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12/612,674 4 November 2009 (04.11.2009) US(71) Applicants (for all designated States except US): **ALCATEL-LUCENT USA INC.** [US/US]; 600-700 Mountain Avenue, Murray Hill, NJ 07974-0636 (US). **ALCATEL-LUCENT DEUTSCHLAND** [DE/DE]; Thurn-und-Taxis-Strasse 10, 90411 Nuernberg (DE).

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(54) Title: METHOD AND APPARATUS FOR ERROR DETECTION IN A COMMUNICATION SYSTEM

FIG. 1A

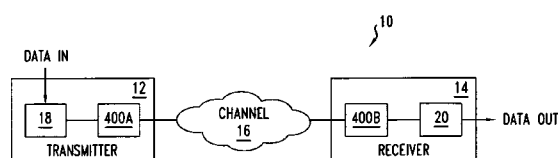
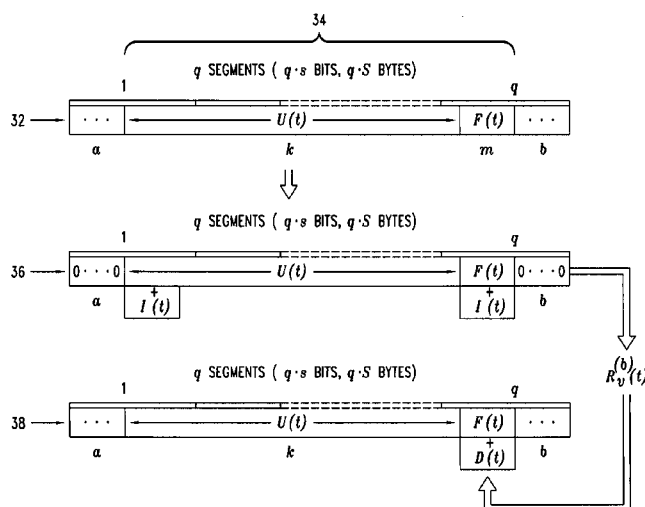


FIG. 1B



(57) **Abstract:** A method processes a data packet in a first sequence of disjoint original segments of the same length. The method includes modifying a first of the original segments of the first sequence by modifying one or more symbols therein. A start of the data packet is located in the first of the original segments and is positioned after a first digital data symbol therein. The method also includes modifying a last of the original segments of the first sequence by modifying one or more digital data symbols therein. An end of the data packet is located in the last of the original segments and is located before the last digital data symbol therein. The method also includes determining a remainder sequence by effectively performing a polynomial division on a second sequence of disjoint segments that are derived from the first sequence. Each segment of the second sequence corresponds to and is derived from one of the original segments of the first sequence. The segments of the second sequence have the length of the original segments of the first sequence. A first of the derived segments of the second sequence is the modified first of the original segments. A last of the derived segments of the second sequence is derived from the modified last of the original segments.



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