

NS5530 HD Video Transmitter

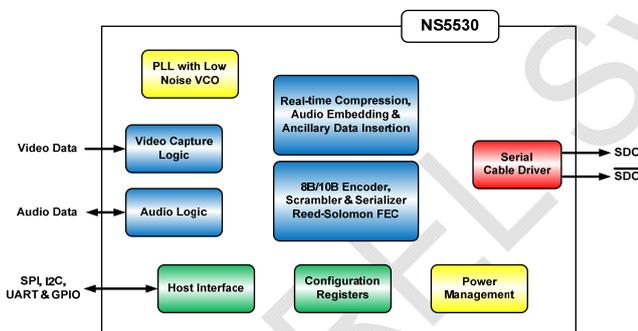
Introduction

NS5530 is a long reach SD and HD video transmitters 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 and 3G-SDI. NS5530 supports most VESA and HDTV video formats up to HD 1080p50/60.

NS5530 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 2.97Gbps. A programmable Reed-Solomon FEC block is implemented for increased reliability.

NS5530 provides channels for forward and backward audio transmission. NS5530 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 video transmitter

Features

- Serial data rate: configurable from 135Mbps to 2.97Gbps
- Supported video formats without compression:
 - SD 525i/625i, HD 720p 24/25/30/50/60, HD 1080i 50/60, HD 1080p 24/25/30/50/60
 - Compatible with SMPTE SD-SDI, HD-SDI, 3G-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.
- Programmable Reed-Solomon FEC.
- Asynchronous Serial Interface (ASI) for transmission of IEC 13818-1 compliant transport streams.
- 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 $\pm 8KV$ on serial pins.
- QFN64 8x8 package.

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