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Balachandran et al.

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(54) **METHOD AND DEVICE FOR MAC LAYER FEEDBACK IN A PACKET COMMUNICATION SYSTEM**

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(Under 37 CFR 1.47)

Related U.S. Application Data

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(51) **Int. Cl.**[7] **H04B 7/212**
(52) **U.S. Cl.** **370/337**; 370/347; 370/349; 370/468; 370/522
(58) **Field of Search** 370/498, 329, 370/442, 347, 348, 328, 337, 458, 345, 522, 370/468; 714/746, 748

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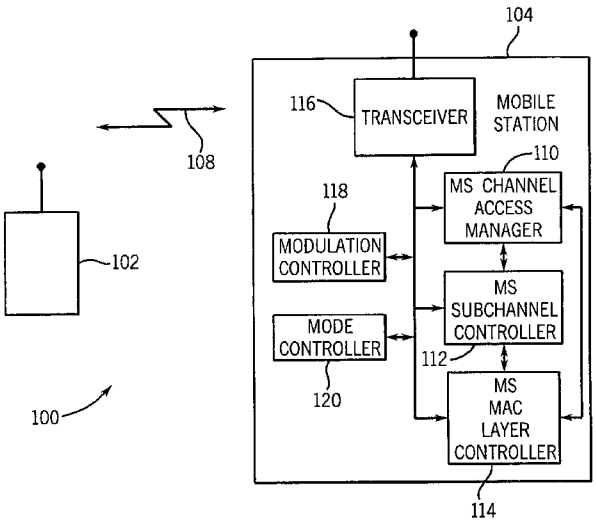
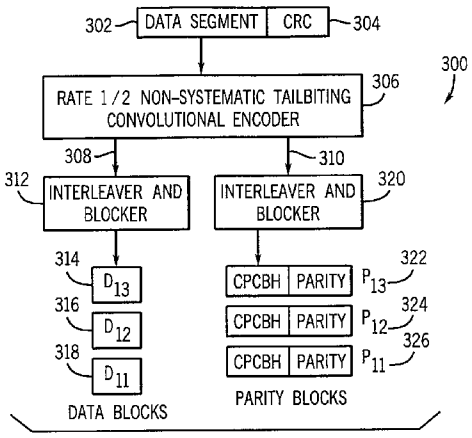
(57) **ABSTRACT**

A method and communication device for media access control feedback over a packet channel divided in channel time slots is provided. The channel time slots are divided into sub-channel time slots. A packet channel feedback field associated with each sub-channel time slot is defined. Acknowledgments are indicated using the packet channel feedback field. An active mobile identity associated with an active mobile station may be assigned which would then be included in the packet channel feedback field. A plurality of active mobile identities may be assigned and some of the active mobile identities may be reserved for special functions. The assigned active mobile identity is used, among other things, to identify an active mobile station to receive packet data signals. The active mobility identity is invalidated after one transaction of packet data signals or invalidated after a short number of such transactions. One or more of the assigned active mobile identities may be used to indicate a time slot assignment for the active mobile station. A sub-channel feedback field in the packet channel feedback field is used to indicate acknowledgments. A sub-channel assignment field in the packet channel feedback field is used to indicate time slot assignments. The sub-channel assignment field is substantially independent of the sub-channel feedback field.

40 Claims, 7 Drawing Sheets





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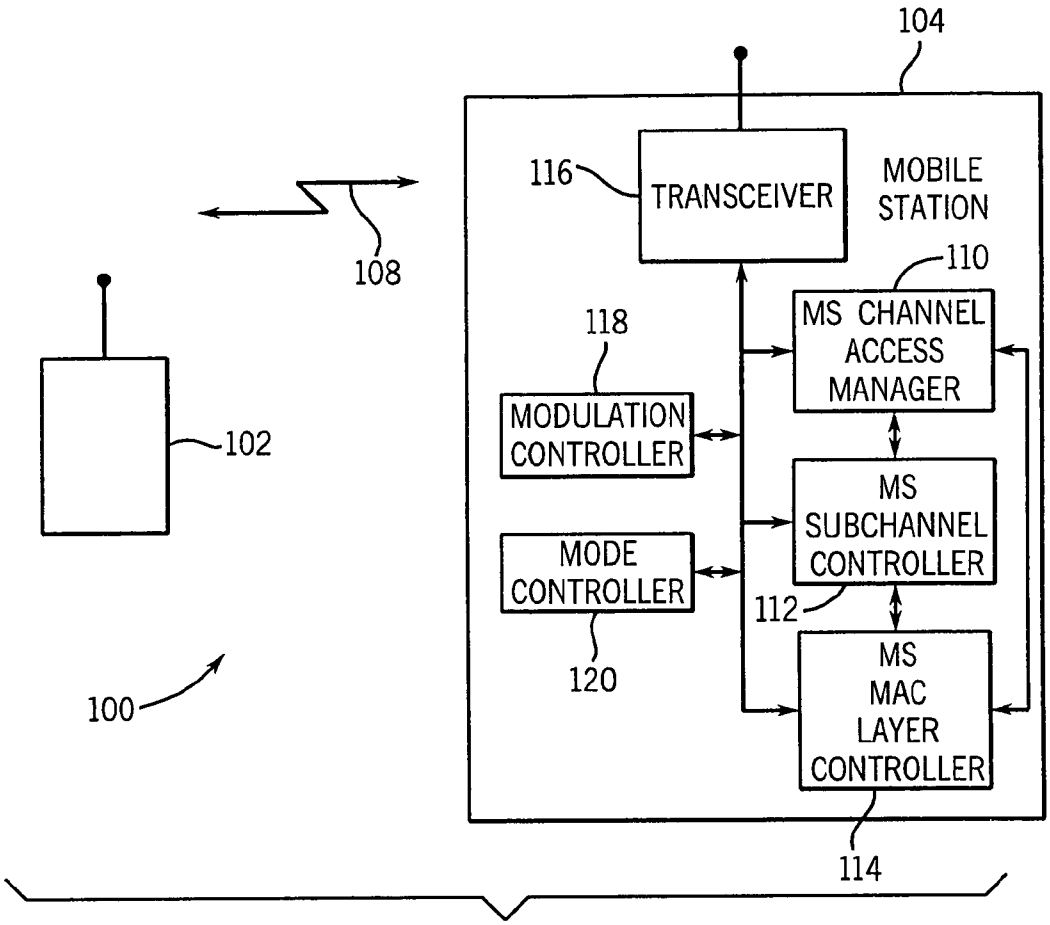

FIG. 1

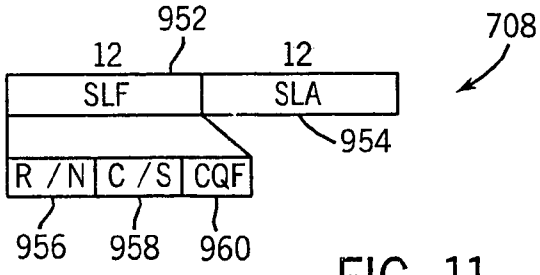

FIG. 11

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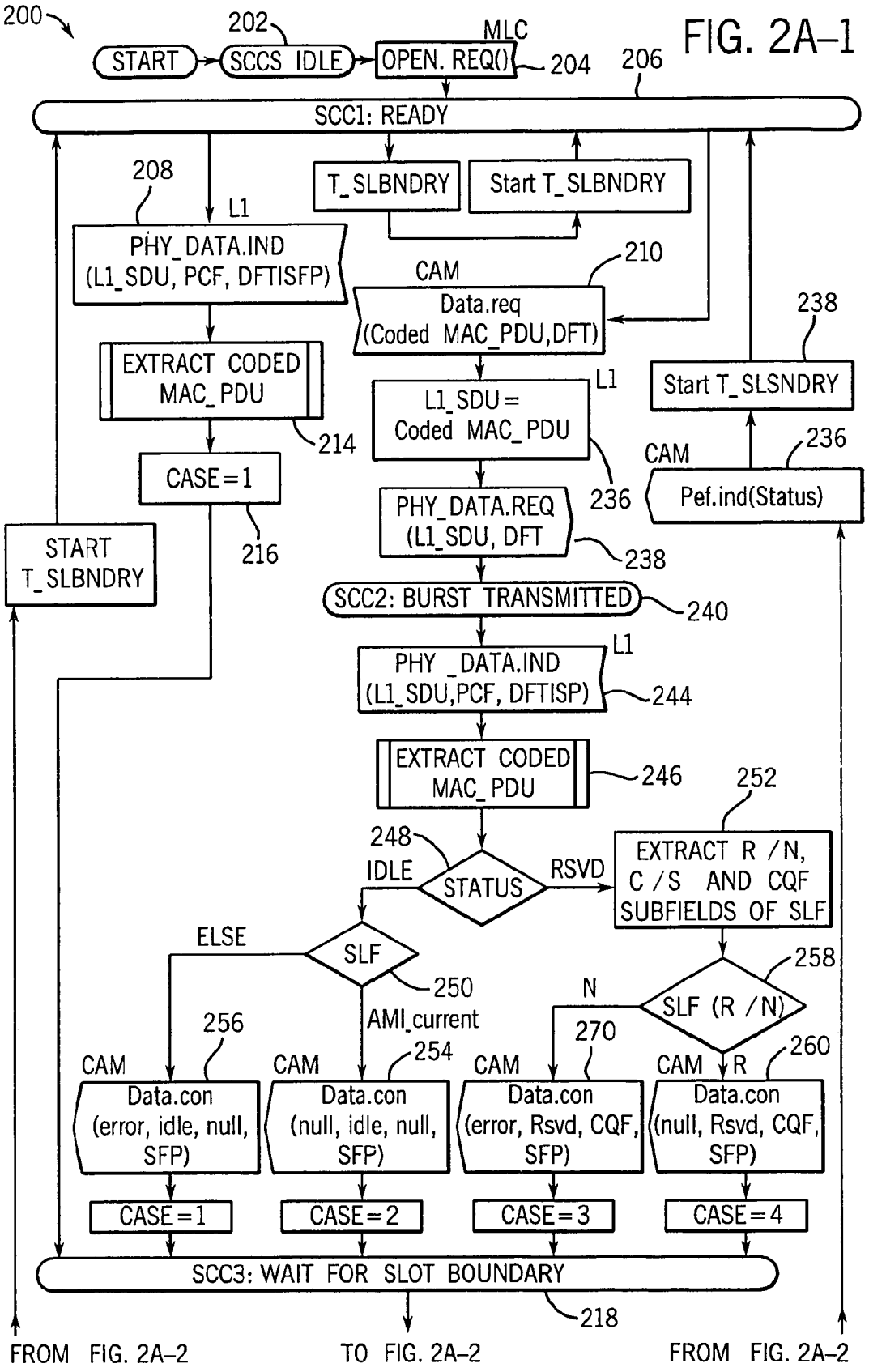

FIG. 2A–1

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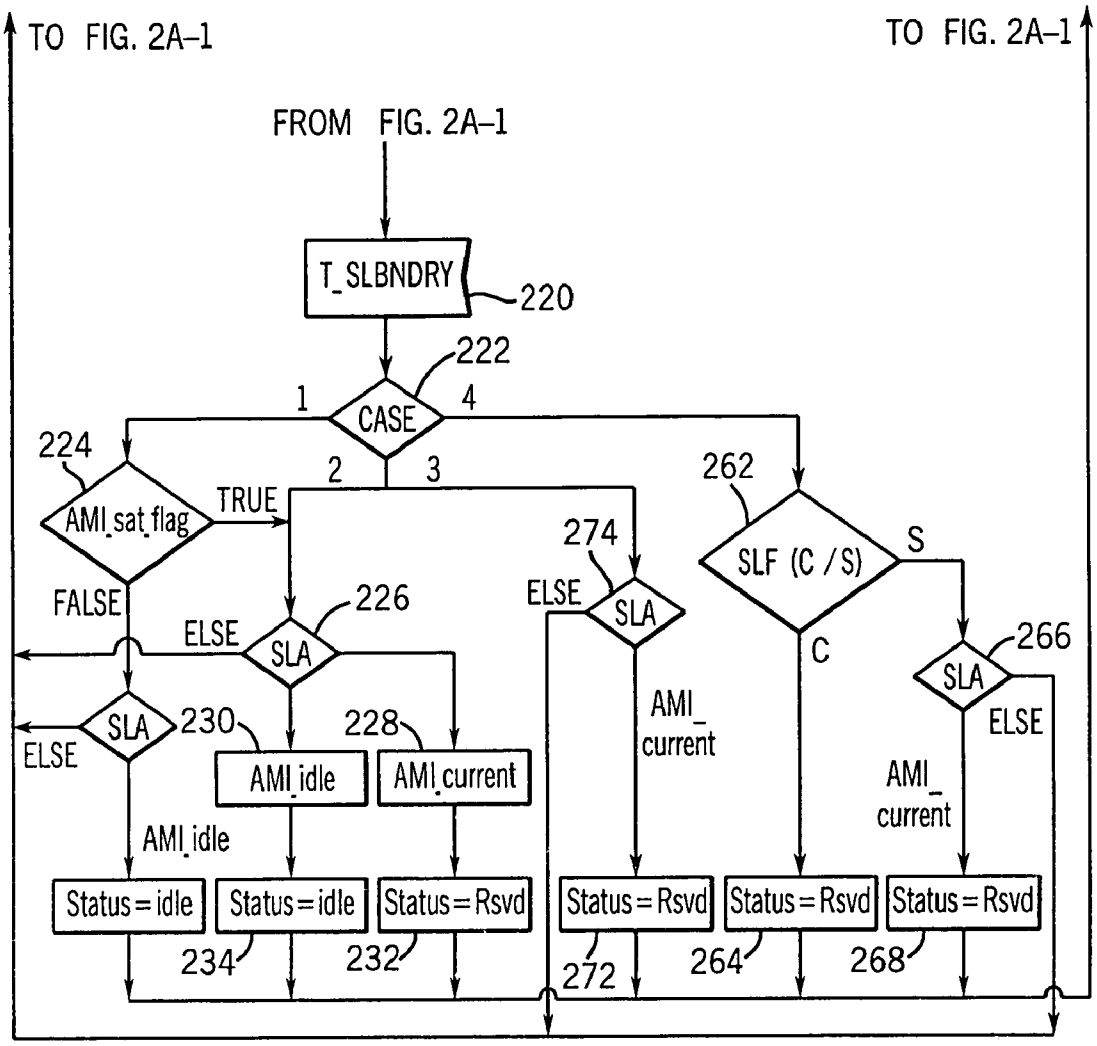

FIG. 2A–2

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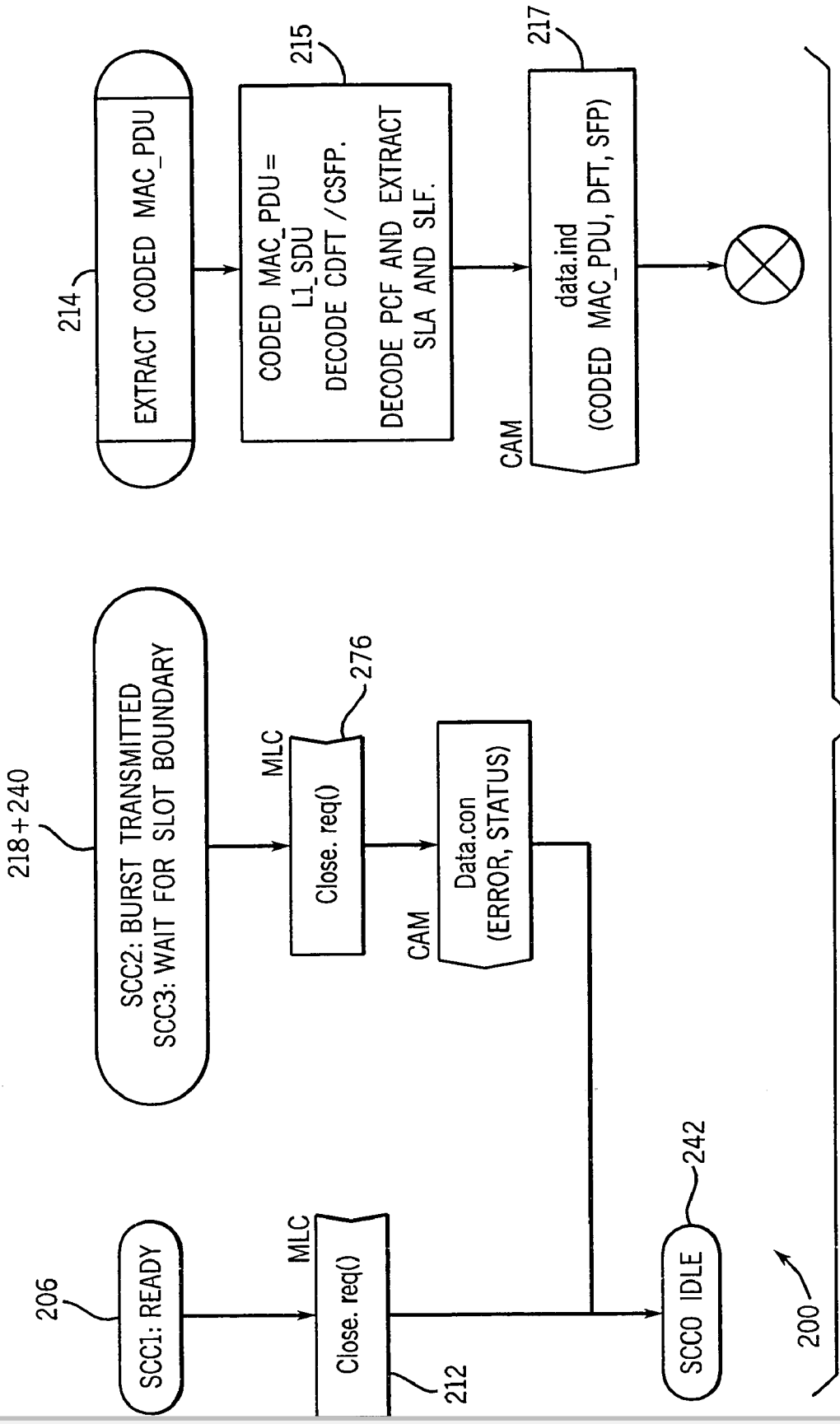

FIG. 2B

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