



# MPEG-2 HD DECODER

Simple. Effective. Robust.

1080p60. 4:2:2. 8-bit.

## OVERVIEW

The MPEG-2 Decoder Core is a high performance and high quality solution video decompression engine targeted primarily at FPGAs. It is compliant with ISO/IEC 13818-2 (H.262) standards.

The decoder design is fully autonomous and does not require any external processor to aid the decode operation. The IO interface comprises of an input FIFO and an output frame buffer. Decoded data can also be provided on a serial bus with embedded sync information. The decoder requires single external DDR SDRAM to store reference pictures.

The decoder solution is available either as a FPGA netlist or in source code format and can be customized to meet the requirements of end users.

## KEY FEATURES

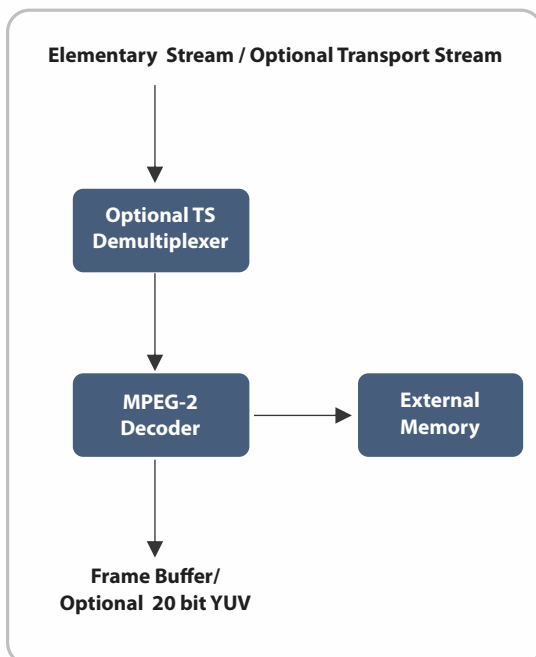
- Fully standards compliant - tested with ITU-T & other industry standard test suites
- Robust error handling, resilience & concealment.
- Processes metadata related to closed captions & AFD.
- Seamless switching between streams encoded with different settings including different resolutions, chroma formats and bit depths
- Single chip solution with no processor requirement
- Supports progressive and interlaced formats
- Easy to integrate and hence faster time-to-market
- Low resource utilization

## FPGA RESOURCES

FPGA	LUTs	BRAMs	DSPs
Kintex Ultrascale	9,000	42.5	65

- 1920 x 1080p60, 422, 8-bit, 100 mbps decoder
- Does not include memory controller, display controller and TS demultiplexer

## BLOCK DIAGRAM



## SPECIFICATIONS

<b>Standard:</b>	ISO/IEC 13818-2 (H.262)
<b>Profiles:</b>	Simple, Main and 4:2:2
<b>Video Resolutions:</b>	Up to 1920 x 1080
<b>Frame Rate:</b>	Up to 60 fps
<b>Bit rate:</b>	100Mbps
<b>Chroma Format:</b>	Monochrome, 4:2:0 & 4:2:2
<b>Precision:</b>	8 bits
<b>Input Format:</b>	Elementary or Transport stream
<b>Output Format:</b>	Decoded pictures in frame buffer. Optional serial output with embedded sync information
<b>FPGA:</b>	Xilinx Kintex Ultrascale, Kintex-7, Artix-7, Virtex-6 and Spartan-6.
	Altera devices are also supported. Contact us for the information.

## DELIVERABLES

- Source Code or Netlist
- Simulation Model
- Hardware Test Platform
- Build Scripts
- Test Reports
- User Manual
- Design Documentation
- Constraint Files
- Test Benches
- Support for one year

## APPLICATIONS

BROADCAST



VIDEO / PAYOUT SERVERS



HIGH END CONSUMER ELECTRONICS



AEROSPACE AND DEFENSE



TEST & MEASUREMENT EQUIPMENTS



MEDICAL



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