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(54) Title: SYSTEM AND METHOD FOR FORWARD ERROR CORRECTION IN SATELLITE DATA NETWORKS

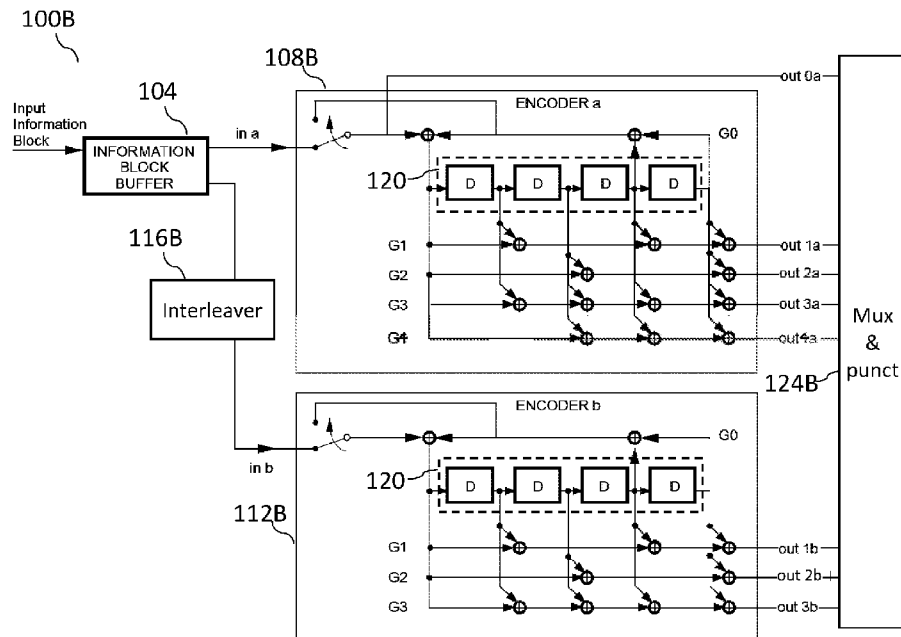


Fig. 1B

(57) Abstract: A turbo encoder intended for use in earth stations communicating through data networks where Successive Interference Cancellation ( SIC ) multiple access to Low Earth Orbit ( LEO ) satellites is employed. The disclosed turbo encoder constitutes an enhancement to code rate 1 / 8 of a known in the art code rate 1 / 6 turbo encoder that comprises two recursive convolutional encoders, an encoder a and an encoder b. The enhancement is achieved by adding two recursive convolutional encoder forward connection vectors to the code rate 1 / 6 turbo encoder as follows : adding forward connection vector G4 10111 to either encoder a or encoder b; and adding forward connection vector G2 10101 to encoder b.



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**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC - INV. G11B 20/18, H03M 13/00, H03M 13/03 (2024.01)  
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According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
 See Search History document

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
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**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	Lohith Kumar et al. "Design and Performance analysis of a 3GPP LTE/LTE-Advance turbo decoder using software reference models", International Journal of Scientific & Engineering Research Volume 2, Issue 7, July-2011, <Retrived from the Internet: <a href="https://www.ijser.org/researchpaper/design_and_performance_analysis_of_a_3gpp_lte_lte-advance_turbo_decoder_using_software_reference_models.pdf">https://www.ijser.org/researchpaper/design_and_performance_analysis_of_a_3gpp_lte_lte-advance_turbo_decoder_using_software_reference_models.pdf</a> > <Retrieved on: 11 October 2024 (11.10.2024) > <Published on: July 2011 (07.2011) > entire document, especially: fig. 1; abstract, pp 1 left column first para, pp 2 left column	1-4
A	US 2022/0158810 A1 (SONY GROUP CORPORATION) 19 May 2022 (19.05.2022) entire document, especially: para [0178], [0179], [0229], [0298]	1-4
A	US 2022/0109622 A1 (Intel Corporation) 07 April 2022 (07.04.2022) entire document	1-4
A	US 2017/0264394 A1 (Huawei Technologies Co., Ltd.) 14 September 2017 (14.09.2017) entire document	1-4
A	US 2022/0337341 A1 (NEC CORPORATION et al.) 20 October 2022 (20.10.2022) entire document	1-4

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