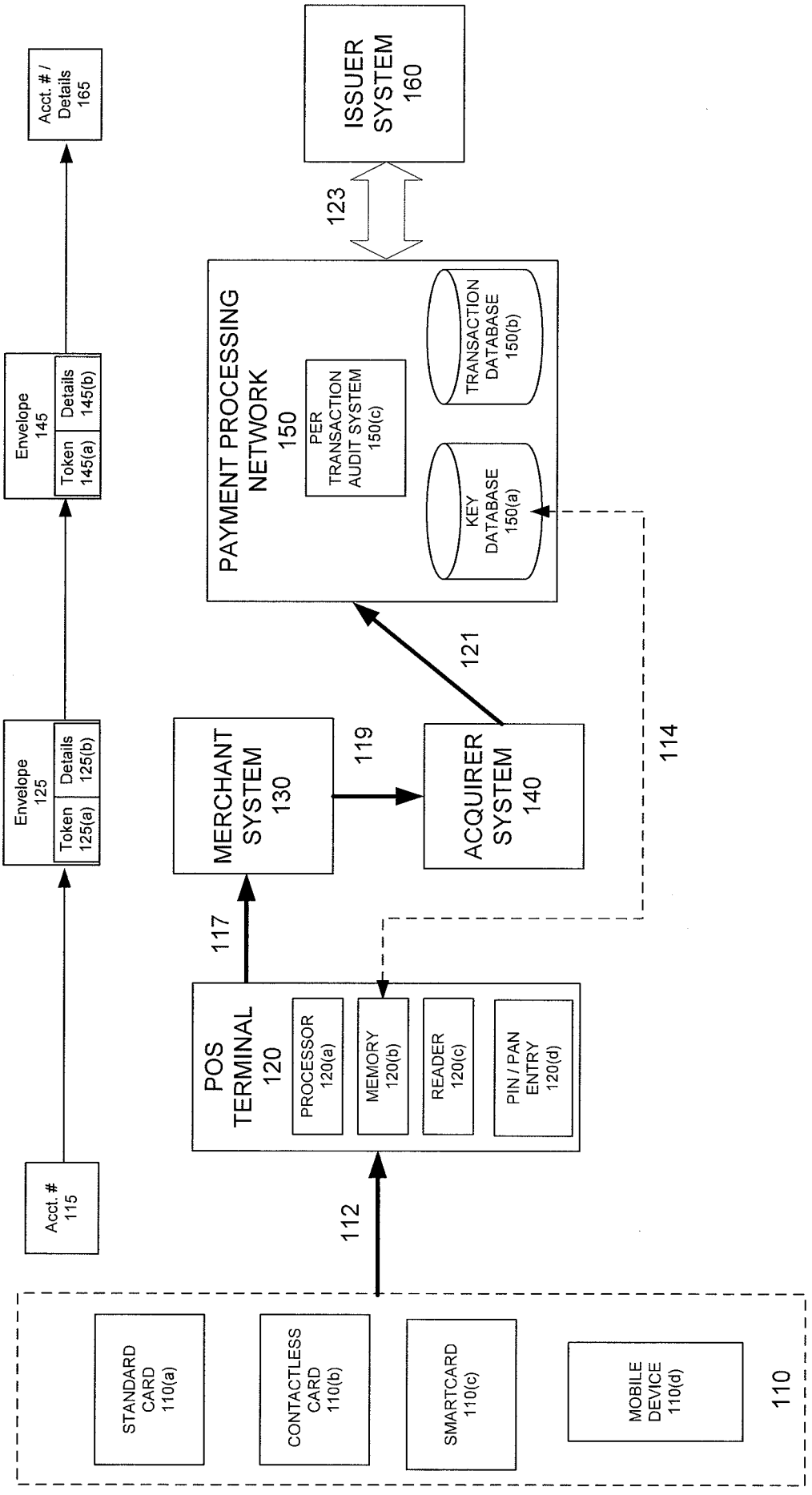

Acct. # / Details 165
ISSUER SYSTEM 160
123
PAYMENT PROCESSING NETWORK 150
PER TRANSACTION AUDIT SYSTEM 150(c)
TRANSACTION DATABASE 150(b)
KEY DATABASE 150(a)
Envelope 145
Token 145(a)
Details 145(b)
Envelope 125
Token 125(a)
Details 125(b)
MERCHANT SYSTEM 130
119
ACQUIRER SYSTEM 140
121
114
117
POS TERMINAL 120
PROCESSOR 120(a)
MEMORY 120(b)
READER 120(c)
PIN / PAN ENTRY 120(d)
Acct. # 115
112
STANDARD CARD 110(a)
CONTACTLESS CARD 110(b)
SMARTCARD 110(c)
MOBILE DEVICE 110(d)
110

FIG. 1

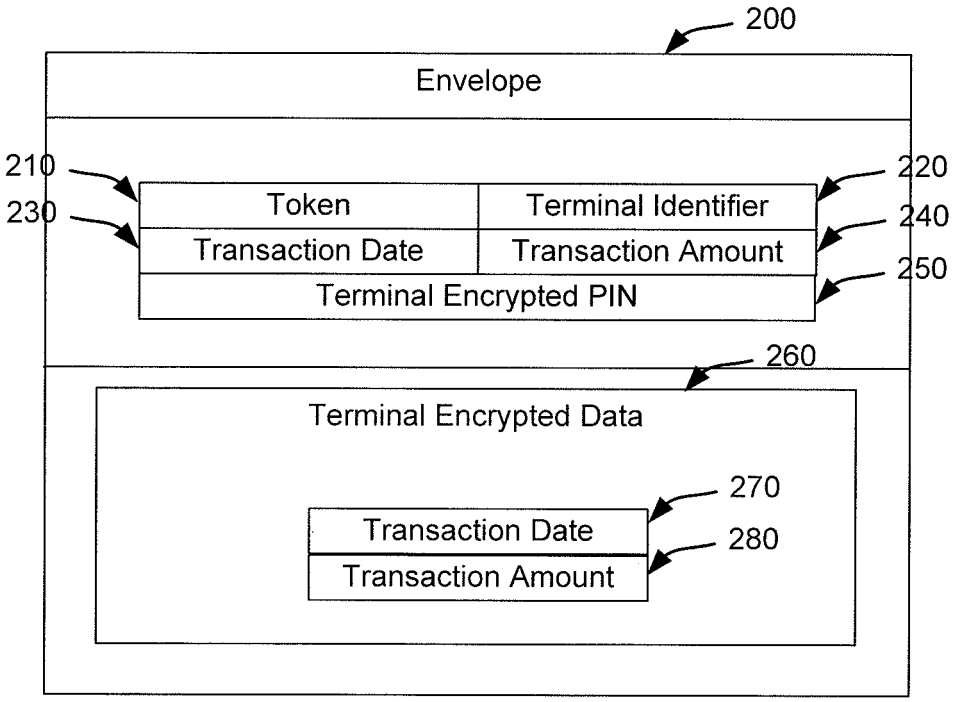

200
Envelope
210
230
Token
Terminal Identifier
220
240
Transaction Date
Transaction Amount
250
Terminal Encrypted PIN
260
Terminal Encrypted Data
270
Transaction Date
280
Transaction Amount

FIG. 2

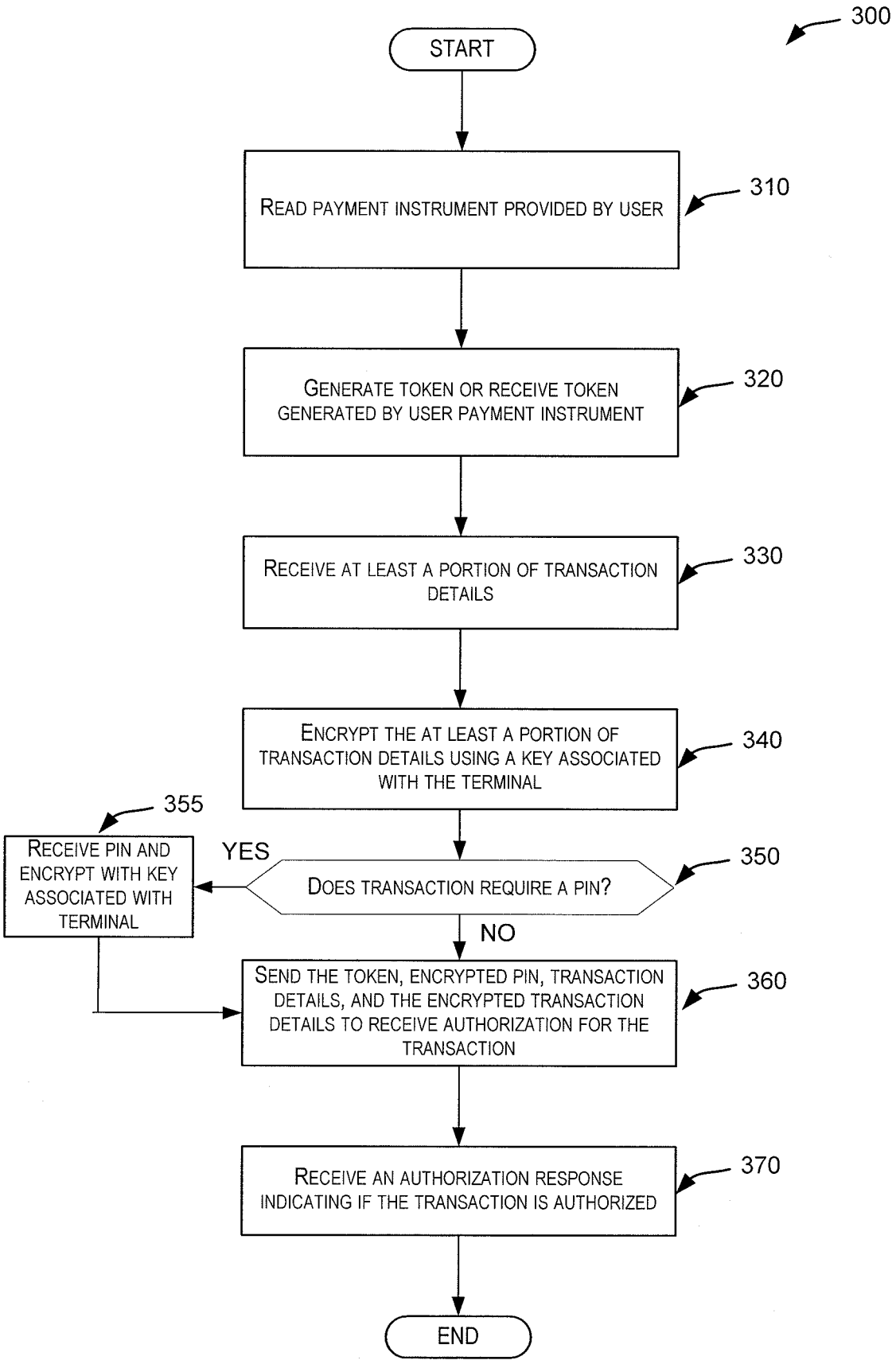

300
START
READ PAYMENT INSTRUMENT PROVIDED BY USER
310
GENERATE TOKEN OR RECEIVE TOKEN GENERATED BY USER PAYMENT INSTRUMENT
320
RECEIVE AT LEAST A PORTION OF TRANSACTION DETAILS
330
ENCRYPT THE AT LEAST A PORTION OF TRANSACTION DETAILS USING A KEY ASSOCIATED WITH THE TERMINAL
340
355
RECEIVE PIN AND ENCRYPT WITH KEY ASSOCIATED WITH TERMINAL
YES
DOES TRANSACTION REQUIRE A PIN?
350
NO
SEND THE TOKEN, ENCRYPTED PIN, TRANSACTION DETAILS, AND THE ENCRYPTED TRANSACTION DETAILS TO RECEIVE AUTHORIZATION FOR THE TRANSACTION
360
RECEIVE AN AUTHORIZATION RESPONSE INDICATING IF THE TRANSACTION IS AUTHORIZED
370
END

FIG. 3

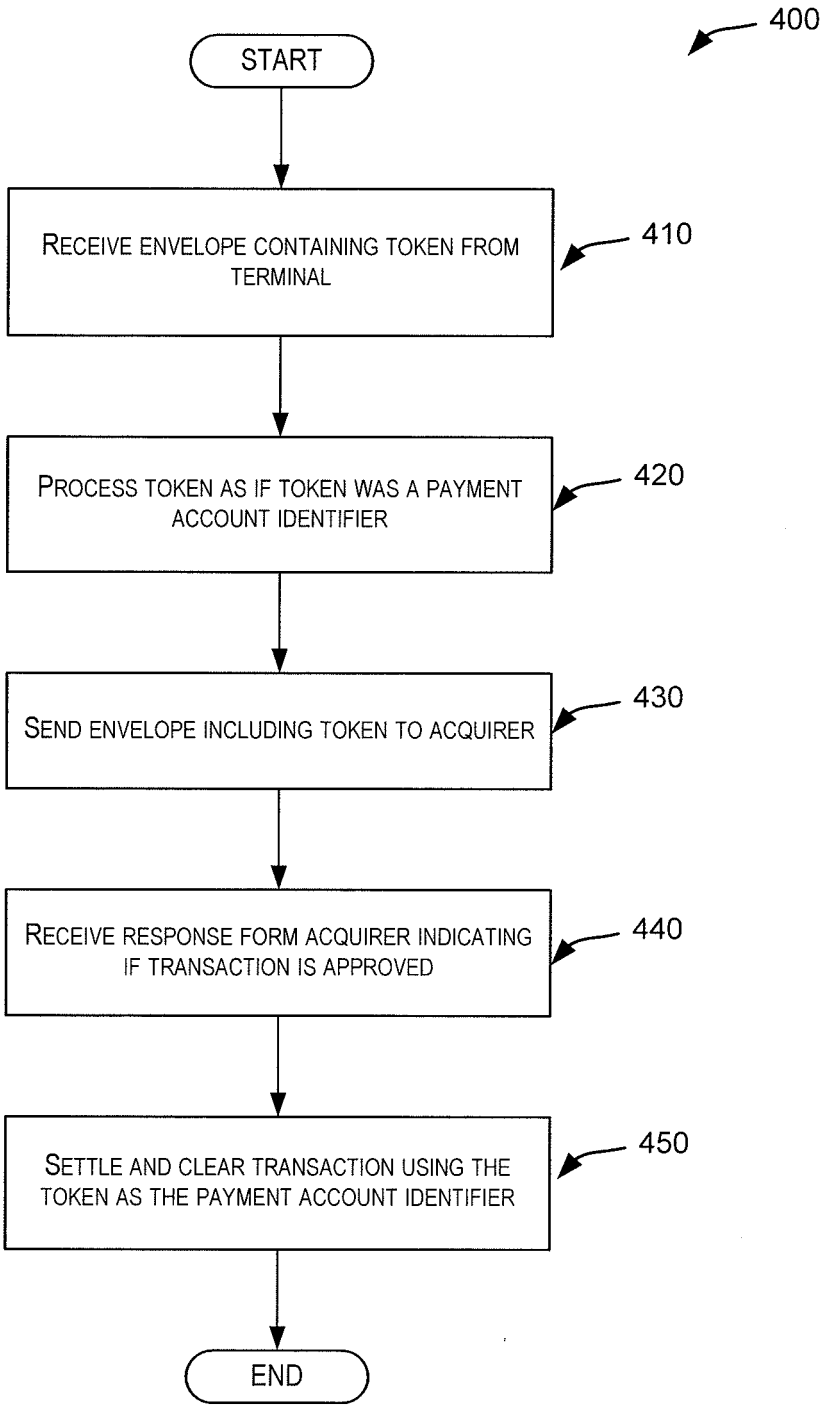

400
START
RECEIVE ENVELOPE CONTAINING TOKEN FROM TERMINAL
410
PROCESS TOKEN AS IF TOKEN WAS A PAYMENT ACCOUNT IDENTIFIER
420
SEND ENVELOPE INCLUDING TOKEN TO ACQUIRER
430
RECEIVE RESPONSE FORM ACQUIRER INDICATING IF TRANSACTION IS APPROVED
440
SETTLE AND CLEAR TRANSACTION USING THE TOKEN AS THE PAYMENT ACCOUNT IDENTIFIER
450
END

FIG. 4

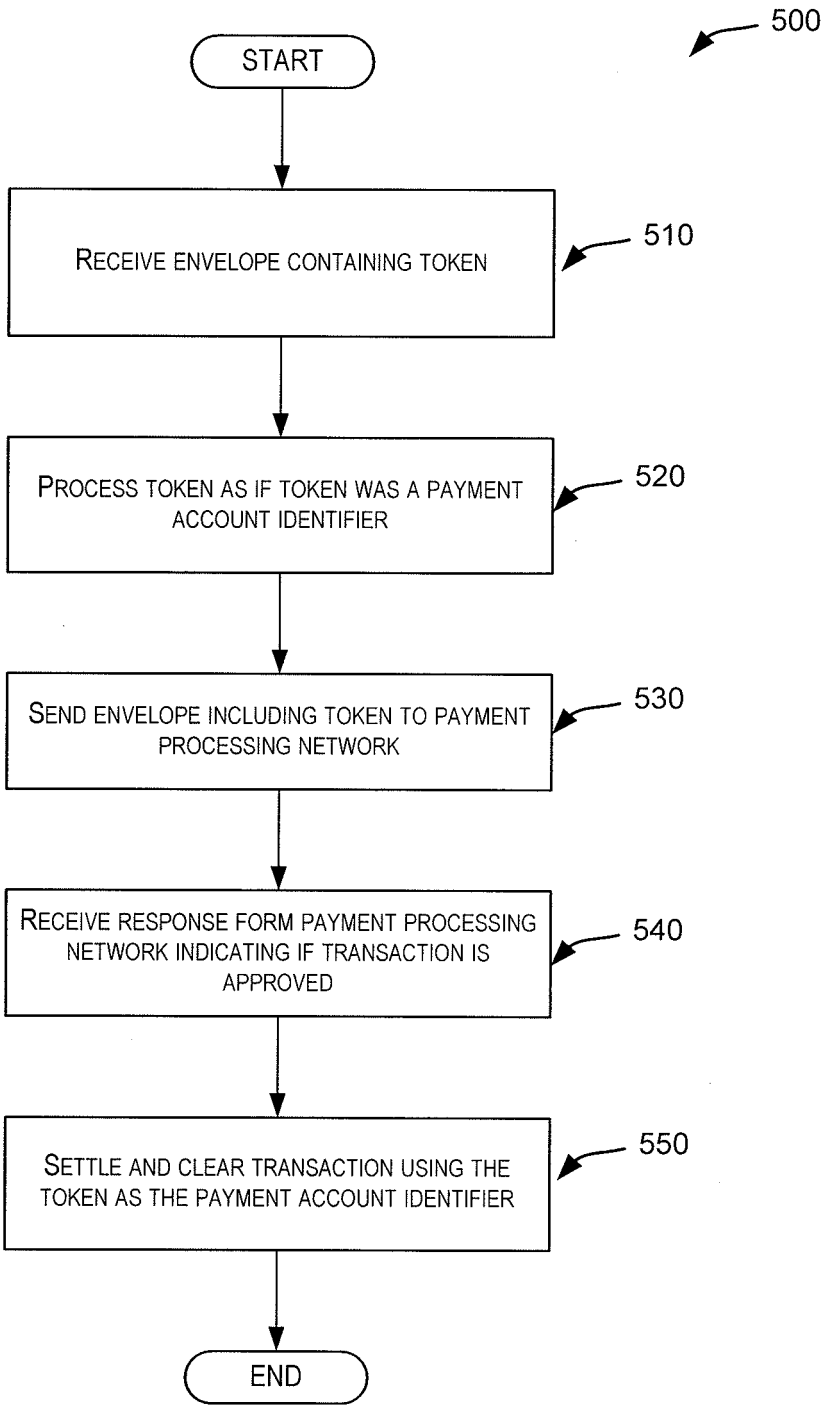

500
START
RECEIVE ENVELOPE CONTAINING TOKEN
510
PROCESS TOKEN AS IF TOKEN WAS A PAYMENT ACCOUNT IDENTIFIER
520
SEND ENVELOPE INCLUDING TOKEN TO PAYMENT PROCESSING NETWORK
530
RECEIVE RESPONSE FORM PAYMENT PROCESSING NETWORK INDICATING IF TRANSACTION IS APPROVED
540
SETTLE AND CLEAR TRANSACTION USING THE TOKEN AS THE PAYMENT ACCOUNT IDENTIFIER
550
END

FIG. 5

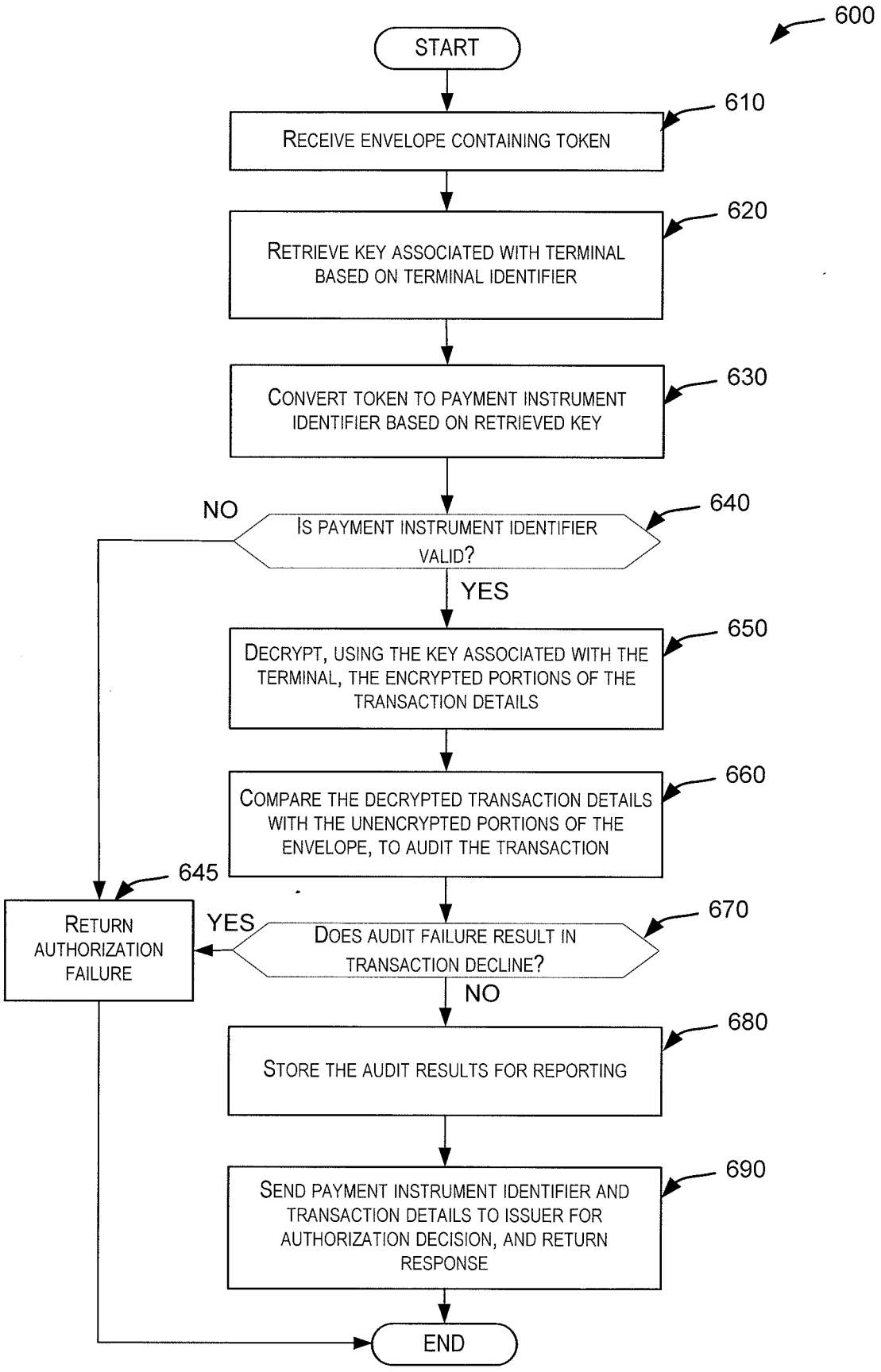

600
START
610
RECEIVE ENVELOPE CONTAINING TOKEN
620
RETRIEVE KEY ASSOCIATED WITH TERMINAL BASED ON TERMINAL IDENTIFIER
630
CONVERT TOKEN TO PAYMENT INSTRUMENT IDENTIFIER BASED ON RETRIEVED KEY
640
IS PAYMENT INSTRUMENT IDENTIFIER VALID?
NO
YES
650
DECRYPT, USING THE KEY ASSOCIATED WITH THE TERMINAL, THE ENCRYPTED PORTIONS OF THE TRANSACTION DETAILS
660
COMPARE THE DECRYPTED TRANSACTION DETAILS WITH THE UNENCRYPTED PORTIONS OF THE ENVELOPE, TO AUDIT THE TRANSACTION
645
RETURN AUTHORIZATION FAILURE
670
DOES AUDIT FAILURE RESULT IN TRANSACTION DECLINE?
YES
NO
680
STORE THE AUDIT RESULTS FOR REPORTING
690
SEND PAYMENT INSTRUMENT IDENTIFIER AND TRANSACTION DETAILS TO ISSUER FOR AUTHORIZATION DECISION, AND RETURN RESPONSE
END

FIG. 6

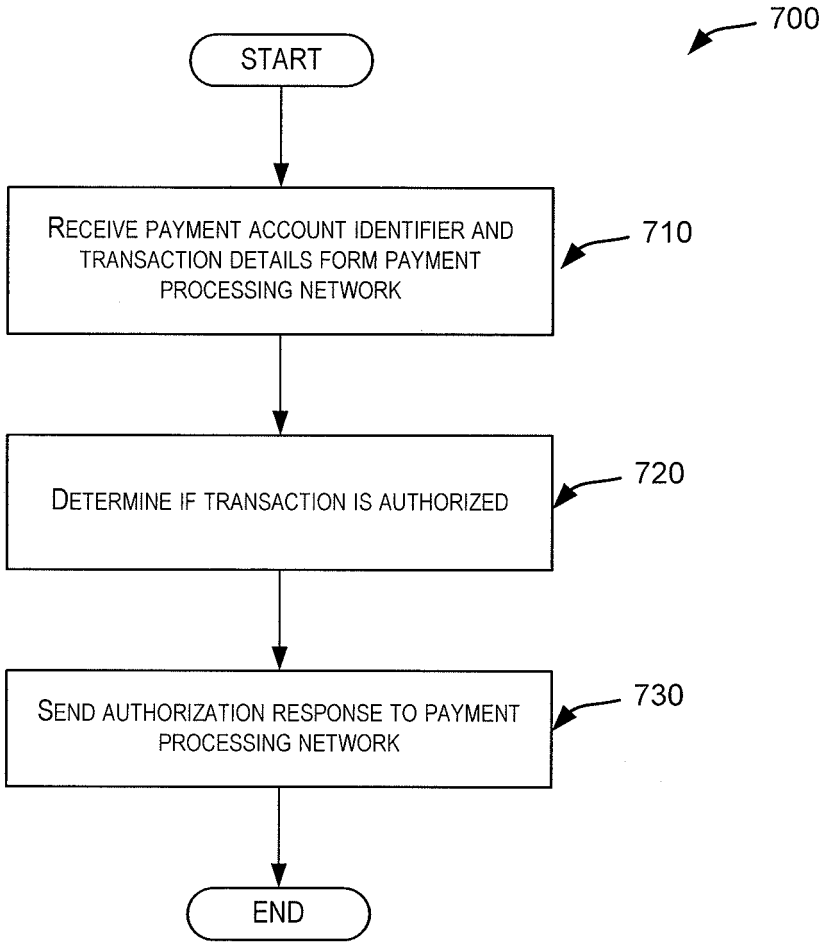

700
START
RECEIVE PAYMENT ACCOUNT IDENTIFIER AND TRANSACTION DETAILS FORM PAYMENT PROCESSING NETWORK
710
DETERMINE IF TRANSACTION IS AUTHORIZED
720
SEND AUTHORIZATION RESPONSE TO PAYMENT PROCESSING NETWORK
730
END

FIG. 7

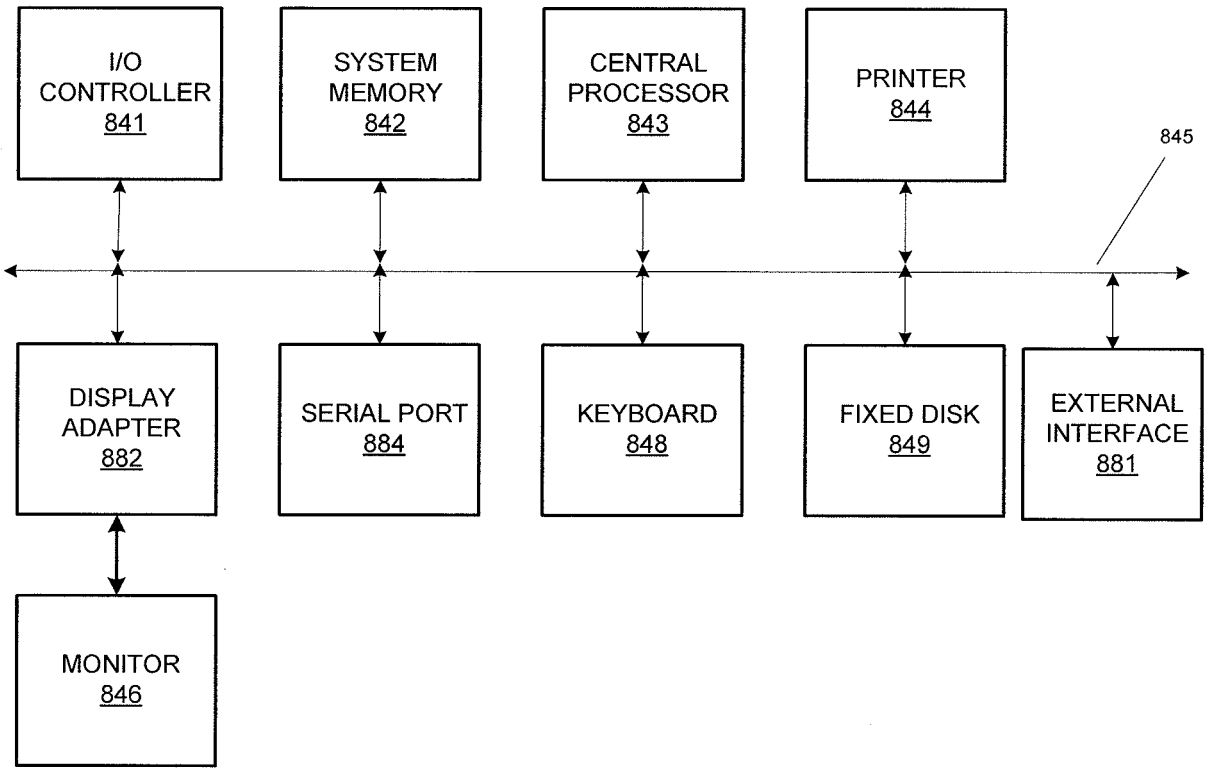

I/O CONTROLLER 841
SYSTEM MEMORY 842
CENTRAL PROCESSOR 843
PRINTER 844
845
DISPLAY ADAPTER 882
SERIAL PORT 884
KEYBOARD 848
FIXED DISK 849
EXTERNAL INTERFACE 881
MONITOR 846

FIG. 8

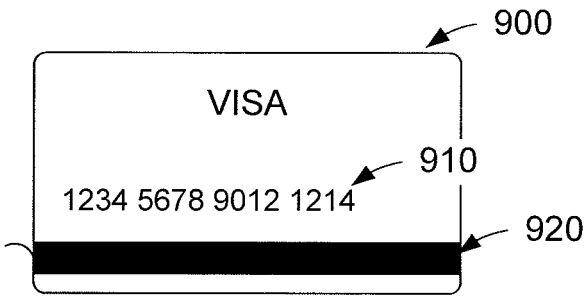

900
VISA
910
1234 5678 9012 1214
920

FIG. 9

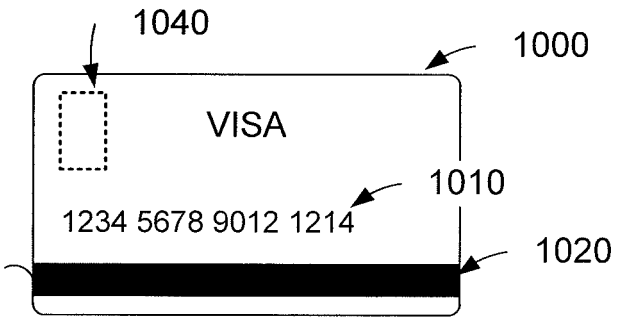

1040
1000
VISA
1010
1234 5678 9012 1214
1020

FIG. 10

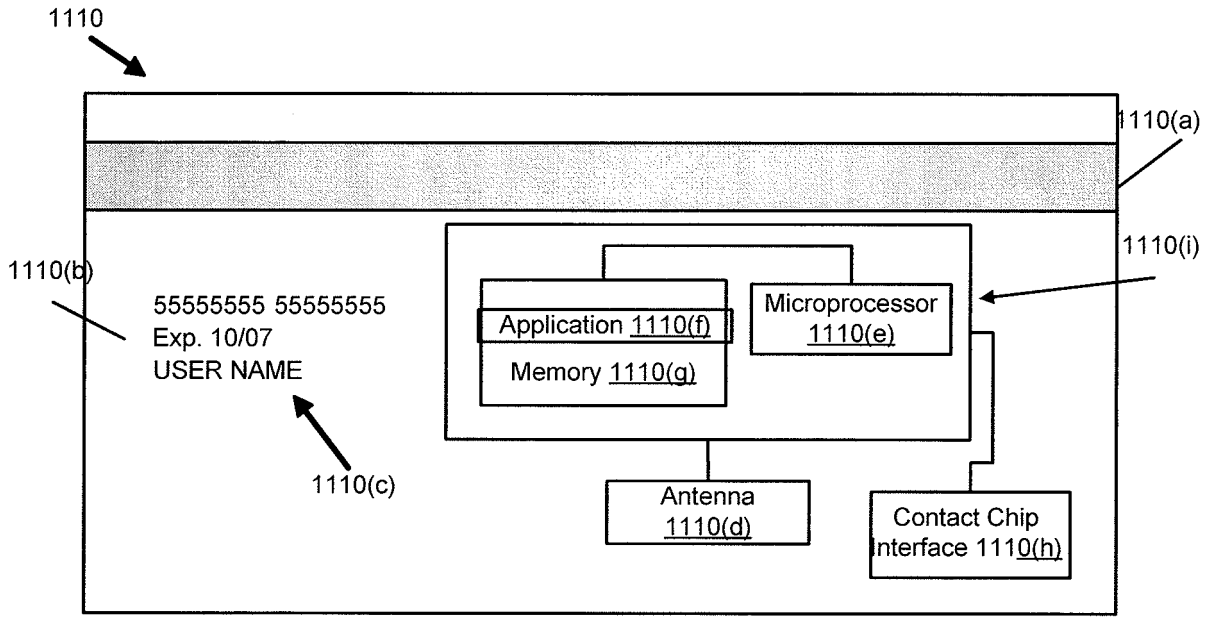

1110
1110(a)
1110(b)
55555555 55555555
Exp. 10/07
USER NAME
1110(c)
1110(i)
Application 1110(f)
Memory 1110(g)
Microprocessor 1110(e)
Antenna 1110(d)
Contact Chip Interface 1110(h)

FIG. 11

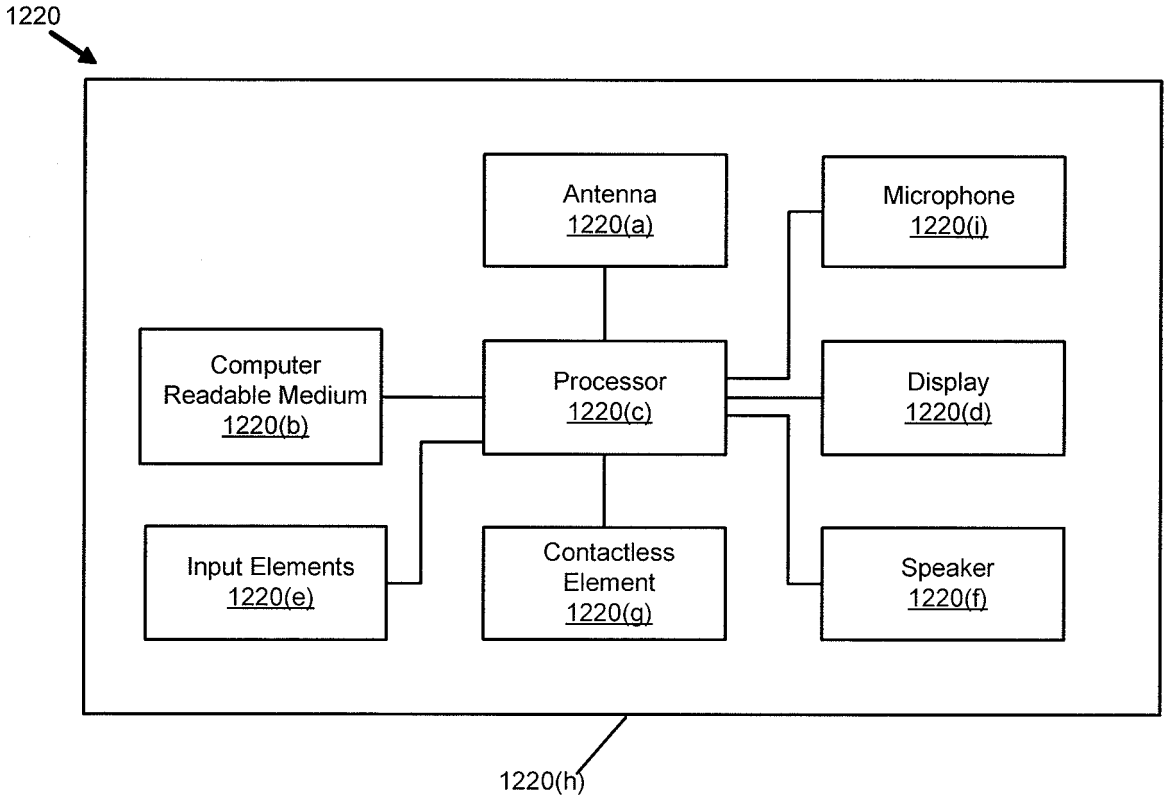

1220
Antenna 1220(a)
Microphone 1220(i)
Computer Readable Medium 1220(b)
Processor 1220(c)
Display 1220(d)
Input Elements 1220(e)
Contactless Element 1220(g)
Speaker 1220(f)
1220(h)

FIG. 12