted message has been received from the Pocket Vault **102** including an ID code that is released from the Pocket Vault **102** only upon proper user authentication (e.g., in response to a fingerprint match).

[0337] When, at the step **1346**, it is determined that a card has not been swiped, the routine **1300** proceeds directly to the step **1302** (discussed above).

[0338] When, at the step **1302**, it is determined that such a first encrypted message has not been received from the Pocket Vault **102**, the routine **1300** proceeds to a step **1338**, wherein it is determined whether any encrypted information and/or commands have been received from the interface station computer **304**.

[0339] When, at the step **1338**, it is determined that information and/or commands have been received from the interface station computer **304**, the routine **1300** proceeds to a step **1340**, wherein the received information and/or commands are forwarded to the Pocket Vault **102**.

[0340] After the step **1340**, the routine **1330** proceeds to a step **1342**, wherein it is determined whether any information and/or commands have been received from the Pocket Vault **102**.

[0341] When, at the step **1338**, it is determined that no information or commands have been received from the interface station computer **304**, the routine **1300** proceeds directly to the step **1342** (discussed above).

[0342] When, at the step **1342**, it is determined that information and/or commands have been received from the Pocket Vault **102**, the routine **1300** proceeds to a step **1344**, wherein the received information and/or commands are forwarded to the interface station computer **304**.

[0343] After the step **1344**, the routine **1300** returns to the step **1346** (discussed above).

[0344] When, at the step **1342**, it is determined that no information and/or commands have been received from the Pocket Vault **102**, the routine **1300** proceeds directly to the step **1346**.

[0345] When, at the step **1302**, it is determined that a first encrypted message including a Pocket Vault ID has been received from the Pocket Vault **102**, the routine **1300** proceeds to a step **1304**, wherein the first encrypted message is forwarded to the interface station computer **304** (**FIG. 3**).

[0346] After the step **1304**, the routine **1300** proceeds to steps **1306** and **1308**, wherein it is determined whether a fingerprint has been scanned by the fingerprint scanner **316** of the pocket vault interface unit **302** before a timeout period measured by the step **1308** has elapsed.

[0347] When, at the steps **1306** and **1308**, it is determined that a fingerprint has not been scanned within the timeout period of step **1308**, the routine **1300** returns to the step **1346** (discussed above).

[0348] When, at the steps **1306** and **1308**, it is determined that a fingerprint has been scanned by the fingerprint scanner **316** in a timely manner, the routine **1300** proceeds to a step **1310**, wherein it is determined whether the scanned fingerprint matches a fingerprint stored in the memory **314** of the pocket vault interface unit **302**.

[0349] When, at the step **1310**, it is determined that the scanned fingerprint does match that of an authorized operator of the interface unit **302**, the routine **1300** proceeds to a step **1312**, wherein a second encrypted message, including an ID of the pocket vault interface unit **302** that is released only after a successful fingerprint match, is transmitted to the interface station computer **304**.

[0350] After the step **1312**, the routine **1300** returns to the step **1346** (discussed above).

[0351] When, at the step **1310**, it is determined that the scanned fingerprint does not match any fingerprint stored in

the memory **314** of the pocket vault interface unit **302**, the routine **1300** proceeds to a step **1314**, wherein a message is transmitted to the interface station computer **304** indicating there has been an unsuccessful attempt to authenticate an operator of the pocket vault interface unit **302**.

[**0352**] After the step **1314**, the routine **1300** proceeds to steps **1316** and **1318**, wherein it is determined whether, before the expiration of a timeout period measured by the step **1318**, a request has been received from the interface station computer **304** to add a new operator to the pocket vault interface unit **302**.

[**0353**] When, at the steps **1316** and **1318**, it is determined that such a request has not been received from the interface station computer **304** in a timely manner, the routine **1300** returns to the step **1302** (discussed above).

[**0354**] When, at the steps **1316** and **1318**, it is determined that a request to add a new operator to the pocket vault interface unit **302** has been received from the interface station computer **304** in a timely manner, the routine **1300** proceeds to steps **1320** and **1322**.

[**0355**] At the steps **1320** and **1322**, it is determined whether three identical fingerprints have been stored in the interface unit **302** for each of the operator's two hands before the expiration of a timeout period measured by the step **1322**. The operator may be prompted, e.g., on the display **324** of the interface station computer **304**, to take appropriate steps to ensure his or her fingerprints are properly scanned. An example routine for obtaining the requisite fingerprint data from a user is discussed above in connection with steps **804***a*-**810***a* and **804***b*-**810***b* (for the Pocket Vault **102**), and therefore will not be repeated here.

[**0356**] When, at the steps **1320** and **1322**, it is determined that the requisite fingerprint information has not been stored in a timely manner, the routine **1300** proceeds to a step **1336**, wherein an indication (e.g., a message or an audio tone) regarding the unsuccessful new operator validation attempt is generated.

[**0357**] After the step **1336**, the routine **1300** returns to the step **1346** (discussed above).

[**0358**] When, at the steps **1320** and **1322**, it is determined that the fingerprint information has been successfully stored in the interface unit **302** in a timely manner, the routine **1300** proceeds to a step **1324**, wherein an encrypted message including an ID unique to the interface unit **302** is transmitted to the interface station computer **304** for ultimate registration with the network server **114**.

[**0359**] After the step **1324**, the routine **1300** proceeds to step **1326** and **1328**, wherein is determined whether a message including validation information (e.g., a PKI certificate for the interface unit **302**) has been received from the network server **114** (via the interface station computer **304**) before the expiration of a timeout period.

[**0360**] When, at the steps **1326** and **1328**, the validation information is not received by the interface unit **302** in a timely manner, the routine **1300** proceeds to the step **1336** (discussed above).

[**0361**] When, at the steps **1326** and **1328**, it is determined that the validation information is received by the interface unit **302** in a timely manner, the routine **1300** proceeds to a step **1330**, wherein the validation information is stored for the new operator.

[**0362**] After the step **1330**, the routine **1300** proceeds to a step **1332**, wherein an indication (e.g., a message or an audio tone) regarding the successful validation of the new operator is generated.

[**0363**] After the step **1332**, the routine **1300** returns to the step **1346** (discussed above).

[**0364**] **FIG. 14** is a flow diagram illustrating example implementation of a primary routine **1400** that may be executed by the controller **308** of the interface station computer **304** of **FIG. 3**.

[**0365**] As shown, the routine **1400** begins at a step **1402**, wherein a menu is displayed on the display **324** of the interface station computer **304** that gives the operator of the interface station computer **304** several options to choose from. These options may, for example, include: (1) the option to request that a Pocket Vault **102** be validated (i.e., permitted to store a new finger print), (2) the option to request that the information currently stored on a Pocket Vault **102** be updated (e.g., information may be uploaded from the network server **114**), (3) the option to request that a transaction involving a Pocket Vault **102** be authorized, and/or (4) the option to access a website on the network server **114** and take advantage of the functionality thereof.

[**0366**] It should be appreciated that the foregoing are only examples of menu options that may be provided to the operator of the interface station computer **304**, and that the invention is not limited to the particular examples described. It should also be appreciated that fewer than all of the options shown may be provided in connection with different types of interface stations. For example, a validation interface station **104***a* may be provided only with option (1), a personal interface station may be provided only with option (2), and a commercial interface station may be provided only with option (3). In many instances, option (4) may be the only option required or desired to be employed by the user, as the website may itself provide all of the functionality of the other options (1)-(3). If fact, in such circumstances, the user need not be provided with a menu at all, as the user could simply log on the website using a browser. An embodiment of a network system in which a website may be accessed by a server in this manner is discussed below in connection with **FIGS. 28-39**.

[**0367**] After displaying the menu at the step **1402**, the routine **1400** proceeds to a step **1404**, wherein it is determined whether any requests to validate Pocket Vaults **102** have been received.

[**0368**] When, at the step **1404**, it is determined that no request to validate a Pocket Vault **102** has been received, the routine **1400** proceeds to a step **1408**, wherein it is determined whether any requests to update information on Pocket Vaults **102** have been received.

[**0369**] When, at the step **1408**, it is determined that no request to update the information on a Pocket Vault **102** has been received, the routine **1400** proceeds to a step **1412**, wherein it is determined whether any requests to authorize transactions involving Pocket Vaults **102** have been received.

[0370] When, at the step **1412**, it is determined that no request to authorize a transaction involving a Pocket Vault **102** has been received, the routine **1400** proceeds to a step **1416**, wherein it is determined whether the interface station computer has received any messages from Pocket Vault interface units **302** indicating that an unsuccessful operator authentication has occurred (i.e., the fingerprint of an operator scanned by the fingerprint scanner **316** has failed to match a fingerprint stored in the memory **314**).

[0371] When, at the step **1416**, it is determined that no such messages have been received, the routine **1400** proceeds to a step **1420**, wherein it is determined whether a request to access a website on the network server **114** has been received.

[0372] When at the step **1420**, it is determined that no request to access the website on the network server **114** has been received, the routine **1400** returns to the step **1402**, wherein the menu of the various options for the operator is again displayed. Thus, the menu **1402** is displayed until one of the various options is selected in accordance with any of the steps **1404**, **1408**, **1412**, **1416**, or **1420**.

[0373] When, at the step **1404**, it is determined that a request to validate a Pocket Vault **102** has been received, the routine **1400** proceeds to a step **1406**, wherein the PROCESS REQUEST TO VALIDATE POCKET VAULT routine (discussed below in connection with **FIG. 15**) is executed.

[0374] After the step **1406**, the routine **1400** proceeds to the step **1408** (discussed above).

[0375] When, at the step **1408**, it is determined that a request to update the information on a Pocket Vault **102** has been received, the routine **1410** proceeds to a step **1410**, wherein the PROCESS REQUEST TO UPDATE INFO ON POCKET VAULT routine (discussed below in connection with **FIG. 16**) is executed.

[0376] After the step **1410**, the routine **1400** proceeds to the step **1412** (discussed above).

[0377] When, at the step **1412**, it is determined that a request to authorize a transaction involving a Pocket Vault **102** has been received, the routine **1400** proceeds to a step **1414**, wherein the PROCESS REQUEST TO AUTHORIZE TRANSACTION routine (discussed below in connection with **FIG. 17**) is executed.

[0378] After the routine **1414**, the routine **1400** proceeds to the step **1416** (discussed above).

[0379] When, at the step **1416**, it is determined that a message has been received from an the interface station computer **304** indicating that an attempted fingerprint match of an operator has failed, the routine **1400** proceeds to a step **1418**, wherein the PROCESS UNSUCCESSFUL OPERATOR AUTHENTICATION routine (discussed below in connection with **FIG. 18**) is executed.

[0380] After the routine **1418**, the routine **1400** proceeds to the step **1420** (discussed above).

[0381] When, at the step **1420**, it is determined that a request to access a website on the network server **114** has been received, the routine **1400** proceeds to a step **1422**, wherein the PROCESS REQUEST TO ACCESS WEBSITE routine (discussed below in connection with **FIGS. 30-39**) is executed.

[0382] After the step **1422**, the routine **1400** returns to the step **1402** (discussed above).

[0383] **FIG. 15** is a flow diagram illustrating an example implementation of the PROCESS REQUEST TO VALIDATE POCKET VAULT routine of **FIG. 14** (step **1406**).

[0384] As shown, the routine **1406** begins at a step **1502**, wherein the potential new Pocket Vault holder is prompted to apply his or her fingerprint to the fingerprint scanner **220** of the Pocket Vault **102**, and to interface the Pocket Vault **102** with the pocket vault interface unit **302**. This may be accomplished, for example, by interfacing the docking interface **208** of the Pocket Vault **102** with the docking interface **312** of the pocket vault interface unit **302**.

[0385] After the step **1502**, the routine **1406** proceeds to steps **1504** and **1506**, wherein it is determined whether an encrypted message including the ID of the Pocket Vault **102** has been received from the pocket vault interface unit **302** prior to the expiration of a timeout period measured by the step **1506**.

[0386] When, at the steps **1504** and **1506**, it is determined that an encrypted message including the ID of the Pocket Vault **102** has not been received from the pocket vault interface unit **302** in a timely manner, the routine **1406** proceeds to a step **1526**, wherein a message is displayed on the display **324** of the interface station computer **304** indicating that an error has occurred in the Pocket Vault validation process.

[0387] When, at the steps **1504** and **1506**, it is determined that an encrypted message including the ID of the Pocket Vault **102** has been received from the pocket vault interface unit **302** in a timely manner, the routine **1406** proceeds to a step **1506**, wherein the interface station operator is prompted to apply his or her fingerprint to the fingerprint scanner **316** of the pocket vault interface unit **302**.

[0388] After the step **1506**, the routine **1406** proceeds to steps **1508** and **1510**, wherein it is determined whether an encrypted message including the ID of the pocket vault interface unit **302** has been received from the pocket vault interface unit **302** prior to the expiration of a timeout period measured by the step **1510**.

[0389] When, at the steps **1508** and **1510**, it is determined that an encrypted message including the ID of the pocket vault interface unit **302** has not been received from the pocket vault interface unit **302** in a timely manner, the routine **1406** proceeds to the step **1526**, wherein a message is displayed on the display **324** of the interface station computer **304** indicating that the attempt to authorize the interface station operator was unsuccessful.

[0390] After the step **1526**, the routine **1406** terminates.

[0391] When, at the steps **1508** and **1510**, it is determined that an encrypted message including the ID of the pocket vault interface unit **302** has been received from the pocket vault interface unit **302** in a timely manner, the routine **1406** proceeds to a step **1512**, wherein the interface station operator is prompted to input information regarding the new Pocket Vault holder into the interface station computer **304**.

[0392] After the step **1512**, the routine **1406** proceeds to a step **1514**, whereat the routine **1406** waits until all of the requisite information regarding the new Pocket Vault holder

has been entered properly (e.g., via the user input device **318** of the interface station computer **304**).

[**0393**] After the step **1514**, the routine **1406** proceeds to a step **1516**, wherein the network server **114** (**FIG. 1**) is contacted.

[**0394**] After the step **1516**, the routine **1406** proceeds to a step **1518**, wherein the information regarding the new Pocket Vault holder is transmitted to the network server **114**, along with a request that the new Pocket Vault holder be validated.

[**0395**] After the step **1518**, the routine **1406** proceeds to steps **1520** and **1522**, wherein it is determined whether the network server **114** has acknowledged the request by the interface station computer **304** prior to the expiration of a timeout period measured by the step **1522**.

[**0396**] When, at the steps **1520** and **1522**, it is determined that the network server **114** has not acknowledged the request by the interface station computer **304** in a timely manner, the routine **1406** proceeds to a step **1524**, wherein a message is displayed on the display **324** indicating that a transmission failure has occurred.

[**0397**] When, at the steps **1520** and **1522**, it is determined that the network server **114** has acknowledged the request by the interface station computer **304** in a timely manner, the routine **1406** proceeds to a step **1528**, wherein, in an encrypted format, the information regarding the new Pocket Vault holder is transmitted to the network server **114**, along with the interface station operator ID, the interface unit ID, and the Pocket Vault ID.

[**0398**] After the step **1528**, the routine **1406** proceeds to steps **1530** and **1532**, wherein it is determined whether encrypted validation information (e.g., a PKI certificate) has been received from the network server **114** prior to the expiration of a timeout period measured by the step **1532**, and prior to receiving a message from the network server **114** indicating that the request to validate the new Pocket Vault holder has been denied.

[**0399**] When, at the steps **1530** and **1532**, it is determined that encrypted validation information has not been received from the network server **114** in a timely manner, or it is determined that a message has been received indicating that the request to validate the new Pocket Vault holder has been denied, the routine **1406** proceeds to a step **1538**, wherein a message is displayed on the display **324** indicating that the attempt to validate the Pocket Vault **102** was unsuccessful.

[**0400**] When, at the steps **1530** and **1532**, it is determined that encrypted validation information has been received from the network server **114** in a timely manner, the routine **1406** proceeds to a step **1534**, wherein the encrypted validation information (e.g., a PKI certificate) from the network server **114** is forwarded to the pocket vault interface unit **302** for forwarding on to the Pocket Vault **102**.

[**0401**] After the step **1534**, the routine **1406** proceeds to a step **1536**, wherein a message is displayed on the display **324** indicating that the attempt to validate the Pocket Vault **102** was successful. In addition to this message, when the pocket vault interface unit **302** forwards this message on to the Pocket Vault **102**, the Pocket Vault **102** itself may provide, for example, an audio indication such as a chime, indicating that the Pocket Vault **102** has been successfully validated.

[**0402**] **FIG. 16** is a flow diagram illustrating an example implementation of the PROCESS REQUEST TO UPDATE INFO ON POCKET VAULT routine of **FIG. 14** (step **1410**).

[**0403**] As shown, the routine **1410** begins at a step **1602**, wherein the Pocket Vault holder is prompted to apply his or her fingerprint to the fingerprint scanner **220** of the Pocket Vault **102**, and to interface the Pocket Vault **102** with the pocket vault interface unit **302**.

[**0404**] After the step **1602**, the routine **1410** proceeds to steps **1604** and **1606**, wherein it is determined whether an encrypted message including the ID of the Pocket Vault **102** has been received from the pocket vault interface unit **302** prior to the expiration of a timeout period measured by the step **1606**.

[**0405**] When, at the steps **1604** and **1606**, it is determined that an encrypted message including the ID of the Pocket Vault **102** has not been received from the pocket vault interface unit **302** in a timely manner, the routine **1410** proceeds to a step **1634**, wherein a message is displayed on the display **324** of the interface station computer **304** indicating that the attempt to authorize the Pocket Vault holder was unsuccessful.

[**0406**] When, at the steps **1604** and **1606**, it is determined that an encrypted message including the ID of the Pocket Vault **102** has been received from the pocket vault interface unit **302** in a timely manner, the routine **1410** proceeds to a step **1607**, wherein the interface station operator is prompted to apply his or her fingerprint to the fingerprint scanner **316** of the pocket vault interface unit **302**.

[**0407**] After the step **1607**, the routine **1410** proceeds to steps **1608** and **1610**, wherein it is determined whether an encrypted message including the ID of the pocket vault interface unit **302** has been received from the pocket vault interface unit **302** prior to the expiration of a timeout period measured by the step **1610**.

[**0408**] When, at the steps **1608** and **1610**, it is determined that an encrypted message including the ID of the pocket vault interface unit **302** has not been received from the pocket vault interface unit **302** in a timely manner, the routine **1410** proceeds to the step **1634**, wherein a message is displayed on the display **324** of the interface station computer **304** indicating that the attempt to authorize the interface station operator was unsuccessful.

[**0409**] After the step **1634**, the routine **1410** terminates.

[**0410**] When, at the steps **1608** and **1610**, it is determined that an encrypted message including the ID of the pocket vault interface unit **302** has been received from the pocket vault interface unit **302** in a timely manner, the routine **1410** proceeds to a step **1612**, wherein the network server **114** is contacted.

[**0411**] After the step **1612**, the routine **1410** proceeds to a step **1614**, wherein a request to update the information on the Pocket Vault **102** is transmitted to the network server **114**.

[**0412**] After the step **1614**, the routine **1410** proceeds to steps **1616** and **1618**, wherein it is determined whether the network server **114** has acknowledged the request by the interface station computer **304** prior to the expiration of a timeout period measured by the step **1618**.

[0413] When, at the steps **1616** and **1618**, it is determined that the network server **114** has not acknowledged the request by the interface station computer **304** in a timely manner, the routine **1410** proceeds to a step **1620**, wherein a message is displayed on the display **324** indicating that a transmission failure has occurred.

[0414] When, at the steps **1616** and **1618**, it is determined that the network server **114** has acknowledged the request by the interface station computer **304** in a timely manner, the routine **1410** proceeds to a step **1622**, wherein, in an encrypted manner, the interface station operator ID, the interface unit ID, and the Pocket Vault ID are transmitted to the network server **114**.

[0415] After the step **1622**, the routine **1410** proceeds to steps **1624** and **1626**, wherein it is determined whether encrypted updates have been received from the network server **114** for loading onto the Pocket Vault **102** prior to the expiration of a timeout period measured by the step **1620**, and prior to the network server **114** denying the requested attempt to upload information.

[0416] When, at the steps **1624** and **1626**, it is determined that the encrypted updates have been received in a timely manner, the routine **1410** proceed to a step **1630**, wherein the received updates are transmitted to the pocket vault interface unit **302** so that they may be subsequently forwarded to the Pocket Vault **102** for uploading thereto.

[0417] After the step **1630**, the routine **1410** proceeds to a step **1632**, wherein a message is displayed to the holder indicating that the requested updates have been successfully uploaded to the Pocket Vault **102**.

[0418] After the step **1632**, the routine **1410** terminates.

[0419] When, at the steps **1624** and **1626**, it is determined that the encrypted updates have not been received from the network server **114** in a timely manner, or that the network server **114** has denied the request to upload information onto the Pocket Vault **102**, the routine **1410** proceeds to a step **1628**, wherein a message is displayed on the display **324** indicating that the attempt to update the information on the Pocket Vault **102** was unsuccessful.

[0420] After the step **1628**, the routine **1410** terminates.

[0421] **FIG. 17** is a flow diagram illustrating an example implementation of the PROCESS REQUEST TO AUTHORIZE TRANSACTION routine of **FIG. 14** (step **1414**).

[0422] As shown, the routine **1414** begins at a step **1702**, wherein the operator of the interface station computer **304** is prompted to input information regarding the proposed transaction involving the Pocket Vault **102**.

[0423] After the step **1702**, the routine **1414** waits at a step **1704** until all of the information regarding the requested transaction has been entered.

[0424] After, at the step **1704**, it is determined that all of information regarding the requested transaction has been entered, the routine **1414** proceeds to a step **1706**, wherein the Pocket Vault holder is prompted to apply his or her fingerprint to the fingerprint scanner **220** of the Pocket Vault **102**, and to interface the Pocket Vault with the pocket vault interface unit **302**.

[0425] After the step **1706**, the routine **1414** proceeds to steps **1708** and **1710**, wherein it is determined whether an encrypted message including the ID of the Pocket Vault **102** has been received from the pocket vault interface unit **302** prior to the expiration of a timeout period measured by the step **1710**.

[0426] When, at the steps **1708** and **1710**, it is determined that an encrypted message including the ID of the Pocket Vault **102** has not been received from the pocket vault interface unit **302** in a timely manner, the routine **1414** proceeds to a step **1726**, wherein a message is displayed on the display **324** of the interface station computer **304** indicating that the attempt to authorize the Pocket Vault holder was unsuccessful.

[0427] When, at the steps **1708** and **1710**, it is determined that an encrypted message including the ID of the Pocket Vault **102** has been received from the pocket vault interface unit **302** in a timely manner, the routine **1414** proceeds to a step **1712**, wherein the interface station operator is prompted to apply his or her fingerprint to the fingerprint scanner **316** of the pocket vault interface unit **302**.

[0428] After the step **1712**, the routine **1414** proceeds to steps **1714** and **1715**, wherein it is determined whether an encrypted message including the ID of the pocket vault interface unit **302** has been received from the pocket vault interface unit **302** prior to the expiration of a timeout period measured by the step **1715**.

[0429] When, at the steps **1714** and **1715**, it is determined that an encrypted message including the ID of the pocket vault interface unit **302** has not been received from the pocket vault interface unit **302** in a timely manner, the routine **1414** proceeds to the step **1726**, wherein a message is displayed on the display **324** of the interface station computer **304** indicating that the attempt to authorize the interface station operator was unsuccessful.

[0430] After the step **1726**, the routine **1414** terminates.

[0431] When, at the steps **1714** and **1715**, it is determined that an encrypted message including the ID of the pocket vault interface unit **302** has been received from the pocket vault interface unit **302** in a timely manner, the routine **1414** proceeds to a step **1716**, wherein the network server **114** is contacted.

[0432] After the step **1716**, the routine **1414** proceeds to a step **1718**, wherein the request regarding the proposed transaction involving the Pocket Vault **102** is transmitted to the network server **114**.

[0433] After the step **1718**, the routine **1414** proceeds to step **1720** and **1722**, wherein it is determined whether the transaction request has been acknowledged by the network server **114** before the expiration of a timeout period measured by the step **1722**.

[0434] When, at the steps **1720** and **1722**, it is determined that the request has not been acknowledged in a timely manner, the routine **1414** proceeds to a step **1724**, wherein a message is displayed on the display **324** indicating that a transmission failure has occurred.

[0435] After the steps **1724**, the routine **1414** terminates.

[0436] When, at the steps **1722** and **1724**, it is determined that the request has been acknowledged in a timely manner,

the routine **1414** proceeds to a step **1728**, wherein encrypted information about the requested transaction is transmitted to the network server **114**, along with the interface station operator ID, the interface unit ID, and the Pocket Vault ID.

[**0437**] After the step **1728**, the routine **1414** proceeds to steps **1730** and **1732**, wherein it is determined whether an encrypted transaction approval message has been received from the network server **114** prior to the expiration of a timeout period measured by the step **1732**.

[**0438**] When, at the steps **1730** and **1732**, it is determined that an encrypted transaction approval message has not been received in a timely manner, or that approval for the requested transaction has been denied by the network server **114**, the routine **1414** proceeds to a step **1736**, wherein a message is displayed on the display **324** indicating that the attempt to authorize the requested transaction has failed.

[**0439**] When, at the steps **1730** and **1732**, it is determined that an encrypted transaction approval message has been received in a timely manner, the routine **1414** proceeds to a step **1734**, wherein a message is forwarded to the pocket vault interface unit **302** indicating that the requested transaction has been approved. This message may also be used to update information on the Pocket Vault **102**, and/or to cause the Pocket Vault **102** to generate an indication (e.g., an audio tone) that the transaction has been approved.

[**0440**] After the step **1734**, the routine proceeds to a step **1738**, wherein a message is displayed on the display **324** indicating that the requested transaction has been approved.

[**0441**] After the step **1738**, the routine **1414** terminates.

[**0442**] **FIG. 18** is a flow diagram illustrating an example implementation of the PROCESS UNSUCCESSFUL OPERATOR AUTHENTICATION routine of **FIG. 14** (step **1418**).

[**0443**] As shown, the routine **1418** begins at a step **1802**, wherein the operator of the interface station computer **304** is informed that the attempted use the pocket vault interface unit **302** (when the operator applied his or her finger print to the fingerprint scanner **316**) was not authorized.

[**0444**] After the step **1802**, the routine **1418** proceeds to a step **1804**, wherein the operator is prompted to either: (1) add a NEW OPERATOR to the interface unit **302**, or (2) ABORT the attempt to use the interface unit **302**.

[**0445**] When, at the step **1806**, it is determined that the operator has chosen to ABORT the attempt to use the interface unit **302**, the routine **1418** terminates.

[**0446**] When, at the step **1806**, it is determined that the operator has chosen to add a NEW OPERATOR, the routine **1418** proceeds to a step **1808**, wherein a message is transmitted to the pocket vault interface unit **302** indicating the operator's desire to add a new operator to the pocket vault interface unit **302**.

[**0447**] After the step **1808**, the routine **1418** proceeds to a step **1810**, wherein the operator is prompted to input information regarding the proposed new operator into the interface station computer **304** (e.g., using the user input device **318**), and is provided with instructions as to the application of three identical fingerprints from each of his or her two hands to the fingerprint scanner **316** of the interface unit **302**.

[**0448**] After the step **1810**, the routine **1418** proceeds to a step **1812** wherein the routine **1418** waits until all of the requisite information regarding the proposed new interface station operator has been entered properly.

[**0449**] When, at the step **1812**, it is determined that all of the requisite information regarding the proposed new operator has been entered properly, the routine **1418** proceeds to a step **1814**, wherein the network server **114** is contacted.

[**0450**] After the step **1814**, the routine **1418** proceeds to a step **1816**, wherein the request to add the new operator to the pocket vault interface unit **302** is transmitted to the network server **114**.

[**0451**] After the step **1816**, the routine **1418** proceeds to steps **1818** and **1820**, wherein it is determined whether the request by the interface station computer has been acknowledged by the network server **114** prior to the expiration of a timeout period measured by the step **1820**.

[**0452**] When, at the steps **1818** and **1820**, it is determined that the request has not been acknowledged in a timely manner, the routine **1418** proceeds to the step **1822**, wherein a

[**0453**] transmission failure message is displayed.

[**0454**] After the step **1822**, routine **1418** terminates.

[**0455**] When, at the steps **1818** and **1820**, it is determined that the request has been acknowledged in a timely manner, the routine **1418** proceeds to the step **1824**, wherein a message, including the information regarding the proposed new operator and the interface unit ID, is transmitted to the network server **114** in an encrypted manner.

[**0456**] After the step **1824**, the routine **1418** proceeds to steps **1826** and **1828**, wherein it is determined whether encrypted validation information (e.g., a PKI certificate) has been received from the network server **114** prior to the expiration of a timeout period measured by the step **1828**, and prior to the network server **114** denying the addition of the new interface station operator.

[**0457**] When, at the steps **1826** and **1828**, it is determined that encrypted validation information has been received from the network server **114** in a timely manner, the routine **1418** proceeds to a step **1830**, wherein the encrypted validation information (e.g., a PKI certificate) is forwarded from the interface station computer **304** to the pocket vault interface unit **302**.

[**0458**] After the step **1830**, the routine **1418** proceeds to a step **1834**, wherein a message is generated indicating that the attempt to add the new operator to the pocket vault interface unit **302** was successful.

[**0459**] After the step **1834**, the routine **1418** terminates.

[**0460**] When, at the steps **1826** and **1828**, it is determined that encrypted validation information has not been received from the network server **114** in a timely manner, the routine **1418** proceeds to a step **1832**, wherein a message is generated indicating that the attempt to add the new operator to the pocket vault interface unit **302** was unsuccessful.

[**0461**] After the step **1832**, routine **1418** terminates.

[**0462**] **FIG. 19** is a flow diagram illustrating an example implementation of a primary routine **1900** that may be executed by the network server **114** of **FIG. 1**.

[0463] As shown, the routine **1900** may begin at a step **1902**, wherein it is determined whether any requests have been received to register new Pocket Vault holders.

[0464] When, at the step **1902**, it is determined that a request has been received to register a new Pocket Vault holder, the routine **1900** proceeds to a step **1904**, wherein the request to register the new Pocket Vault holder is processed. An example of a routine that may be employed to implement the step **1904** is discussed in more detail below in connection with **FIG. 20**.

[0465] When, at the step **1902**, it is determined that no request to register a new Pocket Vault holder has been received, the routine **1900** proceeds to a step **1906**, wherein consumer marketing information is compiled and transmitted to subscribing media issuers and advertisers.

[0466] After the step **1906**, the routine **1900** proceeds to a step **1908**, wherein it is determined whether any requests from media issuers or advertisers have been received to update the network server **114**.

[0467] According to one aspect of the invention, media issuers and advertisers may have the option to utilize the functionality of the network server **114** to update the account characteristics of authenticated Pocket Vault holders. These updates may, for example, be delivered from the computers **108**, **110**, and **112** to a secure location within the database **406**. When each selected holder next synchronizes with network server **114** (e.g., as described below in connection with routine **1914** of **FIG. 22**), any media characteristics updated by the media issuers or advertisers may be uploaded to that holder's the Pocket Vault **102**. The database of account updates may be revised periodically based on the media issuer's systems (e.g., pursuant to the routine **1910** of **FIG. 21**—described below). Confirmation of the update process may be provided to the issuer after a synchronization session is complete for a particular Pocket Vault holder (see step **2206** of routine **1914** (**FIG. 22**) below).

[0468] When, at the step **1908**, it is determined that a request to update the network server **114** has been received from a media issuer or advertiser, the routine **1900** proceeds to a step **1910**, wherein the request from the media issuer or advertiser is processed. An example of a routine that may be employed to implement the step **1910** is discussed in more detail below in connection with **FIG. 21**.

[0469] When, at the step **1908**, it is determined that no request from a media issuer or advertiser to update the network server **114** has been received, the routine **1900** proceeds to a step **1912**, wherein it is determined whether any requests have been received from holders to update information on their Pocket Vaults.

[0470] When, at the step **1912**, it is determined that such a request has been received, the routine **1900** proceeds to a step **1914**, wherein the request to update the Pocket Vault information is processed. An example of a routine that may be employed to implement the step **1914** is described in more detail below in connection with **FIG. 22**.

[0471] When, at the step **1912**, it is determined that no request from a holder to update information on a Pocket Vault **102** has been received, the routine **1900** proceeds to a step **1916**, wherein it is determined whether any holders have requested that new files be loaded onto the network server **114**.

[0472] When, at the step **1916**, it is determined that a holder has requested that a new file be loaded onto the network server **114**, the routine **1900** proceeds to a step **1918**, wherein the holder's request to load the new file onto the network server **114** is processed. An example of a routine that may be employed to implement the step **1918** is described in more detail below in connection with **FIG. 23**.

[0473] When, at the step **1916**, it is determined that no request by a holder to load a file onto the network server **114** has been received, the routine **1900** proceeds to a step **1920**, wherein it is determined whether any requests have been made to authorize transactions. Such a request may be made, for example, by a merchant operating a commercial interface station **104***c*. In this regard, it should be appreciated that, when a token **102***a* is employed to engage in a transaction with a commercial card reader **106** or a commercial bar code reader **107**, a request for transaction approval may not be made to the network server **114**. Instead such a transaction approval request may be made through conventional, existing communication and approval channels for such devices. Therefore, it should be understood that the step **1922** is generally reached only when it is possible for the network server **114** to check the identity of the Pocket Vault holder, the identity of the Pocket Vault **102**, and possibly identity of the operator of a commercial interface station, based on communications with the Pocket Vault **102** (e.g., via a commercial interface station **104***c* or via a wireless network such as Bluetooth).

[0474] When, at the step **1920**, it is determined that a request to authorize a transaction has been made, routine **1900** proceeds to a step **1922**, wherein the request to authorize the transaction is processed. An example of a routine that may be employed to implement the step **1922** is discussed in more detail below in connection with **FIG. 24**.

[0475] When, at the step **1920**, it is determined no request to authorize a transaction has been made, the routine **1900** returns to the step **1902** (discussed above). With regard to the routine **1900** of **FIG. 19**, it should be appreciated that all of the requests to accomplish the various tasks may be placed in a queue so that they are serviced on a first-come, first-served or any other basis, rather than servicing them in the particular order shown in **FIG. 19**.

[0476] **FIG. 20** is a flow-diagram illustrating an example of a routine that may be employed to implement the step **1904** of the routine **1900** (**FIG. 1**).

[0477] As shown, the routine **1904** begins at a step **2002**, wherein a request received from the interface station computer **304** to register a new Pocket Vault holder is acknowledged, and the network server **114** requests the interface station computer **304** to transfer the relevant information regarding the proposed new holder to the network server **114**.

[0478] After the step **2002**, the routine **1904** proceeds to a step **2004**, wherein the routine **1904** waits for all of the requisite holder registration information to be received from the interface station computer **304**.

[0479] When, at the step **2004**, it is determined that all of the requisite holder registration information has been received from the interface station computer **304**, the routine **1904** proceeds to a step **2006**, wherein it is determined whether the proposed Pocket Vault use is authorized. An

example of a routine that may be employed to implement the step **2006** is discussed below in connection with **FIG. 25**. In determining whether a particular Pocket Vault use is authorized, there are numerous parameters which may be checked. For example, the port to which the interface station computer is connected (e.g., the telephone number or IP address of the computer) may be checked to ensure that it is authorized. Additionally, information from the interface station computer **304** (e.g., a "cookie") may be checked to ensure that the computer itself has been registered with the system. Further, it can be checked whether the current operator of the interface station computer **304** is registered as being associated with the interface station computer **304** being used, and that the proposed new Pocket Vault holder is authorized to use that particular the Pocket Vault **102**. In sum, the identity of (1) each piece of equipment, (2) each operator of each piece of equipment, and (3) each location of each piece of equipment may be checked to ensure that the particular use of the Pocket Vault is authorized. It should be appreciated fewer than all of these parameters, different parameters, and/or additional parameters can be checked in alternative embodiments of the invention, and that the invention is not limited to embodiments wherein all of the aforementioned parameters are checked to verify that a particular Pocket Vault use is authorized.

[**0480**] When, at the step **2006**, it is determined that the Pocket Vault use is not authorized, the routine **1904** terminates. In such a situation, it is also possible to generate some sort of security alert message to put someone or some entity on notice that an unauthorized use of a Pocket Vault has occurred.

[**0481**] When, the routine **2006** has determined that the proposed Pocket Vault use is authorized, the routine **1904** proceeds to a step **2008**, wherein all of the relevant information regarding the new Pocket Vault registration is logged into the database **406** of the network server **114** (**FIG. 4**). As shown in **FIG. 20**, this information may include, for example, the interface station operator ID, the interface unit ID, the Pocket Vault ID, and all of the relevant information relating to the new Pocket Vault holder.

[**0482**] After the step **2008**, the routine **1904** proceeds to a step **2010**, wherein the network server **114** transmits encrypted validation information to the interface station computer **304**, which then may be passed on to the pocket vault interface unit **302**, and then to the Pocket Vault **102**, so as to enable the new holder's fingerprint to be stored in the memory of the Pocket Vault **102**.

[**0483**] After the step **2010**, the routine **1904** terminates.

[**0484**] **FIG. 21** is a flow diagram illustrating example of a routine that may be employed to implement the step **1910** of the primary routine **1900** (**FIG. 19**).

[**0485**] As shown, the routine **1910** begins at a step **2102**, wherein it is determined whether all of the requested updates have been received from the media issuer or advertiser.

[**0486**] When, at the step **2102**, it has been determined that all of the requested updates have been received, the routine **1910** proceeds to a step **2104**, wherein it is determined whether the media issuer or advertiser is authorized access to the network server **114**. This authorization process may require some sort of authentication of the identity of the computer used by the media issuer or advertiser requesting the update, the operator of the computer, and/or the location of the computer, in a manner similar to that in which the interface stations **104** and their operators are authorized.

[**0487**] When, at the step **2104**, it is determined that the media issuer or advertiser is not authorized access to the network server **114**, the routine **1900** proceeds to a step **2106**, wherein a message is transmitted to the media issuer or advertiser informing the media issuer or advertiser that access to the network server **114** has been denied.

[**0488**] After the step **2106**, the routine **1910** terminates.

[**0489**] When, at the step **2104**, it is determined that the media issuer or advertiser is authorized access to the network server **114**, the routine **1910** proceeds to a step **2108**, wherein the updates received from the media issuer or advertiser are logged onto the network server **114**.

[**0490**] After the step **2108**, the routine **1910** terminates.

[**0491**] **FIG. 22** is a flow diagram illustrating an example a routine that may be employed to implement the step **1914** of the primary routine **1900** (**FIG. 19**).

[**0492**] As shown, the routine **1914** begins at the step **2006** (discussed below in connection with **FIG. 25**), wherein it is determined whether the attempted Pocket Vault use is authorized.

[**0493**] When, at the step **2006**, it is determined that the Pocket Vault use is not authorized, the routine **1914** terminates.

[**0494**] When, at the step **2006**, it is determined that the Pocket Vault use is authorized, the routine **1914** proceeds to a step **2202**, wherein encrypted updates are transmitted to the interface station computer **304** for loading onto the Pocket Vault **102**.

[**0495**] After the step **2202**, the routine **1914** proceeds to steps **2204** and **2206**, wherein the time and date of the updates are logged (step **2204**), and the media issuers or advertisers are informed that the updates have been made (step **2206**).

[**0496**] **FIG. 23** is a flow diagram illustrating an example of a routine that may be employed to implement the step **1918** of the primary routine **1900** (**FIG. 9**).

[**0497**] As shown, the routine **1918** begins at a step **2302**, wherein it is determined whether the file to be loaded onto the network server **114** relates to a secure media issuer.

[**0498**] When, at the step **2302**, it is determined that the file does not relate to a secure media issuer, the routine **1918** proceeds to a step **2304**, wherein the network server **114** is updated with the non-secure file.

[**0499**] After the step **2304**, the routine **1918** terminates.

[**0500**] When, at the step **2302**, it is determined that the to-be-loaded file does relate to a secure media issuer, the routine **1918** proceeds to a step **2306**, wherein it is determined whether the secure media issuer is a Pocket Vault participant (i.e., a media issuer having access to the network server **114**).

[**0501**] When, at the step **2306**, it is determined that the secure media issuer is not a Pocket Vault participant, the routine **1918** proceeds to a step **2308**, wherein an advisory is sent to the holder indicating an inability to load the file,

and inquiring as to whether the holder desires to load the file in a non-secure format. The holder may, for example, opt to load the file to the network server **114** in such a way that the content of the file is not encodable to the Chameleon Card, but can be displayed and shown to a POS operator and manually keyed in at POS by the POS operator.

[**0502**] After the step **2308**, the routine **1918** proceeds to a step **2316**, wherein it is determine whether the holder has elected to load the file in a non-secure format.

[**0503**] When, at the step **2316**, it is determined that the holder has elected not to load the file in a non-secure format, the routine **1918** terminates.

[**0504**] When, at the step **2316**, it is determined that the holder has elected to load the file in a non-secure format, the routine **1918** proceeds to a step **2318**, wherein the file is loaded onto the network server **114** in a non-secure format.

[**0505**] After the step **2318**, the routine **1918** terminates.

[**0506**] When, at the step **2306**, it is determined that the secure media issuer is a Pocket Vault participant, the routine **1918** proceeds to a step **2310**, wherein the media issuer is queried as to the account status of the holder.

[**0507**] After the step **2310**, the routine **1918** proceeds to a step **2312**, wherein it is determined whether authorization has been received from the media issuer to load the file.

[**0508**] When, at the step **2312**, it is determined that authorization has not been received from the media issuer, the routine **1918** proceeds to the step **2308** (discussed above).

[**0509**] When, at the step **2312**, it is determined that authorization has been received from the media issuer, the routine **1918** proceeds to a step **2314**, wherein the network server **114** is updated with the secure file.

[**0510**] After the step **2314**, the routine **1918** terminates.

[**0511**] **FIG. 24** is a flow diagram illustrating an example of a routine that may be employed to implement the step **1922** of the primary routine **1900** (**FIG. 19**).

[**0512**] As shown, the routine **1922** begins at the step **2006** (discussed below in connection with **FIG. 25**), wherein it is determined whether the attempted use of the Pocket Vault **102** is authorized.

[**0513**] When, at the step **2006**, it is determined that the attempted Pocket Vault use is not authorized, the routine **1922** terminates.

[**0514**] When, at the step **2006**, it is determined that the attempted Pocket Vault used is authorized, the routine **1922** proceeds to a step **2402**, wherein it is determined whether the requested transaction is within acceptable account parameters (e.g., as set by the media issuer).

[**0515**] When, at the step **2402**, it is determined that the requested transaction is not within acceptable account parameters, the routine **1922** proceeds to a step **2404**, wherein a message is transmitted to the entity that requested the transaction (e.g., a commercial interface station **104**C, a card reader **106**, or a barcode reader **107**) indicating that the transaction is outside of acceptable account parameters.

[**0516**] After the step **2404**, the routine **1922** terminates.

[**0517**] When, at the step **2402**, it is determined that the requested transaction is within acceptable account parameters, information regarding the transaction is logged into the database **406** of the network server **114** (**FIG. 4**). As shown, the logged information may include the identification of the entity with which the transaction took place, the Pocket Vault ID (if available), and the time and date of the transaction.

[**0518**] After the step **2406**, the routine **1922** proceeds to a step **2408**, wherein an encrypted approval message is transmitted to the entity with which the transaction is being attempted (e.g., a commercial interface station **104**C, a card reader **106**, or a barcode reader **107**).

[**0519**] After the step **2408**, the routine **1922** terminates.

[**0520**] **FIG. 25** is a flow diagram illustrating an example of a routine that may employed to implement the step **2006** of the routines **1904** (**FIG. 20**), **1914** (**FIG. 22**), and **1922** (**FIG. 24**).

[**0521**] As shown, the routine **2006** begins at a step **2502**, wherein it is determined whether the point of sale terminal or other entity with which a transaction is being attempted is connected to a valid source (e.g., an authorized telephone line or an authorized internet protocol (IP) address).

[**0522**] When, at the step **2502**, it is determined that the entity proposing the transaction is not connected to a valid source, the routine **2006** proceeds to a step **2510**, wherein the transaction is refused, and a security alert is generated so that appropriate action(s) may be taken.

[**0523**] When, at the step **2502**, it is determined that the entity proposing the transaction is connected to a valid source, the routine **2006** proceeds to a step **2504**, wherein it is determined whether the ID of the interface station, card reader, barcode reader or RFID interrogator is valid, and is properly linked to the source to which is connected.

[**0524**] When, at the step **2504**, it is determined that the ID of the entity proposing the transaction is not valid, the routine proceeds to the step **2510** (discussed above).

[**0525**] When, at the step **2504**, it is determined that the ID of the entity proposing the transaction is valid, the routine **2006** proceeds to a step **2506**, wherein it is determined whether the Pocket Vault ID (if available) is valid. It should be appreciated that, when a card reader **106**, a barcode reader **107**, an RF signal receiver, or an RFID interrogator is employed, it is possible that the ID from the Pocket Vault will not be transmitted to the network server **114**. Therefore, the step **2506** may be skipped in such a situation.

[**0526**] When, at the step **2506**, it is determined that the Pocket Vault ID (when available and required) is not valid, the routine **2006** proceeds to the step **2510** (discussed above).

[**0527**] When, at the step **2506**, it is determined that the Pocket Vault ID (when) is valid or is not required, the routine **2006** proceeds to a step **2508**, wherein it is determined whether the Pocket Vault ID (if available) is linked to the ID of the entity proposing the transaction, e.g., a commercial interface station **104***c*, a card reader **106**, a barcode reader **107**, or an RFID interrogator **107**.

[0528] When, at the step **2508**, it is determined that the ID of the Pocket Vault **102** (when available) is not linked to the ID of the entity proposing the transaction, the routine **2006** proceeds to the step **2510** (discussed above).

[0529] When, at the step **2508**, it is determined that the Pocket Vault ID is linked to the ID of the entity proposing the transaction, or that the ID of the Pocket Vault is not required, the routine **2006** proceeds to a step **2512**, wherein the Pocket Vault use is authorized.

[0530] With regard to the information checked in connection with the routine **2006** to determine whether a particular Pocket Vault use is authorized, it should be appreciated that, in some embodiments, fewer than all of the verification steps discussed above may be performed when lesser degrees of security are desired or required. For example, in some embodiments, there may be no restrictions as to who can operate an interface station, the source to which the station is connected, and/or the ID of the station.

[0531] **FIG. 27** illustrates a network system similar to that described hereinabove. The system of **FIG. 27**, however, includes several additional components which serve to increase the network's functionality and utility. Accordingly, it should be appreciated that, in addition to the components illustrated in **FIG. 27**, the system may also include all or some of the components and features of the system described above in connection with **FIGS. 1-26**, and may also incorporate all or some of that system's functionality.

[0532] As shown in **FIG. 27**, the Pocket Vault **102** may be coupled to an interface station **104** (including an interface unit **302** coupled to an the interface station computer **304**). The interface unit **302** may include a communication port **2706**, which is adapted to perform basic communications functions for interaction between the interface unit **302** and each of the Pocket Vault **102** and the interface station computer **304**. This communication can take place over physical wires using a USB protocol or HotWire, or any other suitable protocol. Alternatively, the communication can be wireless, using a standard wireless protocol, such as Bluetooth, or any other suitable protocol. The communication port **2706** may, of course, be adapted to perform communications functions depending on the requirements on the particular protocol used. In an example embodiment, a USB protocol is used, and the interface unit **302** is connected to the interface station computer **304** through a USB port. Several suitable methods/techniques for interfacing the Pocket Vault **102** with the interface unit **302** are described above.

[0533] In addition to the communication port **2706**, as in the embodiment described above, the interface unit **302** contains a stripe reader **315**. The purpose and operation of the stripe reader **315** is described below in connection with **FIG. 34**.

[0534] The interface station computer **304** may be any suitable computer that employs one or more processors to execute instructions stored in memory. The interface station computer **304** may even comprise several inter-networked computers.

[0535] In the illustrative embodiment shown, the interface station computer **304** may use the communication software **2710** to communicate with the network server **114** via the network **2724**. The communication software **2710** may be any of a number of communication programs known in the art, and the invention is not limited to any particular type of software. The software **2710** may, for example, comprise a web browser, a terminal emulation program, a proprietary program, or any other software module capable of communicating with other computers using the network **2724**. The network **2724** may be any communication network known in the art. For example, the network **2724** may comprise the World Wide Web, a Local Area Network, or any other networking arrangement adapted for communication between digital computers.

[0536] In the embodiment shown, the communication software **2710** uses internet settings **2722** when accessing the network **2724**. The internet settings **2710** may include any user preferences or software settings relevant to communication functions and usability of the communication software **2710**. The internet settings **2722** may comprise, for example, the network name and the identification of the interface station computer **304**, an identification of communications protocols used to connect to the network **2724**, network preferences, such as whether any proxy servers may or should be used, a list of frequently-used servers, cookies previously obtained from various websites, digital certificates, personal bookmarks, user identity data, user password data for various servers, etc.

[0537] The communication software **2710** may access the network **2724** through communication protocol layer **2714**. Depending on how the interface station computer **304** is physically connected to the network **2724**. The communication protocol layer **2714** may be dial-up software, a TCP/IP layer, or any other suitable networking layer. The communication protocol layer **2714** may, for example, execute low-level communication functions, thereby providing useful abstractions to the communication software **2710**. In an example embodiment, the interface station computer **304** is connected to the network **2724** using a modem, and the communication protocol layer **2714** is a dialup software module.

[0538] As shown, the interface station computer **304** may also contain one or more communication drivers **2712**. Although multiple drivers may, in fact, be employed, for simplicity of discussion, the description hereinafter may refer to all such drivers as a single "driver." The communication driver **2712** acts both as a device driver for the interface unit **302**, and also as a communications driver capable of accessing internet settings **2722** and facilitating communications between the Pocket Vault **102** and the server **114** by using the communication protocol layer **2714** to establish a connection to the network server **114** through the network **2724**.

[0539] The network server **114** may comprise any suitable processor-based device or its equivalent. It may be either a single or multi-processor machine, or even a collection of servers inter-networked together. In one embodiment, the network server **114** stores both data and applications that are accessible to users. The network server **114** may, for example, store and serve a website, i.e., a collection of web pages and data that are available to users via a browser.

[0540] The network server **114** may include one or more controllers **402** and a database **406**, as described above in connection with **FIG. 4**. In addition, the network server **114** may include a communication protocol layer **2716**, which

provides low-level communication functions to server communications software. The communication protocol layer **2716** may be, but need not be, the same as the communication protocol layer **2714** of the interface station computer **304**.

[**0541**] As shown in **FIG. 27**, the network server **114** may communicate through the network **2724** with an issuer authority **2718**. The issuer authority **2718** may correspond, for example, to any of the advertiser(s) **108**, non-financial media issuer(s) **110**, or financial media issuer(s) **112** described above in connection with **FIG. 1**, or may be any entity designated to represent any of the same.

[**0542**] Overall, the networking arrangement illustrated in **FIG. 27** allows the Pocket Vault **102** to access the network server **114**. It also allows the interface station computer **304** to access restricted portions of the network server **114**, such as, for example, user data stored in the database **406**, when access is authenticated through communication from the Pocket Vault **102** to the network server **114**. Authentication and access to restricted areas of the network server **114** will be further described below.

[**0543**] In order for the Pocket Vault **102** to perform communications functions, as well as other functions described elsewhere herein, the Pocket Vault **102** may be driven by control software **2708**. **FIG. 28** is a block diagram illustrating example components of the control software **2708** that may be disposed on the Pocket Vault **102**.

[**0544**] As shown, the control software **2708** may include components such as a communications software module **2802**, a card loading module **2804**, an RFID tag loading module **2805**, an internet settings management module **2806**, a synchronization module **2808**, a statistics module **2810**, and a security module **2812**. It should be appreciated, of course, that the control software **2708** is not limited to the illustrative modules shown, and that the control software **2708** may comprise fewer modules or additional modules to perform other functions, such as the functionality described above in connection with **FIGS. 7-12**.

[**0545**] The communications software module **2802** may, for example, be responsible for communications with the network server **114** and with the interface station computer **304**, in the manner discussed below.

[**0546**] The card loading module **2804** may, for example, be responsible for loading data for new cards or tokens and storing such data in memory, as well as for transferring this data to the network server **114**, when appropriate. Examples of how card/token data may be loaded onto the Pocket Vault **102** are discussed below in connection with **FIG. 34**.

[**0547**] The RFID tag loading module **2805** may, for example, be responsible for loading data for new RFID tags and storing such data in memory, as well as for transferring this data to the network server **114**, when appropriate. Examples of how RFID tag data may be loaded onto the Pocket Vault **102** are discussed below in connection with **FIG. 40**.

[**0548**] Internet settings management module **2806** may, for example, be responsible for managing the storage and use of internet settings by the Pocket Vault **102**. Such internet settings may, for example, correspond to any of the internet settings **2722** that may be stored on the interface station computer **304**. The internet settings management module **2806** may allow a user to store, manage, and transfer internet settings, e.g., cookies and preference settings, from one computer to another. Operation of the internet settings management module **2708** will be further described below in connection with the steps **3310** and **3320** of the routine **3024** (**FIG. 33**).

[**0549**] The synchronization module **2808** may, for example, be responsible for synchronizing data and settings stored on the Pocket Vault **102** with data and settings stored on the network server **114**. Operation of the synchronization module **2808** is described below in connection with **FIG. 35**.

[**0550**] The statistics module **2810** may, for example, collect statistics concerning use of the Pocket Vault **102**. Such statistics may, for example, include information such as the number of accesses to various cards stored in the memory of the Pocket Vault **102**, the number of financial transactions engaged in, the date of the last update of the Pocket Vault **102**, the total amount and kind of data transferred between the Pocket Vault **102** and each interface station **104** and/or the network server **114**. In addition, the statistics module **2810** may be adapted to be customized by the user.

[**0551**] The security module **2812** may, for example, ensure security of authentication and communications. All communications to and from the network server **114** and the interface station **104** may be encrypted by the security module **2812**, so that any attacker who intercepts those communications will receive no useful information.

[**0552**] Any of numerous types of encryption may be used to satisfactorily protect communications between the Pocket Vault **102** and the other devices in the network. For example, one of the asymmetric-key encryption types, such as public key encryption or private key encryption, may be used. These public/private encryption techniques are well known in the art and therefore will not be described here in detail. Alternatively, one-time pad encryption or other encryption techniques may be used to achieve a similar objective.

[**0553**] As discussed above, the Pocket Vault **102** may be adapted to not release any personal or secure information, even encrypted, until the holder presents satisfactory verification of his or her identity, such as, for example, presenting the holder's fingerprint to the fingerprint scanner **220** or entering a password. In addition, fingerprint and password protection may be used together for authentication purposes, such that personal or secure information can be transferred or released only if the holder has been successfully authenticated using both techniques.

[**0554**] In alternative embodiments, security may be implemented using different measures, or may be omitted altogether in situations where the interface station computer **304** is a trusted host. In addition, security module **2812** may be called on to perform security functions in situations other than communicating with the network server **114**

[**0555**] and the interface station computer **304**.

[**0556**] The manner of communication among the Pocket Vault **102**, the network server **114**, and an interface station computer **304** will now be described in connection with **FIG. 29**. **FIG. 29** is a data flow diagram illustrating how data may be transferred between the Pocket Vault **102** and a user interface **2902** of the interface station computer **304**.

The user interface **2902** may, for example, comprise a web browser included in the communications software **2710** running on the interface station computer **304**. Alternatively, it may be a stand-alone application that allows a user to interact with the communications software **2710** and, through it, interact with a website located on the network server **114**.

[**0557**] In the illustrative embodiment shown, the data transfer takes place via the communication driver **2712**, the network server **114**, and the communications software **2710**, data can flow in both directions at all connection points, and all communications between the Pocket Vault **102** and the user interface **2902** of the interface station computer **304** pass through the network server **114**.

[**0558**] Using the arrangement shown, the user may, for example, update settings on the Pocket Vault **102** by using the user interface **2902** and the communication software **2710** to update settings on the network server **114**, and then instructing the network server **114** to update settings on the Pocket Vault **102** via the communication driver **2712**.

[**0559**] In one embodiment, the network server **114** implements a website, where user information may be selectively stored and accessed by a person using the communication software **2710** (e.g., a web browser) running on the interface station computer **304**, and any user may access the website on the network server **114**. However, the website may have a so-called "restricted area" which can be accessed only after the user has authenticated his or her identity. As used herein, the term "restricted area" or "restricted information" means any data that is not available to general public without some sort of authentication. For example, each user may have preferences stored in the database **406** that would indicate how the main site should be presented to that user. Those preferences will not be available to other users. In addition to such relatively low-security settings, such as website preferences, database **406** may also contain private user information, such as information about a user's credit cards and identity information. Access to this restricted information may be limited, for example, to only "authenticated" users.

[**0560**] Authentication of a Pocket Vault holder may be achieved, for example, by the holder applying a fingerprint to the fingerprint scanner **220** of the Pocket Vault **102**, interfacing the Pocket Vault **102** with the interface unit **302** (which acts essentially as a pass-through device), and establishing a connection between the Pocket Vault **102** and the network server **114** via the communication driver **2712**. Based on communications with the Pocket Vault **102** via this "connection," the website may determine: (1) whether the Pocket Vault **102** has been "validated," i.e., whether a fingerprint has been stored in the fingerprint memory of the Pocket Vault **102** and whether validation information (e.g., a PKI certificate) is present on the Pocket Vault **102**, and (2) whether the Pocket Vault **102** has been authenticated, i.e., whether the fingerprint recently scanned by the Pocket Vault **102** matched the fingerprint stored in the fingerprint memory of the Pocket Vault **102**. If the website determines that the Pocket Vault **102** has not yet been validated, the user may be given an option to validate the Pocket Vault **102** using the website software. If the website determines that the Pocket Vault **102** has been validated and authenticated, then the network server **114** may enable the authenticated holder to access or perform functions relating to some or all of the restricted area of the database **406** containing that holder's information.

[**0561**] Communication driver **2712** may be a light-weight application that can access and modify the internet settings **2722**, and can also access communications protocol layer **2714**, but cannot transfer information to any other software programs. For example, the communication driver **2712** may access the internet settings **2722** in order to determine that the interface station computer **304** is connected to the network **2724** through a dial-up connection; following that, it may initiate the dial-up connection or use an established connection through the communications protocol layer **2714** in order to tunnel packets from the Pocket Vault **102** to the network **2724**.

[**0562**] **FIG. 30** is a flow diagram illustrating an example implementation of the PROCESS REQUEST TO ACCESS WEBSITE routine **1422** shown in **FIG. 14**, which may be executed by the controller **308** of the interface station computer **304**. As discussed above in connection with **FIG. 14**, it should be appreciated that this routine need not be accessed as a result of a user selecting it from the menu displayed in the step **1402**. Rather, a user may simply use a browser to directly log onto the website on the network server **114**.

[**0563**] As shown, the routine **1422** begins at a step **3002**, wherein the interface station computer **304** is caused to access the website on the network server **114**, e.g., by using a browser to access the website.

[**0564**] After the step **3002**, the routine **1422** proceeds to a step **3004**, wherein it is determined whether the requisite communication drivers **2712** have been installed.

[**0565**] When, at the step **3004**, it is determined that the requisite communication drivers **2712** have not been installed, the routine **1422** proceeds to an INSTALL DRIVER(S) routine **3006** (discussed below in connection with **FIG. 31**), which is responsible for installing the communication drivers **2712**.

[**0566**] After the routine **3006** has completed, the routine **1422** proceeds to a step **3008**, wherein the communication drivers **2712** are caused to become operational.

[**0567**] When, at the step **3004**, it is determined that the requisite drivers **2712** have already been installed, the routine **1422** proceeds directly to the step **3008** (discussed above).

[**0568**] After the step **3008**, the routine **1422** proceeds to steps **3010-3016**, wherein attempts are made to establish a connection between the Pocket Vault **102** and the website on the network server **114** within a time out period determined by the step **3014**. Each time it is determined that the connection has not yet been established, the user is prompted to interface the Pocket Vault **102** with the interface unit **302** and to connect the interface unit **302** to the interface station computer **304** (e.g., using a USB cable).

[**0569**] When, during the steps **3010-3016**, it is determined that a connection has not been established between the Pocket Vault **102** and the website in a timely manner, the routine **1422** proceeds to a step **3026**, wherein a message is displayed to the user regarding the unsuccessful communication attempt between the Pocket Vault **102** and the website on the network server **114**.

[0570] After the step **3026**, the routine **1422** terminates.

[0571] When, during the steps **3010-3016**, it is determined that a connection has been successfully established between the Pocket Vault **102** and the website on the network server **114**, the routine **1422** proceeds to a step **3018**, wherein it is determined whether the Pocket Vault **102** has been validated, e.g., whether a holder's fingerprints and a PKI certificate are stored therein. The website may, for example, make this determination based upon the messages exchanged during the handshaking protocol engaged in between the Pocket Vault **102** and the network server **114**.

[0572] When, at the step **3018**, it is determined that the Pocket Vault **102** has not yet been validated, the routine **1422** proceeds to a NEW POCKET VAULT HOLDER routine **3020**, which is discussed below in connection with **FIG. 32**.

[0573] When, at the step **3018**, it is determined that the Pocket Vault **102** has already been validated, the routine **1422** proceeds to an EXISTING POCKET VAULT HOLDER routine **3024**, which is discussed below in connection with **FIG. 33**.

[0574] After completion of the EXISTING POCKET VAULT HOLDER routine **3024**, the routine **1422** terminates.

[0575] After completion of the NEW POCKET VAULT HOLDER routine **3020**, the routine **1422** proceeds to a step **3022**, wherein it is determined whether a new holder was successfully validated.

[0576] When, at the step **3022**, it is determined that a new holder was successfully validated, the routine **1422** proceeds to the EXISTING POCKET VAULT HOLDER routine **3024** (discussed above).

[0577] When, at the step **3022**, it is determined that a new holder was not successfully validated, the routine **1422** terminates.

[0578] **FIG. 31** is a flow diagram illustrating an example implementation of the INSTALL DRIVER(S) routine **3006** shown in **FIG. 30**.

[0579] As shown, the routine **3006** begins at a step **3102**, wherein the necessary communication drivers **2712** are downloaded from another computer, e.g., a website on the World Wide Web.

[0580] After the step **3102**, the routine **3006** proceeds to steps **3104-3108**, wherein the necessary communication drivers **2712** are installed on the interface station computer **304** and registered with network server **114**, and the preferences for the communication drivers **2712** are set either automatically or in response to user input. During the step **3106**, the communication driver **2712** may communicate with the network server **114** in order to register itself and its attributes. Among these attributes can be such things as a unique identifier for the interface station computer **304** on which that driver is installed, the identity of the user registering it, and other such items. The preferences that may be set by the user during the step **3108** may, for example, include information such as how and where to access the internet settings **2722**, how many attempts at connection should be performed, etc.

[0581] After the step **3108**, the routine **3006** terminates.

[0582] **FIG. 32** is a flow diagram illustrating an example implementation of the NEW POCKET VAULT HOLDER routine **3020** shown in **FIG. 30**.

[0583] As shown, the routine **3020** begins at a step **3202**, wherein it is determined whether the new holder has indicated that he or she has already established an account with the website on the network server **114**.

[0584] When, at the step **3202**, it is determined that the new holder has not indicated the existence of a previously-established account, the routine **3020** proceeds to a step **3204**, wherein a new account is established on the website on the network server **114** in response to user input to a browser running on the interface station computer **304**.

[0585] After the step **3204**, the routine **3020** proceeds to a step **3206**, wherein the new holder is prompted to apply his or her fingerprint to the fingerprint scanner **220** while the Pocket Vault **102** is interfaced with the interface unit **302**. The user is further prompted to follow the directions on the Pocket Vault **102**. As discussed above in connection with **FIGS. 7 and 8**, when a fingerprint is applied to a fingerprint scanner **220** of an un-validated device, the user is instructed by the Pocket Vault to apply six finger prints (three from one finger on the left hand and three from one finger on the right hand) sequentially to the fingerprint scanner **220**, waiting for a beep each time. As discussed in connection with **FIG. 8**, after the new holder has completed this task, an encrypted message including the Pocket Vault ID may be released from the Pocket Vault to the interface unit **302**. Because of the established connection between the Pocket Vault **102** and the website on the network server **114**, this encrypted message should reach the website. And, in response to receiving this encrypted message, the website should release encrypted validation information (e.g., a PKI certificate) back to the Pocket Vault **102** via the established connection.

[0586] After the step **3206**, the routine **3020** proceeds to steps **3208-3210**, wherein it is determined whether the Pocket Vault **102** has released the encrypted message including the Pocket Vault ID to the website before a timeout period has elapsed.

[0587] When, at the step **3210**, it is determined that the timeout period elapsed before the encrypted message including the Pocket Vault ID was released to the website, the routine **3020** proceeds to a step **3220**, wherein a message is displayed to the user concerning the unsuccessful attempt to validate the Pocket Vault holder.

[0588] After the step **3220**, the routine **3020** terminates.

[0589] When, at the steps **3208-3210**, it is determined the Pocket Vault **102** has released the encrypted message including the Pocket Vault ID to the website before the timeout period elapsed, the routine **3020** proceeds to a step **3212**, wherein it is determined whether the website has released the encrypted validation information (e.g., a PKI Certificate) to the Pocket Vault **102**.

[0590] When, at the step **3210**, it is determined that the timeout period elapsed before the website released the encrypted validation information (e.g., a PKI Certificate) to the Pocket Vault **102**, the routine **3020** proceeds to the step **3220** (discussed above).

[0591] When, at the step **3210**, it is determined that the website released the encrypted validation information (e.g., a PKI Certificate) to the Pocket Vault **102** before the timeout period elapsed, the routine **3020** proceeds to a step **3216**, wherein a message is displayed to the user concerning the successful validation of the new Pocket Vault holder.

[0592] After the step **3216**, the routine **3020** terminates.

[0593] When, at the step **3202**, it is determined that the new holder has indicated the existence of a previously-established account, the routine **3020** proceeds to a step **3218**, wherein a check is made to verify the holder's identity. The holder may, for example, be required to enter personal information, such as name, contact information, and security information to verify his or her identity.

[0594] When, at the step **3218**, it is determined that the holder has successfully verified his or her identity, the routine **3020** proceeds to the step **3206** (discussed above), with the holder's previously-stored account information being used for the new Pocket Vault **102**.

[0595] When, at the step **3218**, it is determined that the holder has not successfully verified his or her identity, the routine **3020** proceeds to the step **3220** (discussed above).

[0596] **FIG. 33** is a flow diagram illustrating an example implementation of the EXISTING POCKET VAULT HOLDER routine **3024** shown in **FIG. 30**.

[0597] As shown, the routine **3024** begins at a step **3302**, wherein it is determined whether the Pocket Vault **102** has been authenticated, e.g., whether the Pocket Vault **102** has determined that a fingerprint applied to the fingerprint scanner **220** matches one of the fingerprints stored in the fingerprint memory of the Pocket Vault **102**. This authentication procedure may operate as described above in connection with the step **712** (**FIG. 7**), or an additional or different routine may be employed (e.g., as part of the security module **2812** described above in connection with **FIG. 28**) to determine whether the holder has successfully authenticated his or her identity, thereby enabling the network server **114** to establish a "trust" relationship with the Pocket Vault **102**.

[0598] When, at the step **3302**, it is determined that the Pocket Vault **102** has not been properly authenticated, the routine **3024** proceeds to a step **3304**, wherein the holder is prompted to apply his or her fingerprint to the fingerprint scanner **220** of the Pocket Vault **102** while the Pocket Vault **102** is interfaced with the interface unit **302**, i.e., while keeping the connection established between the Pocket Vault **102** and the website on the network server **114**.

[0599] As shown, the step **3306** determines whether the Pocket Vault **102** has been properly authenticated prior to the expiration of a timeout period.

[0600] When, at the step **3306**, it is determined that the timeout period elapsed before the Pocket Vault **102** was authenticated, the routine **3024** proceeds to a step **3308**, wherein a message is displayed indicating that the authentication attempt was unsuccessful.

[0601] After the step **3308**, the routine **3024** terminates.

[0602] When, at the step **3302**, it is determined that the Pocket Vault **102** has been properly authenticated, the routine **3024** proceeds to a step **3310**, wherein the communication driver **2712** causes the internet settings **2722** of the interface station computer **304** to be adjusted to reflect certain internet settings stored in the Pocket Vault **102**, e.g., by the internet settings management module **2806**. In this manner, the internet settings of the Pocket Vault **102** may be "ported" to the interface station computer **304** so that the browser operating on the interface station computer **304** may take advantage of those settings while the Pocket Vault **102** is connected to the website on the network server **114** via the communication driver **2712**. The internet settings of the Pocket Vault **102** that may be ported to the interface station computer **304** in this manner may comprise, for example, the network name and identification of the Pocket Vault **102**, an identification of communications protocols used to connect to the network **2724**, network preferences, such as whether any proxy servers may or should be used, a list of frequently-used servers, cookies previously obtained from various websites, digital certificates, personal bookmarks, user identity data, user password data for various servers, etc.

[0603] The internet settings on the Pocket Vault **102**, and porting of the same to the interface station computer **304**, may be managed, for example, by one or more modules of the control software, e.g., the internet settings management module **2806**. In one embodiment, the user may elect which internet settings are to be ported to the interface station computer **304** during the step **3310**. This functionality may be accomplished, for example, during a SET PREFERENCES routine **3324** (described below in connection with **FIG. 39**).

[0604] After the step **3310**, the routine **3024** proceeds to a step **3312**, wherein it is determined whether one of several "functions" has been selected. In the illustrative embodiment shown, the seven available functions are: (1) CARD LOADING (see CARD LOADING routine **3314**—discussed below in connection with **FIG. 34**), (2) RFID TAG LOADING routine **3315**—discussed below in connection with **FIG. 40**, (3) SYNCHRONIZATION (see SYNCHRONIZATION routine **3316**—discussed below in connection with **FIG. 35**), (4) RECOVERY (see RECOVERY routine **3318**—discussed below in connection with **FIG. 36**), (5) IDENTITY PORTING OPTIONS (see IDENTITY PORTING OPTIONS routine **3320**—discussed below in connection with **FIG. 337**), (6) BACKUP (see BACKUP routine **3322**—discussed below in connection with **FIG. 38**), (7) SET PREFERENCES (see SET PREFERENCES routine **3324**—discussed below in connection with **FIG. 39**), AND (8) TERMINATE SESSION (see step **3326**). It should be appreciated that the invention is not limited to the specific functions shown, and that additional, different or fewer functions may be employed.

[0605] It should further be appreciated that some or all of the illustrated functions, or operations relating to such functions, may be initiated automatically or may require user initiation, depending on the setting of preferences. For example, the SYNCHRONIZATION routine **3316** may be initiated automatically after completion of the step **3310**, if preferences so indicate. Alternatively, certain steps required to accomplish synchronization of the Pocket Vault **102** and the website on the network server **114** may be taken, without actually completing the synchronization. For example, the synchronization module **2808** of the control software **2708** may automatically initiate a comparison of the contents of the Pocket Vault **102** and the website to determine what data

should be transferred if synchronization is initiated. Software on the network server **114** may also or alternatively perform a similar comparison function automatically, if so desired.

[**0606**] Moreover, it should be understood that, in some embodiments, some of the above-noted functions may be performed without first requiring a Pocket Vault **102** to be authenticated. For example, some functions may involve the transfer of public or non-sensitive data, and may not require protection via the authentication verification step **3302**.

[**0607**] As shown in **FIG. 33**, when any of the above-listed seven functions is selected, either automatically or in response to user input, the selected function is performed. For each of functions **3314**, **3316**, **3318**, **3320**, **3322**, and **3324**, after performing the routine associated with the function, the routine **3024** proceeds to a step **3332**, wherein it is determined whether the connection between the Pocket Vault **102** and the website on the network server **114** is still established.

[**0608**] When, at the step **3332**, it is determined that the connection between the Pocket Vault **102** and the website on the network server **114** is still established, the routine **3024** returns to the step **3312** (discussed above).

[**0609**] When, at the step **3332**, it is determined that the connection between the Pocket Vault **102** and the website on the network server **114** is no longer established, the routine **3024** proceeds to a step **3327**, wherein some or all of the internet settings **2722** are ported from the interface station computer **304** to the Pocket Vault **102**. The communication driver **3712** may cause the settings to be ported directly to the Pocket Vault **102** from the interface station computer **304** (via the interface unit **302**), or the settings may be transferred first to the network server **114** and then to the Pocket Vault **102** (via the connection between the network server **114** and the Pocket Vault **102**). In some embodiments, only certain types or classes of settings, e.g., certain type of cookies, PKI certificates, etc., are ported from the interface station computer **304** to the Pocket Vault **102** in this manner. The classes or types of settings that are ported during the step **3327** may, for example, be determined by the user in some embodiments. For example, the user may set certain preferences, e.g., during the SET PREFERENCES routine **3324** or by manipulating the Pocket Vault **102** directly, that control the nature and type of internet settings that are ported to the Pocket Vault **102** from the interface station computer **304** during the step **3327**.

[**0610**] After the step **3327**, the routine **3024** proceeds to a step **3328**, wherein the communication driver **2712** causes the internet settings **2722** on the interface station computer **304** to return to their original state, i.e., the configuration the internet settings **2712** were in before they were altered in the step **3310**.

[**0611**] After the step **3328**, the routine **3024** proceeds to a step **3330**, wherein any cached web pages or other information temporarily stored in the interface station computer **304** during the communication session between the Pocket Vault **102** and the website on the network server **114** are deleted from cache and other memory in the interface station computer **304**. Thus, after completion of the step **3330**, the interface station computer **304** is in essentially the same state it was in prior to the beginning of the routine **1422**. The communication driver **2712** may remain on the interface station computer **304** or may be deleted in connection with the step **3330**. If the communication driver **2712** is kept on the interface station computer **304**, any cache or other memory associated with it that might store personal or sensitive information may also be erased. In some embodiments, the communication driver **2712** caches or stores very little, if any, information that is passed between the Pocket Vault **102** and the website on the network server **114**. In any event, the communication driver **2712** may be constructed such that no useful data, i.e., data that reflects any personal or sensitive information, remains on it after completion of the step **3330**.

[**0612**] When, at the step **3312**, the holder chooses the TERMINATE SESSION function, the connection between the Pocket Vault **102** and the website on the network server **114** is de-established, and the routine **3024** proceeds immediately to the steps **3327**, **3328** and **3330** (discussed above).

[**0613**] After the step **3330**, the routine **3024** terminates.

[**0614**] **FIG. 34** is a flow diagram illustrating an example implementation of the CARD LOADING routine **3314** shown in **FIG. 33**.

[**0615**] As shown, the routine **3314** begins at a step **3402**, wherein a determination is made as to whether the card desired to be loaded is "swipeable." The user may, for example, be prompted to indicate whether the card has an operational magnetic stripe disposed thereon.

[**0616**] When, at the step **3402**, the user indicates that the card does not have an operational magnetic stripe, the routine **3314** proceeds to a step **3406**, wherein the user is prompted (e.g., via the browser on the interface station computer **304**) to input information to be used in creating a card account.

[**0617**] When, at the step **3402**, the user indicates that the card does have an operational magnetic stripe, the routine **3314** proceeds to the step **3410**, wherein the user is prompted to swipe the card through the stripe reader **315** of the interface unit **302**.

[**0618**] After the step **3406**, the routine **3314** proceeds to steps **3408** and **3409**, wherein it is determined whether the interface station computer **304** has received the information from a card swiped through the stripe reader **315** of the interface unit **302** prior to the expiration of a timeout period.

[**0619**] When, at the step **3409**, it is determined that the timeout period elapsed before information from a swiped card was received, the routine **3314** proceeds to a step **3411**, wherein a message is displayed to the user concerning the failure to properly read the magnetic stripe.

[**0620**] After the step **3411**, the routine **3314** returns to the step **3402** (discussed above). Thus, when a user is unsuccessful in swiping a card one or more times, the user may determine that the magnetic stripe is non-operational, and may indicate at the step **3402** that the card is not swipeable. The user may thereafter create an account for the card manually at the step **3410** (discussed above).

[**0621**] After the step **3410**, the routine proceeds to a step **3412**, wherein the website on the network server **114** determines whether the account for the card is valid. This determination may be made, for example, by confirming that

the card is owned by the person attempting to add it to his or her Pocket Vault **102**, that the card has not expired, etc.

[**0622**] When, at the step **3408**, it is determined that information from the swiped card has been received prior to the expiration of the timeout period, the routine **3314** proceeds to the step **3412** (discussed above), wherein a determination is made as the validity of the account based upon the information read by the stripe reader **315**.

[**0623**] When, at the step **3412**, a determination is made that the account the user has requested to be added to the Pocket Vault **102** is not valid, the routine **3314** proceeds to a step **3414** wherein appropriate security precautions are taken.

[**0624**] After the step **3414**, the routine **3314** terminates.

[**0625**] When, at the step **3412**, a determination is made that the account the user has requested to be added to the Pocket Vault **102** is valid, the routine **3314** proceeds to a step **3416**, wherein the information for the card is downloaded from the website on the network server **114** to the Pocket Vault **102** via the communication driver **2712**.

[**0626**] After the step **3416**, the routine **3314** proceeds to a step **3418**, wherein a message is displayed that indicates the card has been successfully loaded onto the Pocket Vault **102** for use in future transactions.

[**0627**] After the step **3418**, the routine **3314** terminates.

[**0628**] **FIG. 35** is a flow diagram illustrating an example implementation of the SYNCHRONIZATION routine **3316** shown in **FIG. 33**.

[**0629**] As shown, the routine **3316** begins at a step **3502**, wherein certain parameters required to synchronize the Pocket Vault **102** to the website on the network server **114** are determined based upon user preferences and the ID of the Pocket Vault **102**. For example, if a holder has two or more Pocket Vaults **102**, the holder may wish to elect one of them to be a master for synchronization purposes, or the holder may even elect to have the website act as the master. When a holder has more than one Pocket Vault **102**, the holder also may desire to be prompted to select either the current date or the date of the last synchronization as the basis for the synchronization operation.

[**0630**] After the step **3502**, the routine **3316** proceeds to a step **3504**, wherein the website on the network server **114** generates sets of current data to transfer to the Pocket Vault **102**. The website may, for example, compare its current data to the data stored on the Pocket Vault **102** so as to identify any data it needs to receive from the Pocket Vault **102** to properly synchronize therewith.

[**0631**] After the step **3504**, the routine **3316** proceeds to steps **3506** and **3508**, wherein it is determined whether the Pocket Vault **102** has indicated that it is ready to synchronize prior the expiration of a timeout period (measured by the step **3508**). The Pocket Vault **102** may, for example, also be performing a similar comparison (e.g., using the synchronization module **2808**) between its data and the data stored on the website of the network server to determine what data it needs to receive from the website to properly synchronize therewith.

[**0632**] When at the step **3508**, it is determined that the timeout period has elapsed before the Pocket Vault **102** had indicated its readiness to synchronize, the routine **3316** proceeds to a step **3510**, wherein a message is generated indicating the attempt to synchronize the Pocket Vault **102** with the website on the network server **114** has failed.

[**0633**] After the step **3510**, the routine **3316** terminates.

[**0634**] When at the step **3506**, it is determined that the Pocket Vault **102** has indicated its readiness to synchronize with the website prior to the expiration of the timeout period, the routine **3316** proceeds to a step **3512**, wherein accumulated synchronization data is transferred from the website to the Pocket Vault **102**, and vice versa, via the communication driver **2712**.

[**0635**] After the step **3512**, the routine **3316** proceeds to a step **3516**, wherein the date of the successful synchronization is stored in both the Pocket Vault **102** and the network server **114**.

[**0636**] After the step **3516**, the routine **3316** proceeds to a step **3518**, wherein a message is generated indicating that the Pocket Vault **102** has been successfully synchronized with the website on the network server **114**.

[**0637**] After the step **3518**, the routine **3316** terminates.

[**0638**] **FIG. 36** is a flow diagram illustrating an example implementation of the RECOVERY routine **3318** shown in **FIG. 33**.

[**0639**] As shown, the routine **3318** begins at a step **3602**, wherein the website on the network server **114** compiles all data necessary to recover the Pocket Vault **102** to its state as of the last time its contents were synchronized with the website of the network server **114** (e.g., using the routine **3316**—described above) or backed up on the website of the network server **114** (e.g., using routine **3322**—described below).

[**0640**] After the step **3602**, the routine **3318** proceeds to step **3604**, wherein the data compile in the step **3602** is downloaded from the website on the network server **114** to the Pocket Vault **102** via the communication driver **2712**, and a determination is made as to where that downloading has completed prior to the expiration of a timeout period measured at the step **3606**.

[**0641**] When, at the step **3606**, it is determined that the timeout period elapsed prior to the downloading being completed, the routine **3318** proceeds to a step **3608**, wherein a message is generated indicating that the attempted recovery was unsuccessful.

[**0642**] After the step **3606**, the routine **3318** terminates.

[**0643**] When, at the step **3606**, it is determined that the downloading was completed in a timely manner, the routine **3318** proceeds to a step **3610**, wherein a message is generated indicating that the attempted recovery of data to the Pocket Vault **102** was successful.

[**0644**] After the step **3610**, the routine **3318** terminates.

[**0645**] **FIG. 37** is a flow diagram illustrating an example implementation of the IDENTITY PORTING SELECTION routine **3320** shown in **FIG. 33**.

[**0646**] As shown, the routine **3320** begins at a step **3702**, wherein the internet settings **2722** from the interface station

computer **304** are downloaded from the interface station computer **304** to the website on the network server **114**.

[**0647**] After the step **3702**, the routine **3320** proceeds to a step **3704**, wherein the website on the network server **114** compiles and displays the downloaded internet settings to the user via the browser on the interface station computer **304**. The settings may be displayed to the user in any of a number of ways. Preferably, the settings are displayed in a manner that enables the user to readily distinguish between various classes of settings, and that permits the user to readily identify the purpose of each type of setting. In some embodiments, only a subset of the all of the internet settings **2722** (e.g., only settings such as cookies and PKI certificates) are transferred to the website for possible modification by the user.

[**0648**] After the step **3704**, the routine **3320** proceeds to steps **3706** and **3708**, wherein the user is given an opportunity to modify the displayed internet settings. The user may, for example, elect to keep certain cookies that were retained among the internet settings **2722**, while choosing to discard others.

[**0649**] When at the step **3708**, the user has indicated that he or she has completed any modifications of the retrieved internet settings **2722**, the routine **3320** proceeds to a step **3710**, wherein the modified internet settings are downloaded from the website on the network server **114** to the Pocket Vault **102** via the communication driver **2712**.

[**0650**] After the step **3710**, the routine **3320** terminates.

[**0651**] When at the step **3706**, it is determined that the user did not elect to modify any settings, the routine **3320** terminates.

[**0652**] **FIG. 38** is a flow diagram illustrating an example implementation of the BACKUP routine **3322** shown in **FIG. 33**.

[**0653**] As shown, the routine **3322** begins at a step **3802**, wherein the website on the network server **114** transmits a request to the Pocket Vault **102** via the communication driver **2712**, asking the Pocket Vault **102** to send the website backup data. This backup data may, for example, constitute all data necessary to place the Pocket Vault **102** back into its present state if any portion of data on the Pocket Vault **102** was lost, or to place a new Pocket Vault **102** into the same state as the backed up Pocket Vault **102** (e.g., using the RECOVERY routine **3318**—discussed above).

[**0654**] After the step **3802**, the routine **3322** proceeds to steps **3804**-**3806**, wherein it is determined whether the requested backup data has been successfully transferred from the Pocket Vault **102** to the website on the network server **114** before the expiration of a timeout period (measured by the step **3806**).

[**0655**] When, at the step **3806**, it is determined that the timeout period elapsed prior to the backup data being successfully transferred, the routine **3322** proceeds to a step **3808**, wherein a message is displayed (e.g., via the browser on the interface station computer **304**) informing the user that a communication error has occurred and that the backup operation was unsuccessful.

[**0656**] After the step **3808**, the routine **3322** terminates.

[**0657**] When, at the step **3804**, the routine **3322** determined that, before the timeout period, the backup data has been successfully transferred from the Pocket Vault **102** to the website on the network server **114** via the communication driver **2712**, the routine **3322** proceeds to a step **3810**, wherein the received backup data is stored by the network server **114**, e.g., for use in connection with the RECOVERY routine **3318**.

[**0658**] After the step **3310**, the routine **3322** proceeds to a step **3812**, wherein a message is displayed (e.g., via the browser on the interface station computer **304**) informing the user that the backup operation was successfully completed.

[**0659**] After the step **3312**, the routine **3322** terminates.

[**0660**] **FIG. 39** is a flow diagram illustrating an example implementation of the SET PREFERENCES routine **3324** shown in **FIG. 33**. The SET PREFERENCES routine **3324** permits the holder to set or alter preferences on his or her Pocket Vault **102** using a browser on the interface station computer **104**.

[**0661**] As shown, the routine **3324** begins at a step **3902**, wherein the website on the network server **114** transmits a request to the Pocket Vault **102** via the communication driver **2712**, requesting the Pocket Vault **102** to transmit all "preferences" information stored on the Pocket Vault **102** to the website on the network server **114** via the communication driver **2712**. This information may, for example, comprise definitions of home pages, connection of secure and non-secure media, order of media presentment, sort orders, user interface options, synchronization defaults, etc.

[**0662**] After the step **3902**, the routine **3324** proceeds to steps **3904** and **3906**, wherein it is determined whether the preferences information has been received from the Pocket Vault **102** prior to the expiration of a timeout period (measured by the step **3906**).

[**0663**] When, at the step **3906**, it is determined that the timeout period elapsed before the preferences information was transferred from the Pocket Vault **102** to the website, the routine **3324** proceeds to a step **3908**, wherein a message is displayed (e.g., on the browser) indicating that a communication error has occurred.

[**0664**] After the step **3908**, the routine **3324** terminates.

[**0665**] When, at the step **3904**, it is determined that the preferences information has been successfully transferred from the Pocket Vault **102** to the website on the network server **114**, the routine **3324** proceeds to a step **3910**, wherein the website compiles and displays the current preference settings for the Pocket Vault **102** (e.g., on the browser) in a user friendly manner.

[**0666**] After the step **3910**, the routine **3324** proceeds to steps **3912** and **3914**, wherein the user is given an opportunity to modify the displayed preference settings.

[**0667**] When, at the step **3912**, the user opts not to modify any of the displayed settings, the routine **3324** terminates.

[**0668**] When, at the steps **3912** and **3914**, the user opts to modify the displayed settings and indicates that he or she has completed modification thereof, the routine **3324** proceeds

to a step **3916**, wherein the modified preference settings are downloaded from the website on the network server **114** to the Pocket Vault **102** via the communication driver **2712**.

[**0669**] After the step **3918**, a message is displayed (e.g., via the browser on the interface station computer **304**) informing the user that the preference settings for the Pocket Vault **102** were successfully modified.

[**0670**] After the step **3918**, the routine **3324** terminates.

[**0671**] **FIG. 40** is a flow diagram illustrating an example implementation of the RFID TAG LOADING routine **3315** shown in **FIG. 33**.

[**0672**] As shown, the routine **3315** begins at a step **4002**, wherein the user may use the website on the network server **114** to create an account for the RFID tag to be loaded onto the Pocket Vault **102**.

[**0673**] After the step **4002**, the routine proceeds to a step **4004**, wherein the website on the network server **114** determines whether the account for the RFID tag is valid, for example, by checking with the media that issued the RFID tag account.

[**0674**] When, at the step **4004**, it is determined that the account for the RFID tag is not valid, the routine **3315** proceeds to a step **4010**, wherein appropriate security precautions are taken.

[**0675**] After the step **4010**, the routine **3315** terminates.

[**0676**] When, at the step **4004**, a determination is made that the account for the RFID tag is valid, the routine **3315** proceeds to a step **4006**, wherein the information for the RFID tag is downloaded from the website on the network server **114** to the Pocket Vault **102** via the communication driver **2712**.

[**0677**] After the step **4006**, the routine **3315** proceeds to a step **4008**, wherein a message is displayed that indicates the RFID tag information has been successfully loaded onto the Pocket Vault **102** for use in future transactions.

[**0678**] After the step **4008**, the routine **3315** terminates.

[**0679**] One illustrative example of an application of the network system described herein is in the distribution of building access key cards and similar limited-use, time-sensitive media to individual operators. The following typical scenario involves distribution of hotel room key cards to hotel guests who make room reservations over the Internet. Using a hotel's secure web site, the prospective guest, who is also a Pocket Vault holder, may secure a room for a specific time period by providing a credit card number. This step may or may not involve use of a credit card stored on the Pocket Vault **102**. If it does involve use of a Pocket Vault credit card, this card may, for example, be accessed while the Pocket Vault **102** is interfaced with the holder's personal interface station **104***b*. Next, the prospective hotel guest may link to the network server **114** (while staying within the hotel's website), and follow on-screen instructions for downloading the key card for his/her room onto the Pocket Vault **102** (e.g., to ensure that the Pocket Vault **102** is interfaced with the pocket vault interface unit **302**, and to ensure that the Pocket Vault holder has activated the Pocket Vault **102** by the appropriate security mechanism such as a thumbprint for bio-metric ID verification). After downloading is complete, the display **216** of the Pocket Vault **102** may include an icon for the hotel room key (e.g., the hotel's logo), along with the icons for media previously loaded. When the room key card icon is selected, the Pocket Vault **102** may encode the Chameleon Card with the magnetic stripe coding to unlock the guest's hotel room.

[**0680**] After the time period of the guest's room reservation has expired, the Pocket Vault **102** may automatically delete the room key icon. This deletion may occur for the convenience of the Pocket Vault holder, not necessarily for hotel security reasons, since the room's lock will reject any previously-used key card (Chameleon or traditional key card) after the key card's specified time period has expired.

[**0681**] Having thus described at least one illustrative embodiment of the invention, various alterations, modifications and improvements will readily occur to those skilled in the art. Such alterations, modifications and improvements are intended to be within the spirit and scope of the invention. Accordingly, the foregoing description is by way of example only and is not intended as limiting. The invention is limited only as defined in the following claims and the equivalents thereto.

What is claimed is:

1. An apparatus, comprising:

a user authenticator that authenticates an identity of a user; and

a transponder that is permitted to emit a wireless signal representing information stored in the apparatus in response to a wireless interrogation signal after the user authenticator has authenticated the identity of the user.

2. The apparatus of claim 1, wherein the wireless signal representing the information and the wireless interrogation signal are radio frequency signals.

3. The apparatus of claim 1, wherein the apparatus further comprises a memory that stores at least first and second distinct codes, and a user input that permits the user to select any one of the at least first and second codes for transmission in response to an interrogation signal; and wherein the transponder is permitted to emit a wireless signal representing the selected one of the at least first and second codes in response to an interrogation signal.

4. The apparatus of claim 3, further comprising a display that identifies the one of the at least first and second codes the user has selected.

5. The apparatus of claim 3, wherein the first and second codes correspond to accounts the user holds with respective first and second unrelated media issuers.

6. The apparatus of claim 1, in combination with an interrogator that wirelessly emits the interrogation signal, and receives from the apparatus the wireless signal representing the information.

7. A method for using an apparatus, comprising steps of:

using the apparatus to authenticate an identity of a user of the apparatus; and

after the apparatus has authenticated the identity of the user, enabling a transponder of the apparatus to emit a wireless signal representing information stored in the apparatus in response to a wireless interrogation signal.

8. The method of claim 7, wherein the wireless signal representing the information and the wireless interrogation signal are radio frequency signals.

9. The method of claim 7, wherein the method further comprises steps of:

manipulating a user input on the apparatus to select one of at least first and second codes stored in memory; and

permitting the transponder to emit a wireless signal representing the selected one of the first and second codes in response to the interrogation signal.

10. The method of claim 9, wherein the method further comprises steps of:

manipulating the user input on the apparatus to select the other of the first and second codes stored in memory; and

permitting the transponder to emit a wireless signal representing the other of the first and second codes in response to the interrogation signal.

11. The method of claim 10, further comprising a step of:

in response to the user manipulating the user input, displaying to the user an identification of the one of the first and second codes the user has selected.

12. The method of claim 10, wherein the first and second codes correspond to accounts the user holds with respective first and second unrelated media issuers.

13. The method of claim 7, further comprising steps of:

wirelessly emitting an interrogation signal from an interrogator;

receiving the interrogation signal at the transponder;

in response to receiving the interrogation signal, emitting from the transponder a wireless signal representing the information; and

receiving at the interrogator the wireless signal representing the information.

14. The method of claim 13, further comprising a step of authorizing a transaction based upon the information received at the interrogator.

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