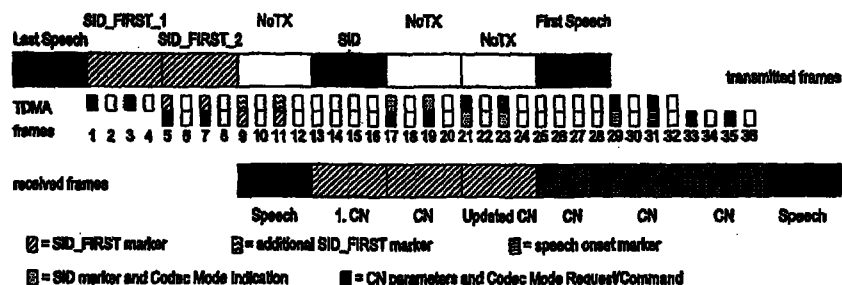




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(54) Title: EFFICIENT IN-BAND SIGNALING FOR DISCONTINUOUS TRANSMISSION AND CONFIGURATION CHANGES IN ADAPTIVE MULTI-RATE COMMUNICATIONS SYSTEMS



(57) Abstract

Techniques for discontinuous transmission (DTX) and fast in-band signaling of configuration changes and protocol messages in speech communications systems provide cost efficiency in terms of radio transmission capacity, in terms of fixed line transmission, and in terms of implementation effort. An exemplary method for performing discontinuous transmission (DTX) in a communications system in which source data is interleaved for transmission from a first component in the system to a second component in the system includes the steps of detecting periods of source data inactivity, and transmitting silence descriptor (SID) frames from the first to the second component during the periods of source data inactivity, certain of the transmitted SID frames being interleaved using a different interleaving algorithm as compared to that used for source data. For example, the source data can be block diagonally interleaved, and certain of the SID frames can be block interleaved. An exemplary method for effecting configuration changes in a communications system includes the step of transmitting an escape frame in place of a speech data frame, the escape frame including a gross bit pattern to distinguish the escape frame from speech data frames and conveying a configuration change indication. The escape frame can further include a data field to indicate a particular configuration change to be made. For example, where the communications system is an AMR system, an escape frame can be used to change an active codec mode set. Alternatively, an escape frame can be used to change a phase of codec information.