

DVB-C2 (Digital Video Broadcast - Cable 2nd Generation) is an ETSI standard of the second generation for digital data transmission via cable networks. It complements the existing standards DVB-S2 and DVB-T2 for satellite and terrestrial communication and offers a capacity-approaching coding scheme.

The Creonic DVB-C2 IP core integrates the forward error correction as defined by the standard (including LDPC and BCH decoder).

## Benefits

- Soft-Decision demapper, block deinterleaver, LDPC decoder, BCH decoder, and descrambler included.
- Based on industry-proven design for DVB-S2.
- Low-power and low-complexity design.
- Burst-to-burst on-the-fly configuration.
- Design-time configuration of throughput for optimal resource utilization.
- Faster convergence due to layered LDPC decoder architecture.
- Early stopping criterion for iterative LDPC decoder, saving a considerable amount of energy.
- Configurable amount of LDPC decoding iterations for trading-off throughput and error correction performance.
- Collection of statistic information (number of modified information bits, number of iterations, decode success).
- Available for ASIC and FPGAs (Xilinx, Altera).

## Deliverables

- VHDL source code or synthesized netlist
- HDL simulation models e.g. for Aldec's Riviera-PRO
- VHDL or SystemC testbench
- bit-accurate Matlab, C or C++ software model
- software model of corresponding transmitter part
- comprehensive documentation



## Features

- Compliant with ETSI 302 769 V1.2.1 (2011-04) (DVB-C2)
- Support for short and long blocks (16,200 bits and 64,800 bits)
- Support for decoding of L1 signalling part 2 data
- Support for all modulation schemes (16-QAM, 64-QAM, 256-QAM, 1024-QAM, 4096-QAM)
- Support for all interleaving schemes of all modulation schemes
- Support for all LDPC and BCH codes as defined by the standard

## Applications

- Digital Video Broadcasting in cable networks
- Further applications with highest demands on forward error correction
- Applications with high signal-to-noise ratios
- Applications with the need for high code rates (2/3 to 9/10)

## Related Products

[DVB-S2 LDPC/BCH Encoder and Decoder](#)

[DVB-RCS2 Turbo Decoder](#)

[GEO-Mobile Radio LDPC Decoder](#)

[WiMedia 1.5 UWB LDPC Decoder](#)

[802.11n/ac LDPC Decoder](#)

## About Creonic

Creonic is an ISO 9001:2008 certified provider of ready-for-use IP cores for several algorithms of communications such as forward error correction (LDPC and Turbo coding), synchronization, and MIMO. The company offers the richest product portfolio in this field, covering standards like DVB-S2X, LTE-A, DVB-RCS2, DOCSIS 3.1, CCSDS, WiFi, WiGig, and UWB. The products are applicable for ASIC and FPGA technology and comply with the highest requirements with respect to quality and performance. For more information, please visit [www.creonic.com](http://www.creonic.com).

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