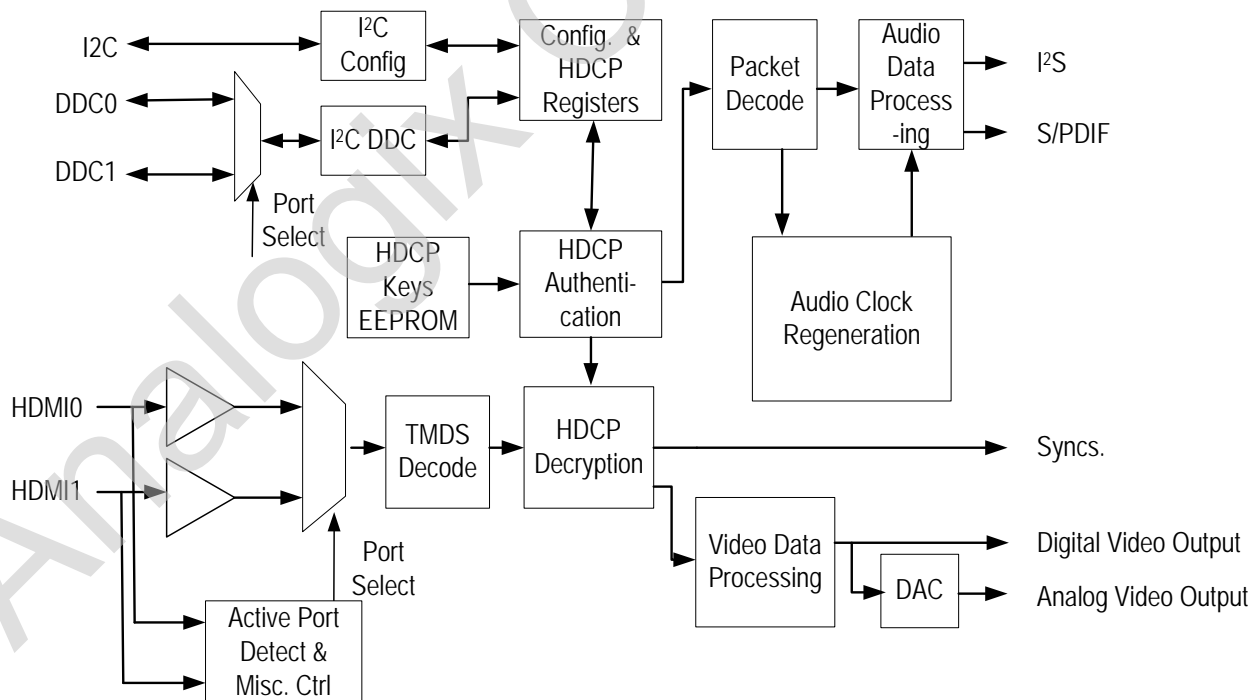


Dual-Channel HDMI Receiver with WideEye Equalization

FEATURES

- Dual HDMI receiver supporting link data rate up to 165 Mpixel/s
- HDMI 1.2, HDCP 1.1 and DVI 1.0 compliant
- WideEye architecture for signal conditioning and equalization
 - supports cable length up to 20m
 - better than 10E-12 bit error rate
- Digital interface to video processor supporting
 - 24-bit RGB / YCbCr 4:4:4
 - 16/20/24 bit YCbCr 4:2:2
 - 8/10/12 bit YCbCr 4:2:2 (ITU BT-656)
 - 12/24-bit double data rate interface
- Color space conversion: RGB to/from YCbCr both directions (601 and 709 standards)
- Auto video mode configuration
- Analog RGB/YPbPr output with 8-bit linearity
- Digital audio interface
 - 32 to 192 kHz audio sampling rate
 - Up to 4 I²S interface for 8-channel audio
 - S/PDIF interface supporting PCM, Dolby Digital™, DTS™ digital audio transmission using IEC 60958 and IEC 61937
- Configurable soft mute
- Integrated HDCP decryption engine and pre-programmed keys
- Programmable power management with automatic shutdown for power conservation
- 144-pin TQFP package supporting lead-free and green requirements
- Footprint compatible with Silicon Image SiI9021/9031



Overview

The ANX9021 is an advanced multimedia receiver compliant with High Definition Multimedia Interface (HDMI) Specification 1.2. HDMI is the first transport standard to unify digital video, audio, and control data over low-cost cables. It connects digital television, flat panel displays and project systems digitally to multimedia sources: DVD players, high definition set-top boxes, digital video tape recorders, and personal computers. Digital transmission, in turn, delivers an uncompromising multimedia experience. HDMI also includes encryption for premium contents pursuant to the High-bandwidth Digital Content Protection (HDCP) standard. The ANX9021 embeds the HDCP keys and key selection vectors to reduce manufacturing complexity and system cost.

ANX9021 receives two HDMI data streams and decodes the selected input into digital audio and video data outputs. The receiver incorporates Analogix' proprietary WideEye™ architecture, which has received considerable industry acclaim when introduced in Analogix' 6.25 Gbps SerDes products for telecom and datacom applications. Applying the same advanced techniques in the ANX9021 product enables display systems to achieve error-free HDMI reception over inexpensive cables up to 20 meters long, without additional SerDes equalizer settings, and assures the widest range of interoperability against uncertain qualities of cheap cables from low-cost suppliers as the standard matures. Cables lengths of 40m or greater can be supported with the appropriate setting of the internal SerDes equalizer.

The ANX9021 can receive and output up to eight digital audio channels at up to 192 kHz sampling rate, making it the leading component for integrated home theaters and high definition televisions. The device supports direct connections to a wide selection of audio DACs through industry-standard I²S or S/PDIF interfaces.

The ANX9021 receiver is offered in 144-pin TQFP lead-free packages. For applications that require only a single HDMI input, designers should consider the ANX9011 product.

Related Products

Product Part Number	Description
ANX9021-EV	Dual-channel HDMI receiver evaluation kit
ANX9021	Dual-channel HDMI receiver (144-pin TQFP)
ANX9011L	Single-channel HDMI receiver device (128-pin LQFP package)
ANX9011T	Single-channel HDMI receiver (144-pin TQFP package)
ANX90199-IP	HDMI receiver IP license
ANX9301	HDMI Transmitter (80 pin TQFP package)