

[54] TRANSACTION SYSTEM FOR INTEGRATED CIRCUIT CARDS

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Table with 4 columns: Patent Number, Date, Inventor Name, and Patent Number. Lists various patents such as Wright et al. (2/1990), Halpern (3/1990), Nagata et al. (9/1990), etc.

(List continued on next page.)

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[52] U.S. Cl. 380/24; 380/25; 380/21

[58] Field of Search 380/21, 23-25, 380/46

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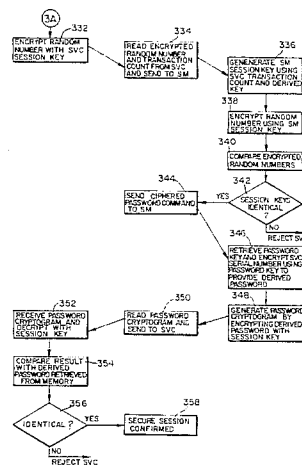
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Primary Examiner—Salvatore Cangialosi
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[57] ABSTRACT

A transaction system and method of conducting a transaction between in integrated circuit (IC) card and a transaction terminal which includes a security module comprises establishing communication between the terminal and the IC card. Separate session keys are generated in the IC card using data stored in the IC card and a code associated with the particular IC card and the security module using data stored in the security module, and the code associated with the particular IC card. The session key generated by the IC card is used to encrypt data using an encryption algorithm to obtain a first result and the session key generated by the security module is used to encrypt the same data using the same encryption algorithm to obtain a second result. The first and second results are compared to enable the terminal to conduct the transaction only if the comparison establishes that the first result and the second result are identical. In one embodiment, the invention further comprises generating a transaction signature by the IC card using transaction data and data stored in the IC card, generating a transaction signature by the security module using transaction data and data stored in the security module and storing the transaction signatures generated by the IC card and the security module for creating an audit trail for the transaction.

37 Claims, 9 Drawing Sheets



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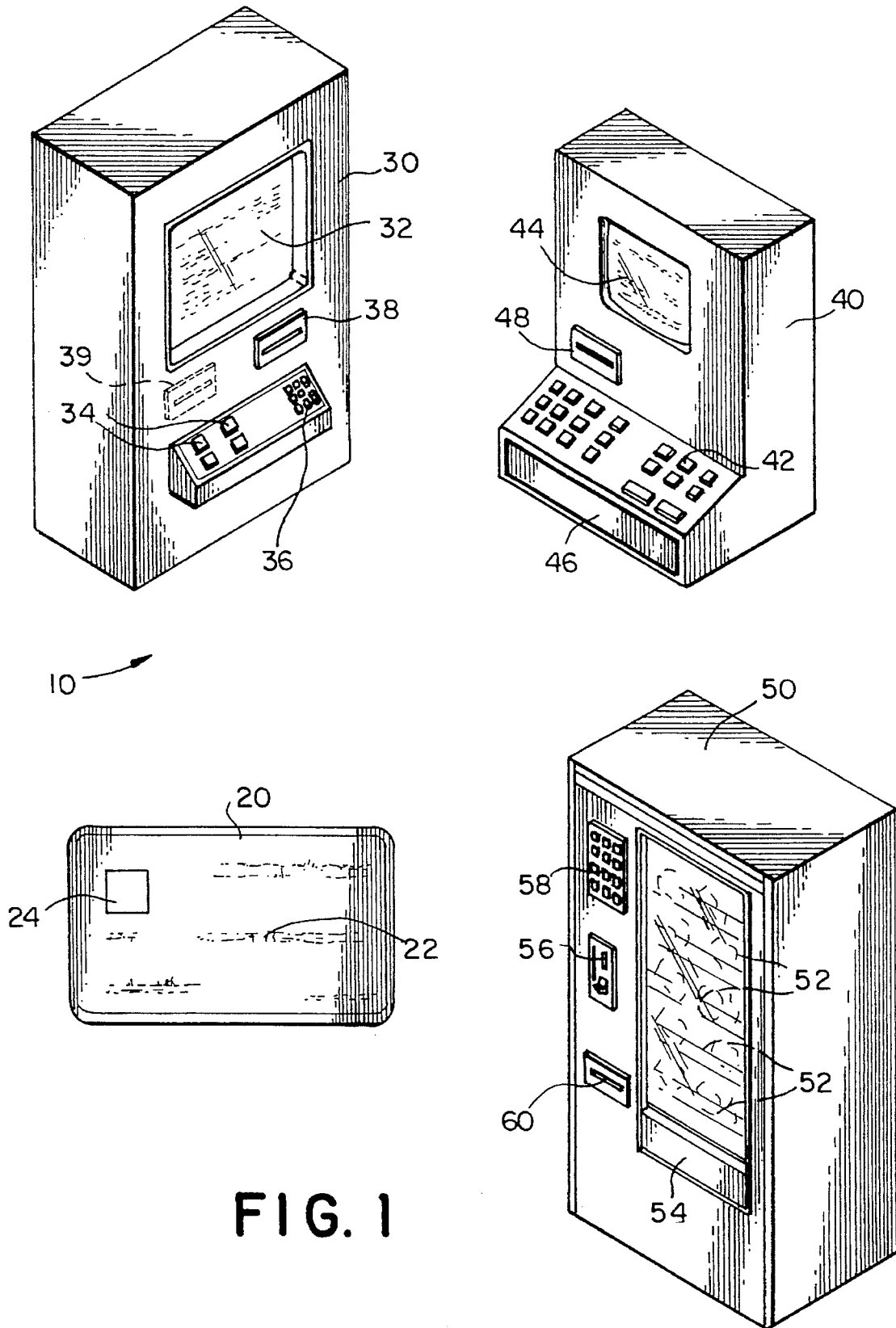


FIG. 1

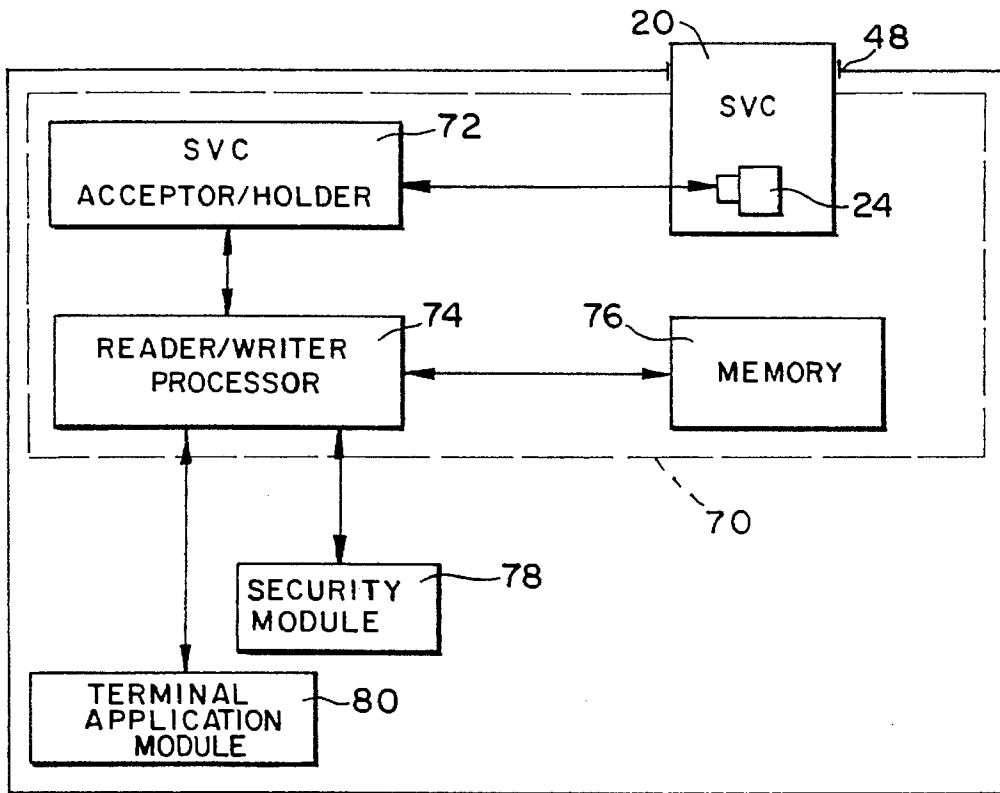


FIG. 2

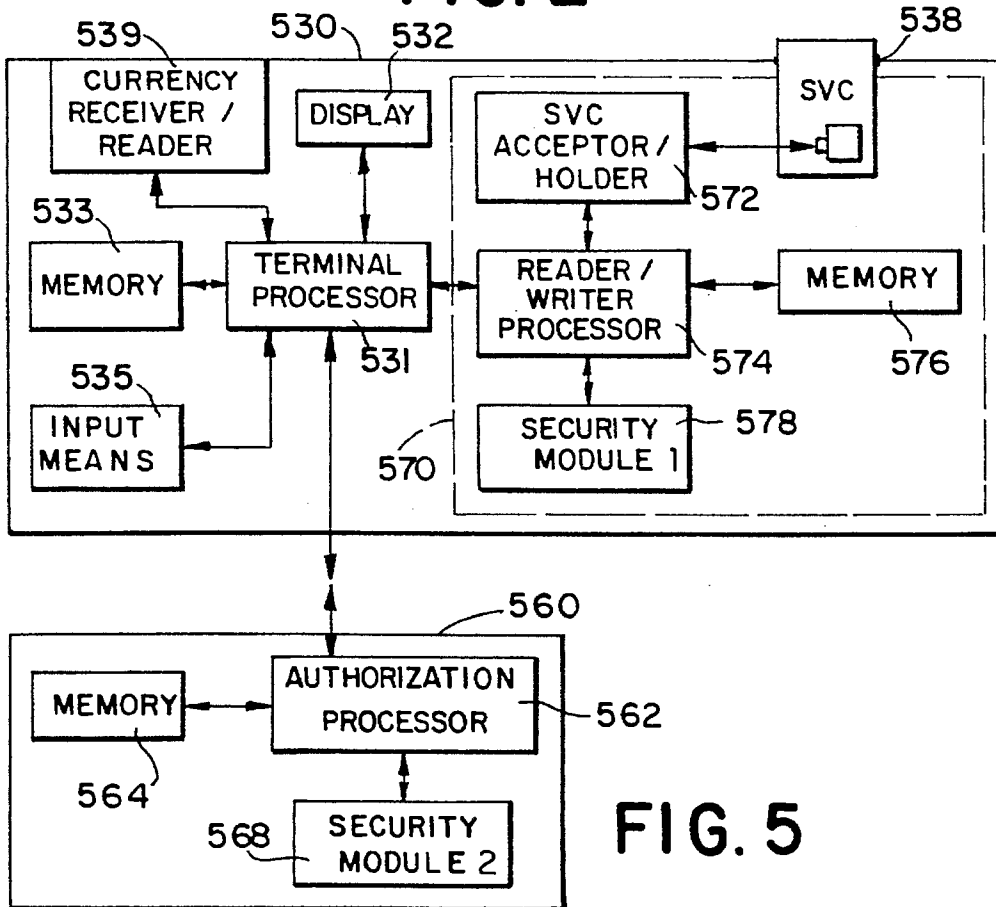


FIG. 5

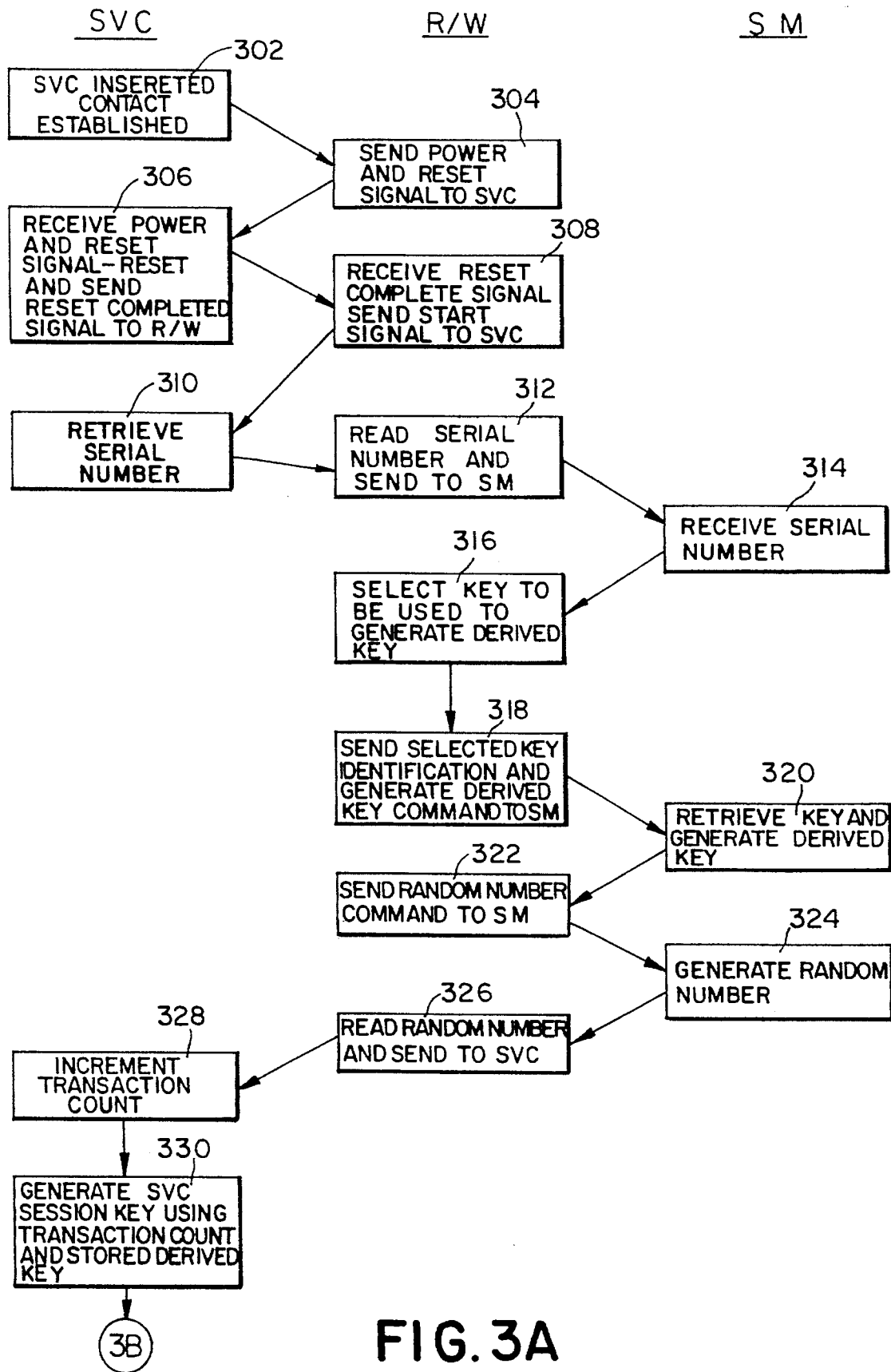


FIG. 3A

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