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Curry et al.

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(54) **APPARATUS FOR TRANSFER OF SECURE INFORMATION BETWEEN A DATA CARRYING MODULE AND AN ELECTRONIC DEVICE**

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(73) Assignee: **Dallas Semiconductor Corporation, Dallas, TX (US)**

(*) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(22) Filed: **Jan. 6, 1998**

Related U.S. Application Data

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(51) **Int. Cl.⁷** **H04L 9/00**

(52) **U.S. Cl.** **713/178**

(58) **Field of Search** 380/4, 25, 24, 380/21; 711/164; 705/64, 65, 75; 713/175, 178, 168, 172

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Primary Examiner—Tod R. Swann

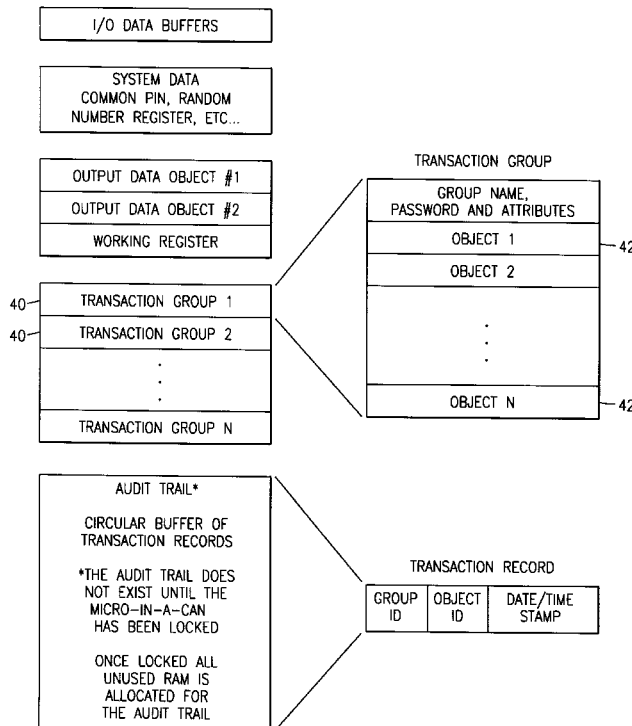
Assistant Examiner—Matthew Smithers

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(57) **ABSTRACT**

The present invention relates to an electronic module used for secure transactions. More specifically, the electronic module is capable of passing encrypted information back and forth between a service provider's equipment via a secure, encrypted technique so that money and other valuable data can be securely passed electronically. The module is capable of being programmed, keeping track of real time, recording transactions for later review, and creating encryption key pairs.

8 Claims, 8 Drawing Sheets



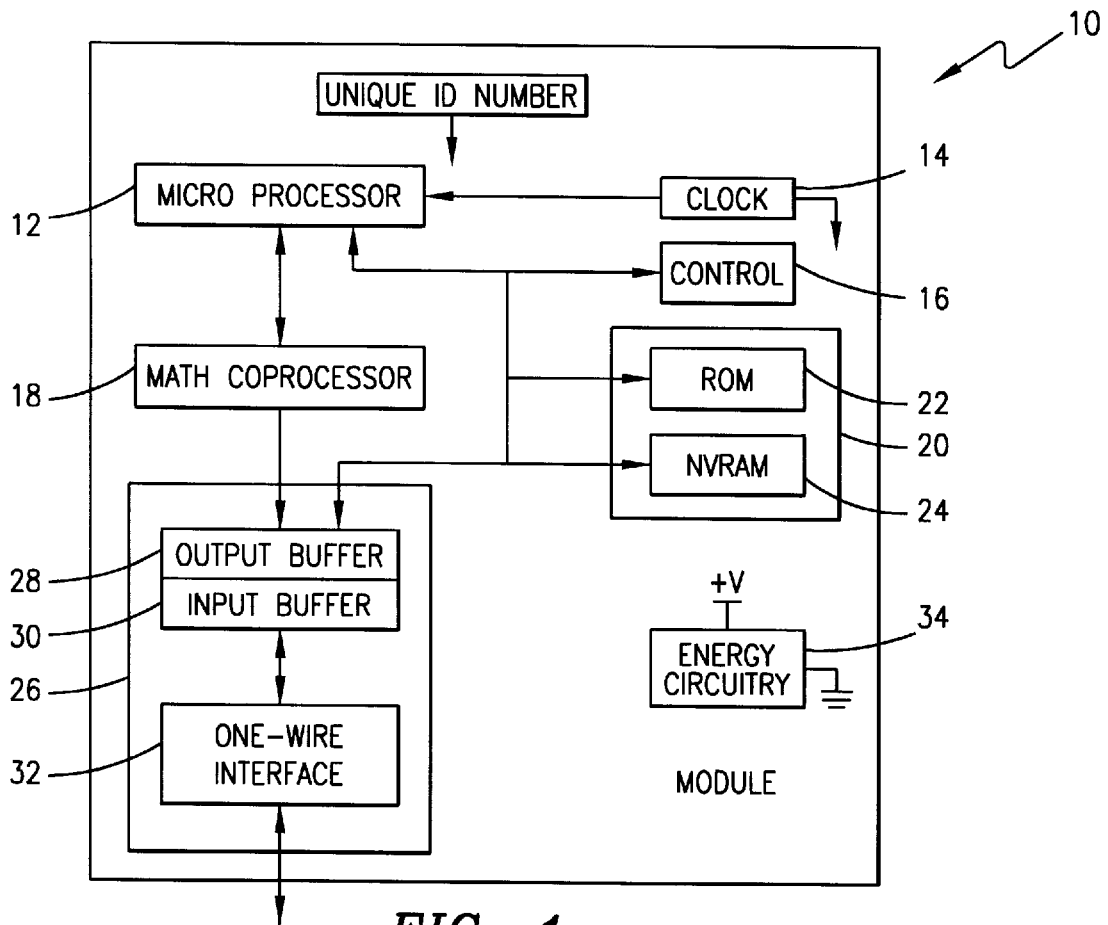


FIG. 1

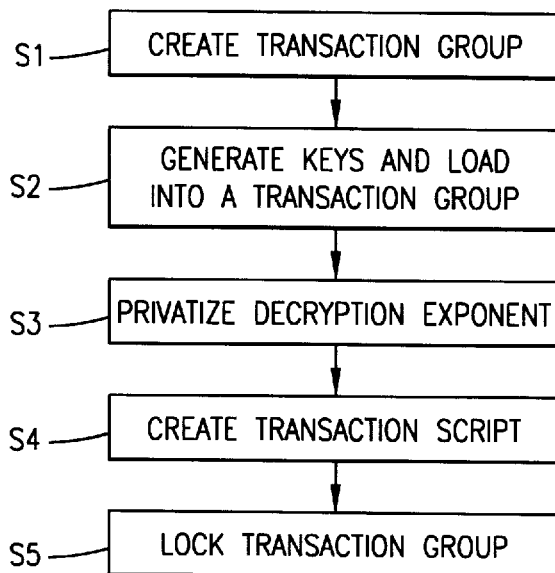


FIG. 2

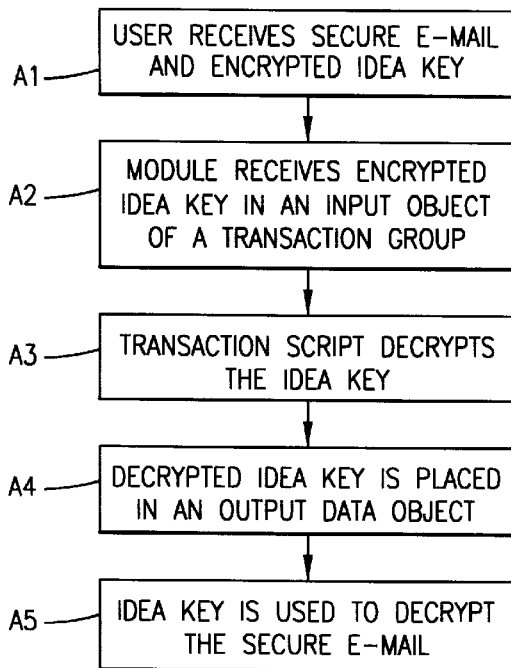
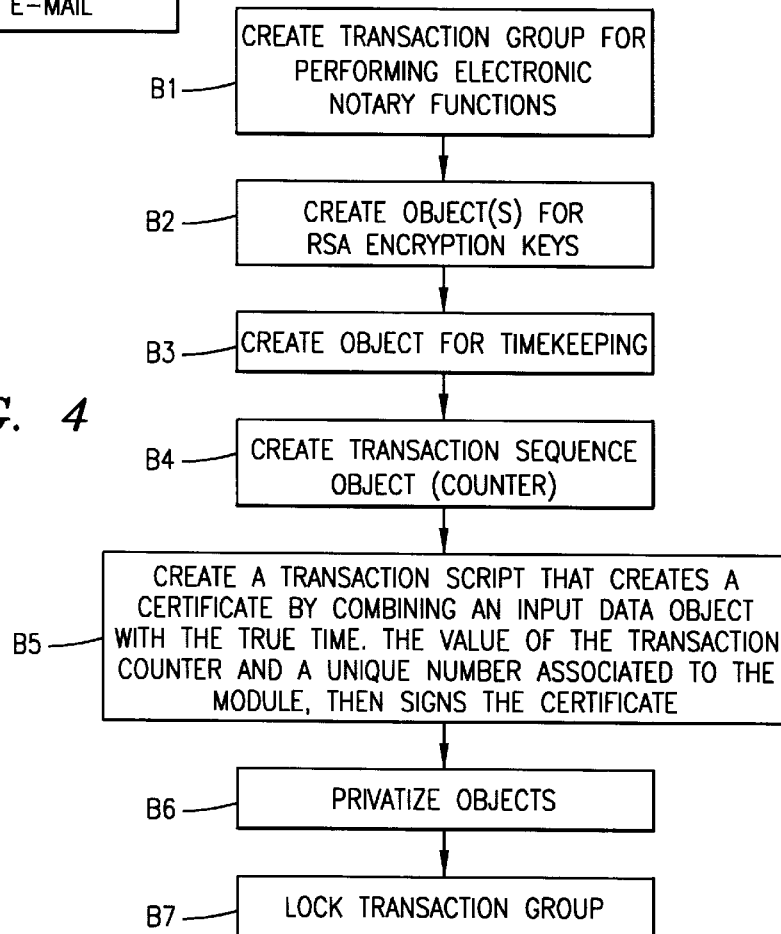


FIG. 3

FIG. 4



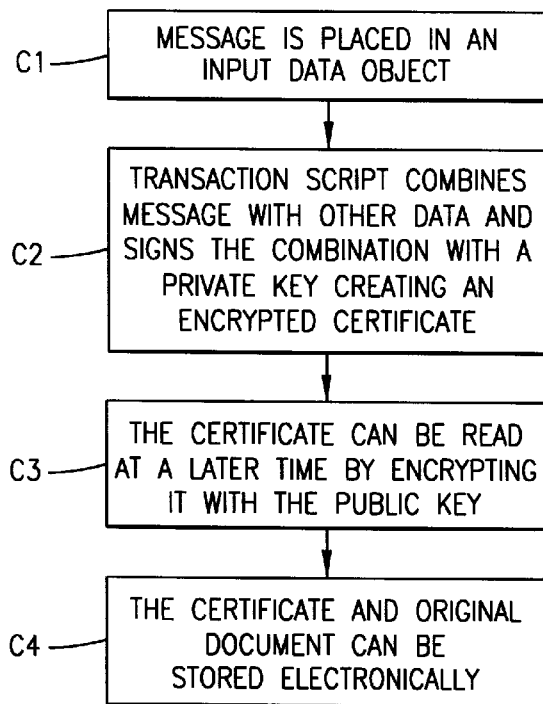


FIG. 5

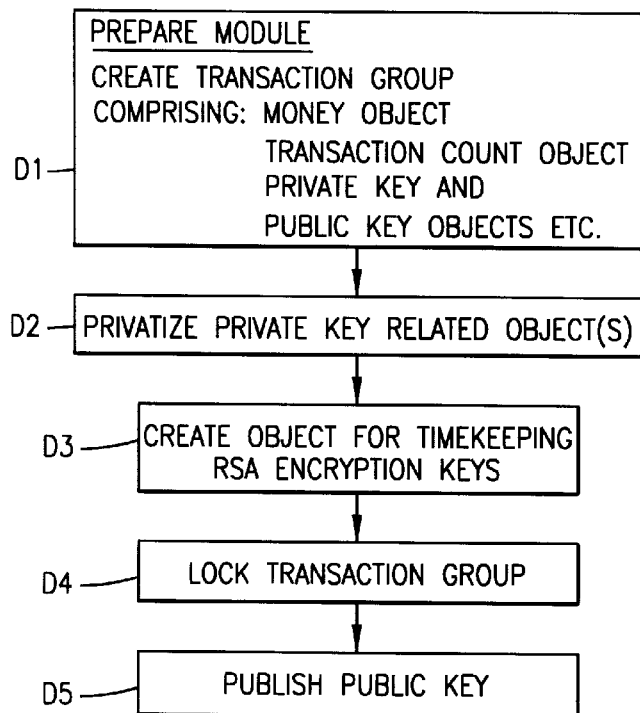


FIG. 6

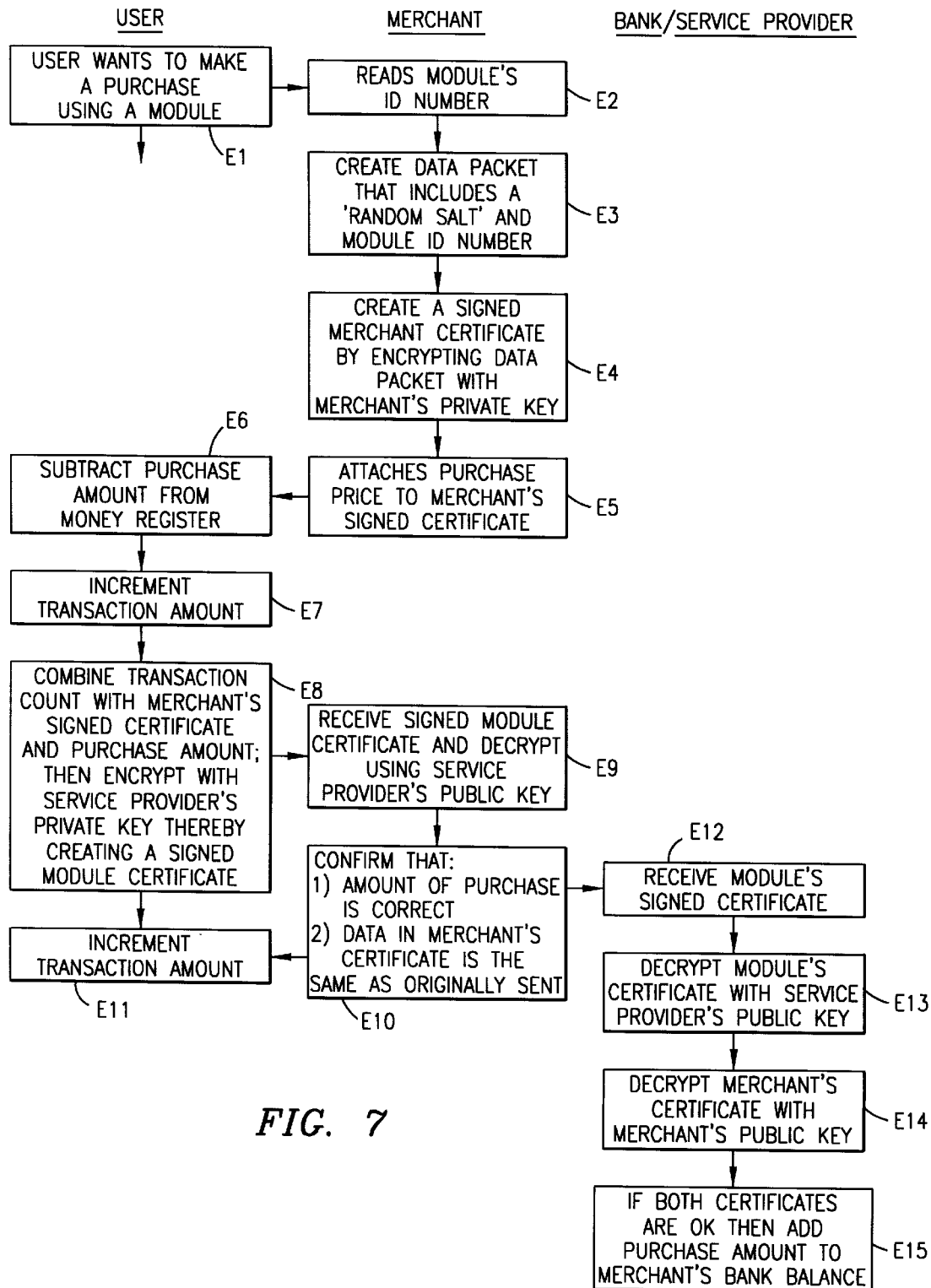


FIG. 7

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