

NS2520/NS2530 HD Video Transmitter

Introduction

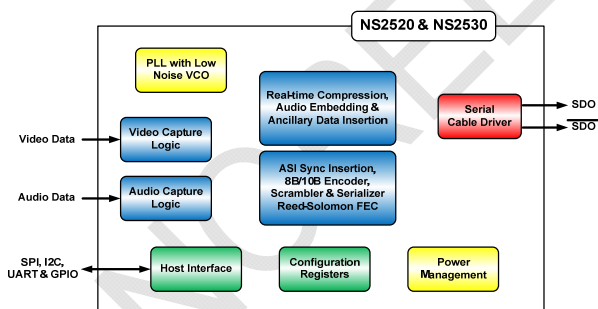
NS2520 and NS2530 are long reach SD and HD video transmitters supporting Advanced Video Transport (AVT) technology with visually lossless digital video compression. They also support uncompressed video transmission and are compatible with SMPTE SD-SDI, HD-SDI, 3G-SDI and HDcctv 1.0 standards. NS2520 supports up to HD 720p60, HD 1080i60 or HD 1080p30. NS2530 also supports HD 1080p50/60.

NS2520 and NS2530 employ Norelsys' advanced video compression and serial data adaptation technologies. It can extend the reach of HD video over 500 meters on 75-3 coaxial cable.

Norelsys' advanced digital video compression technologies achieve better video quality at less than half of the data rate required by SMPTE VC-2 LD. The chips also include Norelsys' serial data adaptation engine which automatically adjusts data equalization, transfer rate and compression ratio based on cable quality and cable length. A programmable Reed-Solomon FEC block is implemented for increased reliability.

NS2520 and NS2530 implement advanced features such as Camera to DVR audio and DVR to Camera control channel over the same cable.

Block Diagram



Applications

- HD camera with Advanced Video Transport (AVT) technology
- SD-SDI, HD-SDI and HDcctv 1.0 camera

Features

- Serial data rate: 2.97Gbps (NS2530), 1.485Gbps, 270Mbps, 135Mbps, 67.5Mbps, 33.75Mbps.
- 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, 3G-SDI (NS2530) and HDcctv 1.0 standards.
- Supported video formats with compression:
 - SD 525i and 625i, HD 720p 24/25/30/50/60, HD 1080i 25/30/50/60, HD 1080p 15/24/25/30, HD 1080p 50/60 (NS2530)
- 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, MIPI CPI
 - 8-bit or 16-bit, up to 148.5MHz SDR
 - RGB 4:4:4 (uncompressed video) or YCbCr 4:2:2
- Support Camera to DVR audio with SPDIF or I2S interface.
- Support DVR to Camera communication channel over the same cable.
- Norelsys' advanced low-delay video compression technologies.
- Norelsys' advanced serial data adaptation engine.
- Programmable Reed-Solomon FEC.
- Programmable ANC data insertion.
- Asynchronous Serial Interface (ASI) for transmission of IEC 13818-1 compliant transport streams.
- Support SPI / I2C / UART interface and Multi-GPIOs.
- 1.2V core and 1.8/2.7/3.3V selectable I/O power supply.
- HBM $\pm 8KV$ on serial pins. No ESD devices required.
- QFN60 7x7 package.

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