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Chen et al.

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(54) **BASEBAND PROCESSORS, MOBILE TERMINALS, BASE STATIONS AND METHODS AND SYSTEMS FOR DECODING A PUNCTURED CODED RECEIVED SIGNAL USING ESTIMATES OF PUNCTURED BITS**

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\* cited by examiner

Primary Examiner—Khair Tran

(74) *Attorney, Agent, or Firm*—Myers Bigel Sibley & Sajovec

(75) Inventors: **Dayong Chen**, Cary, NC (US); **Evin Feli**, Cary, NC (US)

(73) Assignee: **Ericsson Inc.**, Research Triangle Park, NC (US)

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(21) Appl. No.: **09/612,713**

(22) Filed: **Jul. 10, 2000**

(51) **Int. Cl.**<sup>7</sup> ..... **H04L 27/06**; H03M 13/03

(52) **U.S. Cl.** ..... **375/340**; 714/790

(58) **Field of Search** ..... 375/340, 341, 375/316; 714/794, 786, 790, 795, 799

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(57) **ABSTRACT**

Methods, systems, baseband processors, mobile terminals and base stations are provided for decoding a punctured coded signal are provided. The signal is received to provide received symbols. Symbol positions associated with punctured locations are initialized to default symbol values. The received symbols and the default symbol values are error correction decoded to provide first signal estimates. Punctured location symbol estimates are generated based on the first signal estimates and the received symbols are combined with the punctured location symbol estimates placed in corresponding punctured locations. The combined received symbols with the punctured location symbol estimates are error correction decoded to provide second signal estimates.

**28 Claims, 6 Drawing Sheets**

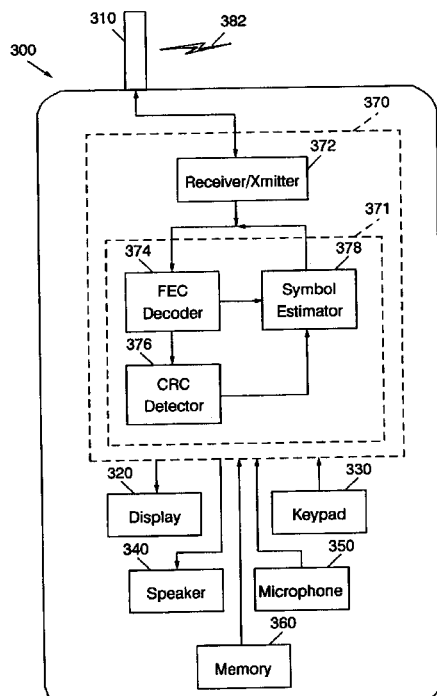


FIG. 1  
PRIOR ART

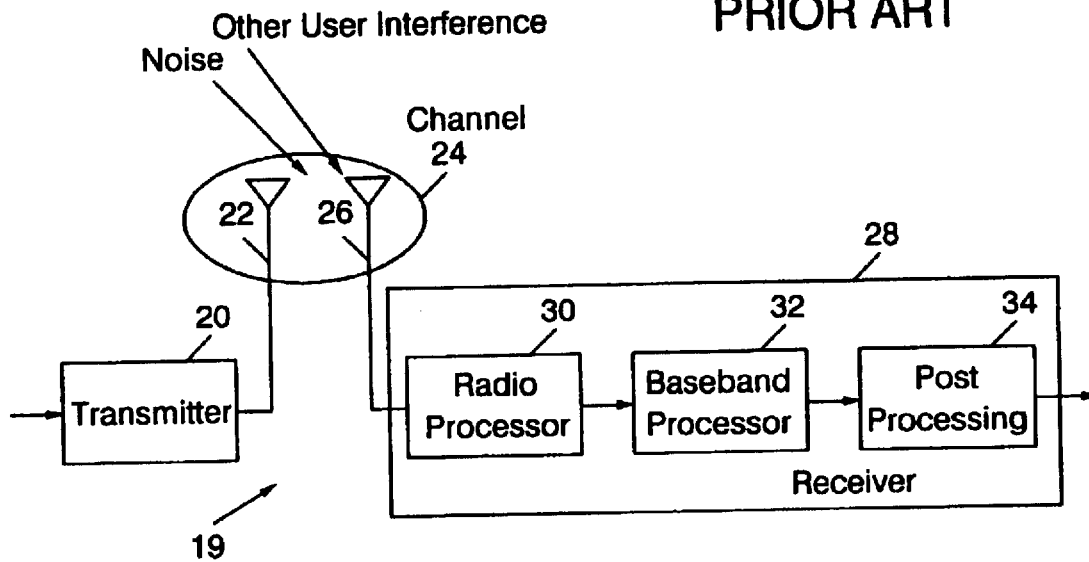


FIG. 2  
PRIOR ART

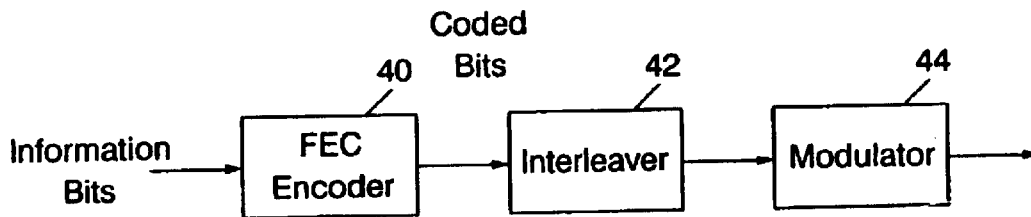


FIG. 3  
PRIOR ART

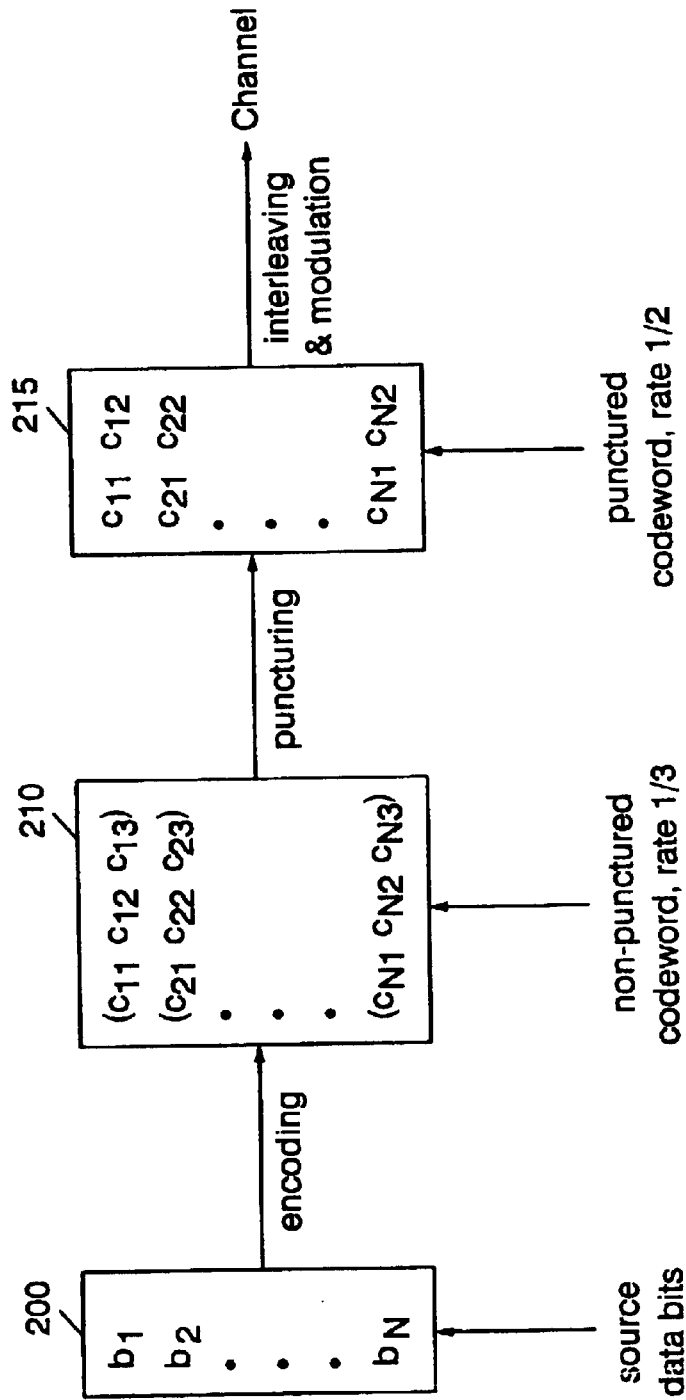
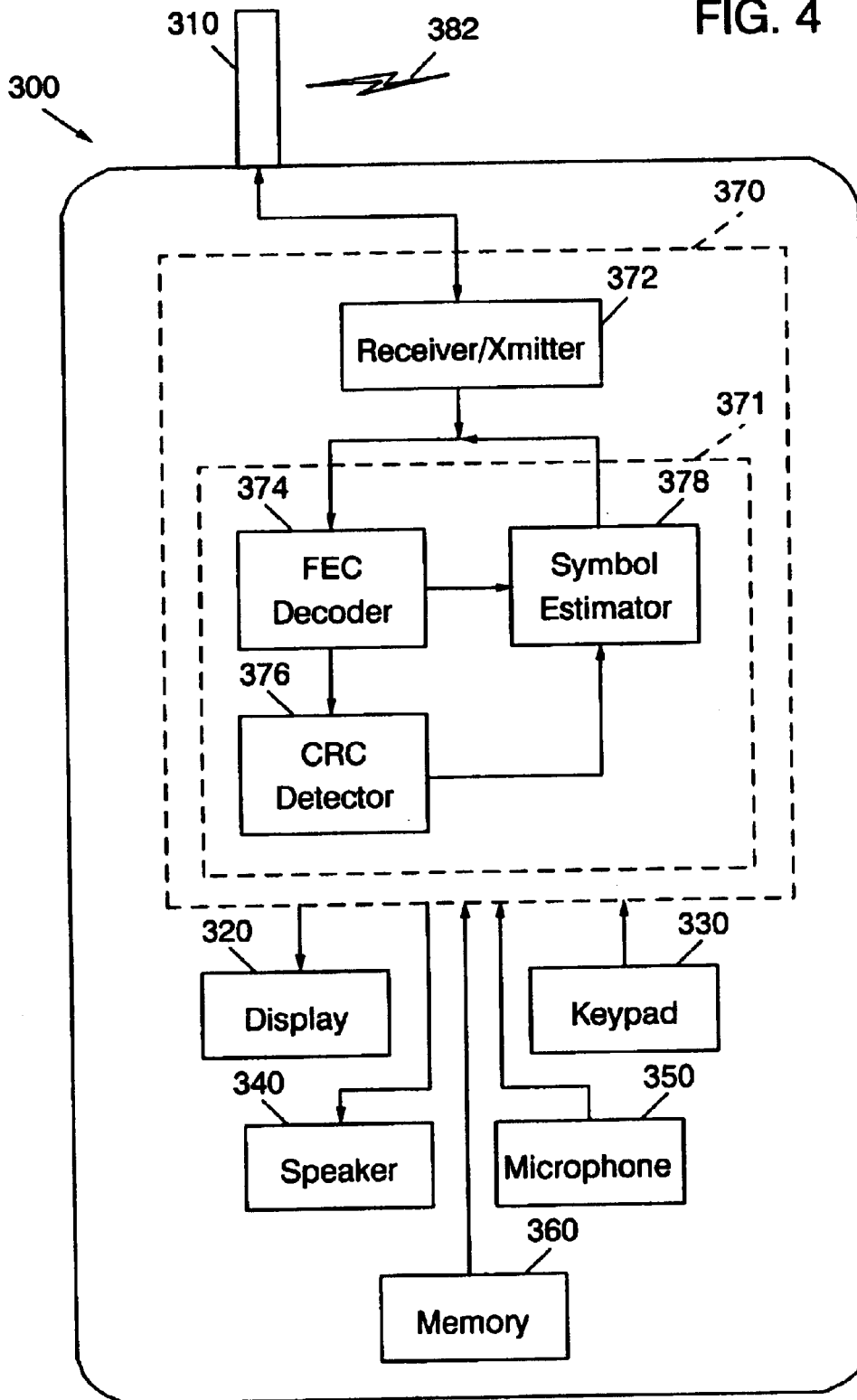
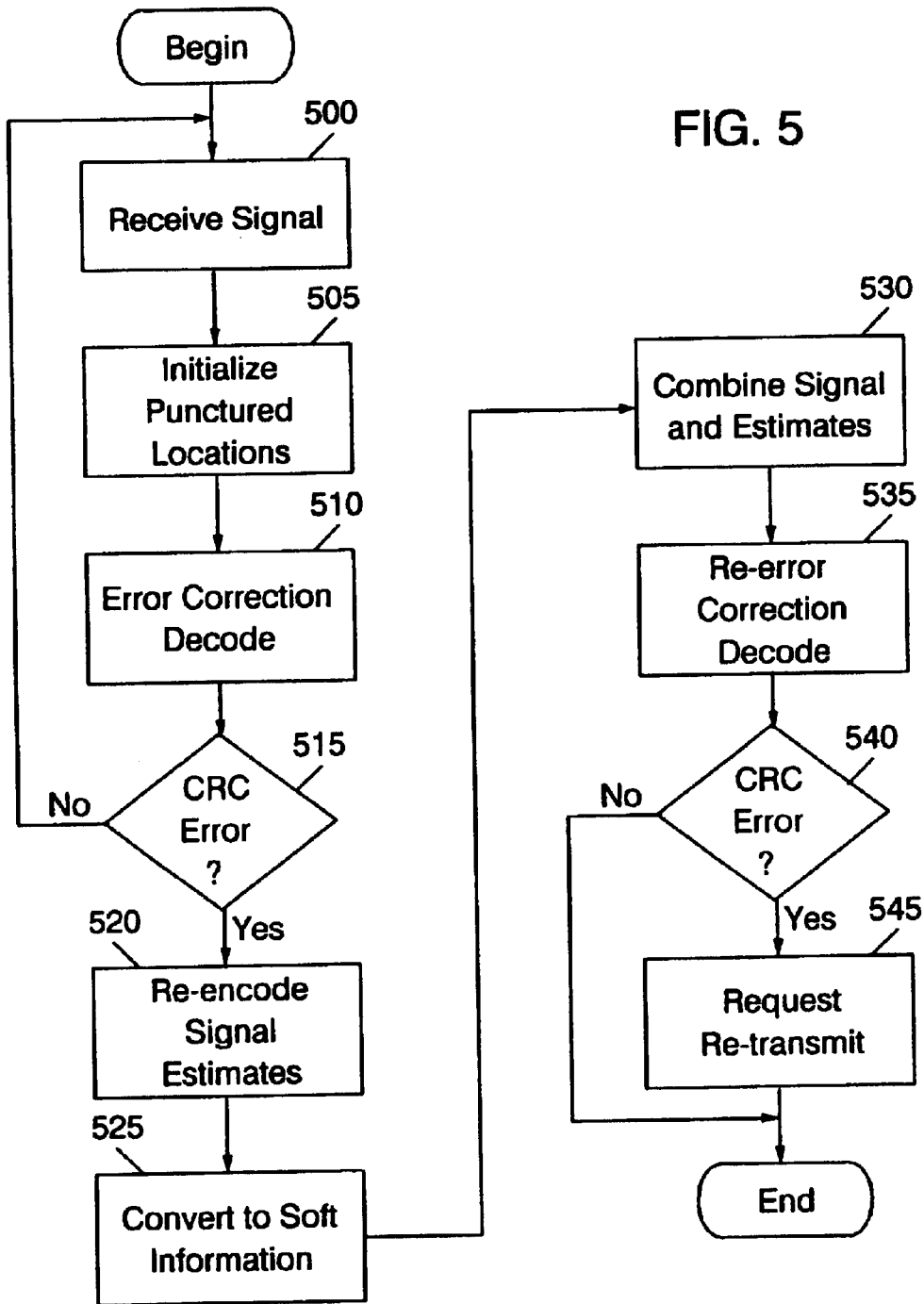


FIG. 4





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