TW9990

Low Power NTSC/PAL/SECAM Video Decoder with Differential CVBS Inputs

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Features

Video Decoder

- NTSC (M, 4.43) and PAL (B, D, G, H, I, M, N, N combination), PAL (60), SECAM support with automatic format detection
- Software selectable analog input control allows for combinations of single-ended CVBS, differential CVBS and S-Video
- Built-in analog anti-alias filter
- Two 10-bit ADCs and analog clamping circuit
- Fully programmable static gain or automatic gain control for the Y-channel
- Programmable white peak control for the Y-channel
- 4-H adaptive comb filter Y/C separation
- PAL delay line for color phase error correction
- Image enhancement with peaking and CTI
- Digital subcarrier PLL for accurate color decoding
- Digital Horizontal PLL for synchronization processing and pixel sampling
- Advanced synchronization processing and sync detection for handling non-standard and weak signal
- Programmable hue, brightness, saturation, contrast and sharpness
- Automatic color control and color killer
- Chroma IF compensation
- VBI slicer supporting industrial standard data services
- VBI data passthrough, raw ADC data output
- Programmable output cropping

Digital Output

- 8-bit ITU-R 601 or ITU-R 656 compatible YCbCr (4:2:2) output format

Miscellaneous

- Short-to-Battery Detection test
- Short-to-Ground Detection test
- Two-wire MPU serial bus interface
- Supports real-time control interface
- Power save and power down mode
- Low power consumption
- Single 27MHz crystal for all operations
- Supports 24.54MHz and 29.5MHz crystal for high resolution square pixel format decoding
- 3.3V tolerant I/O
- 1.8V/3.3V power supply
- 32 Ld WFQFN (QFN with wettable flanks)
- AEC-Q100 qualified

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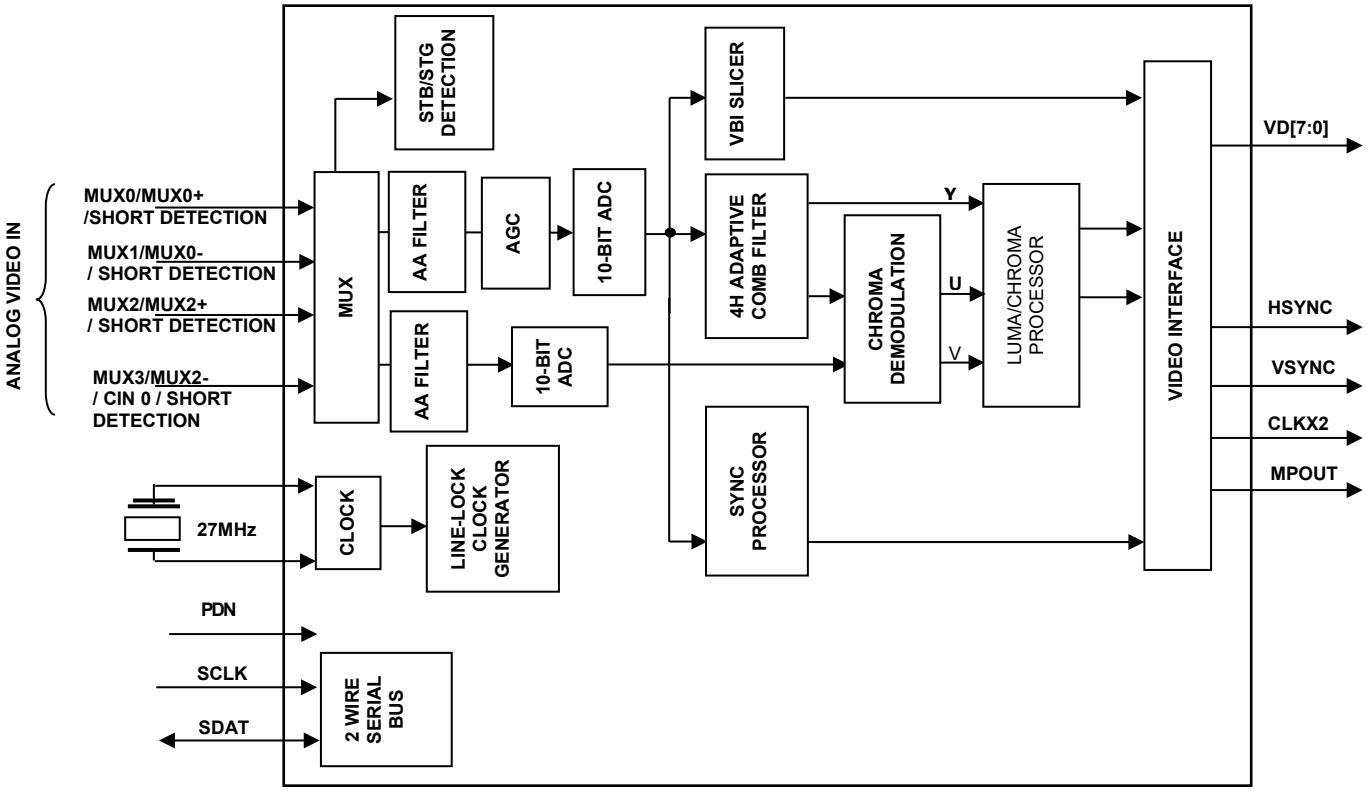


FIGURE 1. TW9990 BLOCK DIAGRAM

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