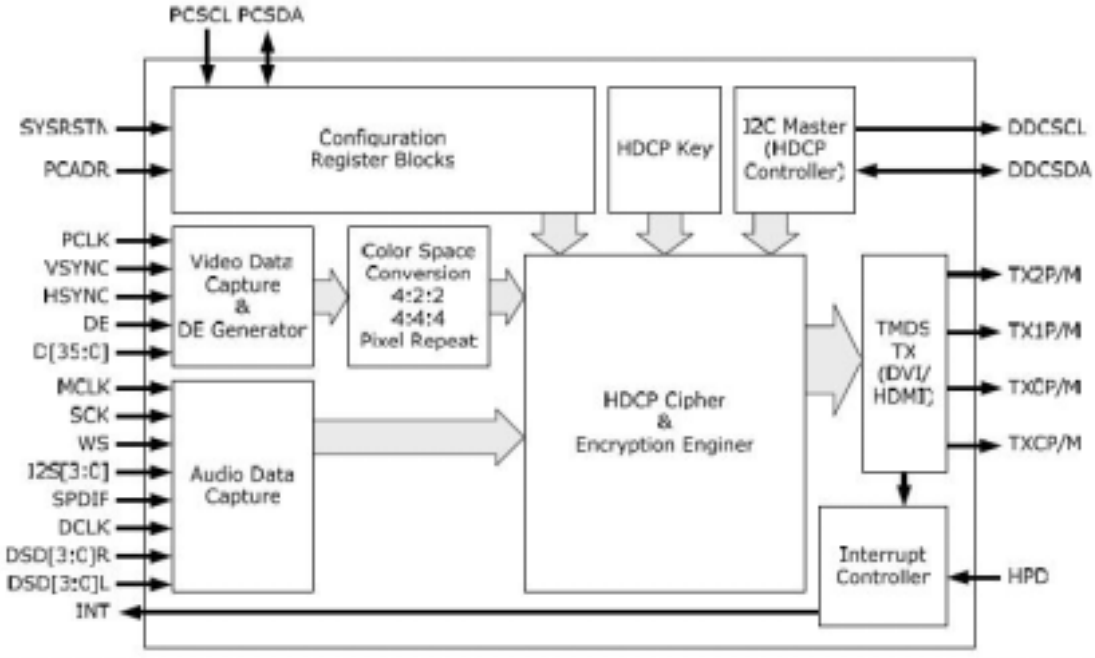
CAT6613–HDMI 1.3 Transmitter

CAT6613 is a high-performance HDMI 1.3 transmitter, fully compliant with HDMI 1.3, HDCP 1.2 and backward compatible to DVI 1.0 specifications. The CAT6613 supports color depth of up to 36 bits (12 bits/color and ensures robust transmission of high-quality uncompressed video content, along with state-of-the-art umcompressed and compressed digital audio content such as DTS-HD and Dolby TrueHD in DVD/HD-DVD/Bluray players and settop boxes.

Aside from the various video output formats supported, the CAT6613 also encodes and transimits up to 8 channels of I2S digital audio, with sampling rate up to 192kHz and sample size up to 24 bits. In addition, an S/PDIF input port takes in compresed audio of up to 192kHz sampling rate, while Super Audio Compact Disc (SACD) is supported through dedicated DSD ports (Direct Stream Digital ports) at up to 88.2kHz one-bit audio.

The newly supported High-Bit-Rate(HBR) audio by HDMI Specifications v1.3 is provided by the CAT6613 in two inerfaces: with the four I2S input ports of the S/PDIF input port. With both interfaces the highest possible HBR frame rate is supported at up to 768kHz.

Each CAT6613 chip comes preporgrammed with an unique HDCP key, in compliance witht he HDCP 1.2 standard so as to provide secure transimission of high-definition content. Users of the CAT6613 need not purchase an HDCP keys or ROMs.



Features

1.HDMI 1.3 transmitter
2.Compliant with HDMI 1.3, HDCP 1.2 and DVI 1.0 specifications
3.Supporting links speeds of up to 2.25Gbps (link clock rat of 225MHz).
4.Various video input interface supporting digital video standards such as:

a.24/30/36-bit RGB/YCbCr 4:4:4

b.16/20/24-bit YCbCr 4:2:2

c.8/10/12-bit YCbCr 4:2:2 (CCIR-656)

d.12/15/18-bit double data rate interface (data bus width halved, clocked with both rising and falling edges) for RGB/YCbCr 4:4:4

e.36-bit double data rate interface (full bus width halved, clocked with both rising and fall edges)

5.Bi-direction Color Space Conversion (CSC) between RGB and YCbCr color spaces with programmable coefficients.

6.Up/down sampling between YCbCr 4:4:4 and YCbCr 4:2:2

7.Dithering for conversion from 12-bit/10-bit component and 8-bit

8.Supoorting Gammat Metadata packet

9.Digital audio input interface supporting

a.up to four I2S interface supporting 8-channel audio ,with sample rates of32~192 kHz and sample sizes of 16~24bits

b.S/PDIF interface supporting PCM, Dolby Digital, DTS digital audio transmission at up to 192kHz frame rate

c.Support for high-bit-rate (HBR) audio such as DTS-HD and Dolby TrueHD through the four I2S interface or the S/PDIF interface, with frame rates as high as 768kHz

d.Supports for 8-channel DSD audio through dedicated inputs

e.Compatible with IEC 60958 and IEC 61937

f.Audio down-sampling of 2X and 4X

10.Software programmable, auto-calibrated TMDS source terminations provide for optimal source signal quality

11.Soft programmable HDMI output current level

12.MCLK input is optional for audio operation. Users could opt to implement audio input interface with or without MCLK.

13.Integrated pre-programmed HDCP keys

14.Purely hardware HDCP engine increasing the robustness and security of HDCP operation

15.Monitor detection through Hot Plug Detection and Receiver Termination Detection

16.Embedded full-function pattern generator

17.Intelligent, programmable power management

18.100-pin LQFP package

Applications

1.DVD Players, Blu-ray & HD-DVD player

2.Set-Top Box

3.HDMI Repeaters & Splitt