

# XS5031: Single-Channel Coaxial Encoding & Transmission Chip



XS5031 is a high-performance single-channel HDCVI encoding and transmission chip. It supports BT1120/BT656 digital video input with a maximum resolution of 4K@15fps. The chip integrates a 12-bit video DAC, driver Buffer, and comparator, simplifying PCB design and reducing BOM costs. It is fully compatible with HDCVI/AHD/TVI/CVBS multi-standard analog output and integrates I2S audio processing, enabling composite transmission of video, bidirectional audio, and coaxial control signals over a single coaxial cable. It is widely used in in-vehicle surround view cameras, streaming rearview mirror cameras, and security coaxial cameras.

## 01 Video Input

- Supports BT1120 interface, max frequency 148.5MHz
- Supports BT656 interface, single/double edge sampling, max frequency 148.5MHz
- Max input up to 4K@15fps resolution

## 02 Video Output

- Supports 960H output
- Supports high definition HDCVI/AHD/TVI output
- Supports output formats 720P25/30, 1080P25/30, 4M25/30, 5M10/12.5/20/25, 4K12.5/15

## 03 Audio

- Integrated I2S audio interface(master/slave mode configurable)
- I2S\_IN and I2S\_OUT share a common BCLK and LRCK
- Supports 8K/16K sample rates, 16-bit bit depth
- Supports mono mode with selectable left/right channel

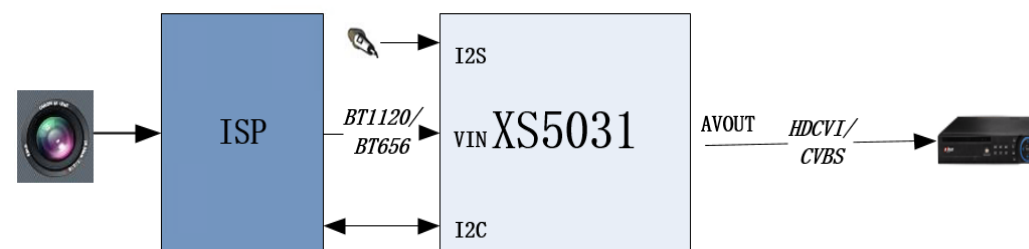
## 04 Interface

- 1x I2C interface (100K/400K/1Mbps)
- 1x Interrupt output (INT)
- 1x comparator
- 12-bit video DAC , Driver Buffer

## 05 Package

- QFN5x5 40-pin , 0.4mm pitch

## Typical Application Scenario



## Functional Block Diagram

