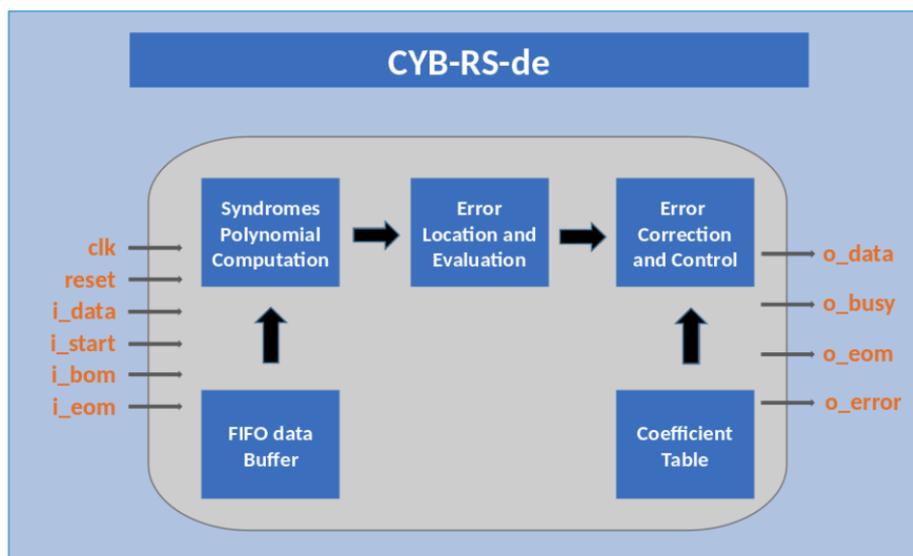


Overview of Reed Solomon Decoder IP



CYB-RS-de core implements the Reed Solomon decoding algorithm and is parameterized in terms of bits per symbol, maximum codeword length and maximum number of parity symbols. Reed-Solomon codes are well suited for burst error correction and are frequently used as outer codes in communication systems.

Redundancy code is inserted in the transmitted information bit-stream. This redundant information is used in the decoder to eliminate the channel noise. The error correction capability of a FEC system is strongly depended on the amount of redundancy as well as on the coding algorithm itself. The Reed-Solomon decoder receives an N symbol codeword consisting of a K symbol information block appended with $2T$ parity symbols, locates and corrects up to T possible symbol errors (generally called as RS(N,K) code).

Feature

- Parameterizable bits per symbol
- Programmable codeword length
- Programmable number of errors
- User configured primitive field polynomial
- User configured generator polynomial

Deliverable

- Flexible licensing
- Documentation
- Netlist
- Verilog or VHDL
- Technical support

Application

- Digital Video Broadcast (DVB)
- Digital Satellite Broadcast
- ADSL Transceivers
- Wireless Broadband Systems
- Data Storage and Retrieval Systems (e.g. CD-ROM, DVD, Compact Flash)