

NS5531 HD Video Receiver

Introduction

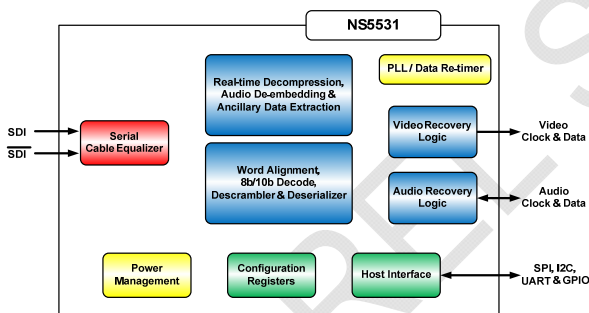
NS5531 is a SD and HD video receiver supporting Advanced Video Transport (AVT) technology with visually lossless digital video compression. It also supports uncompressed video transmission and is compatible with SMPTE SD-SDI, HD-SDI. NS5531 supports most VESA and HDTV video formats up to HD 1080p50/60.

NS5531 employs Norelsys' advanced video compression technologies and can extend the reach of HD video over UTP or coaxial cable at a serial data rate configurable from 135Mbps to 1.485Gbps.

NS5531 employs Norelsys' serial data adaptation engine which automatically adjusts data equalization based on cable quality and cable length. A programmable Reed-Solomon decoder block is implemented for increased reliability.

NS5531 provides channels for forward and backward audio transmission. NS5531 also provides data channels for the transmission of I2C, UART, IR and PS2 signals on both forward and backward directions.

Block Diagram



Applications

- HDMI and DisplayPort video extension
- KVM video and control transmission
- Zero-client remote terminals

Features

- Serial data rate: configurable from 135Mbps to 1.485Gbps.
- Supported video formats without compression:
 - SD 525i/625i, HD 720p 24/25/30/50/60, HD 1080i 50/60, HD 1080p 24/25/30
 - Compatible with SMPTE SD-SDI, HD-SDI.
- Supported video formats with compression:
 - 720x576p50, 720x480p60, 640x480p60/75, 800x600p60/75, 1024x768p60/75, 1280x800p60, 1280x1024p60, 1440x900p60, 1680x1050p60, 1280x720p25/30/50/60, 1920x1080p25/30/50/60
- Supported cable types:
 - Single-ended 75-3/75-5/75-7 coaxial cable
 - CAT6/CAT5/CAT5e Ethernet cable
 - Twisted pair cable such as telephone cable
- Supported pixel interface formats:
 - BT.656, BT.1120, CEA-861
 - 8-bit or 16-bit, up to 148.5MHz SDR
 - RGB 4:4:4 (uncompressed video) or YCbCr 4:2:2
- 4-channel forward audio up to 96KHz sample rate and 1-channel backward audio at 8KHz sample rate, I2S and SPDIF interfaces.
- Optional transparent data channels for forward and backward transmission of I2C, UART, IR, and PS2.
- Norelsys' advanced low-delay video compression technologies.
- Norelsys' advanced serial data adaptation engine.
- Programmable Reed-Solomon decoder.
- Ancillary (ANC) data detection and extraction.
- Support IEC 13818-1 compliant transport streams over the Asynchronous Serial Interface (ASI).
- Dedicated SPI / I2C / UART interfaces and Multi-GPIOs.
- Dedicated DDC port.
- 1.2V core and 1.8/2.7/3.3V selectable I/O power supply.
- HBM ±8KV on serial pins.
- QFN64 8x8 package.

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