



LCD Video Processor with Built-in Decoder, Triple ADCs, LVDS and TTL Inputs, MCU, OSD, TCON and LVDS Panel Interface

TW8836

The TW8836 is a highly integrated LCD video processor that incorporates many of the features required to create a multi-purpose LCD display system into a single package. This includes a high quality 2D comb NTSC/PAL/SECAM video decoder, triple high speed RGB ADCs, an LVDS and TTL digital input interface, high quality scaler and de-interlacer, as well as a versatile OSD, high performance MCU, and LVDS or TTL output panel interface. The TW8836 can support input resolutions up to 1080p and can drive LCD panels at resolutions up to 1366x768. The TW8836's video processing capability includes arbitrary H/V scaling, panoramic scaling, image mirroring, image adjustment and enhancement, black and white stretch, etc. The feature set and versatility of this device makes it an ideal solution for in-car LCD display applications, as well as portable display applications such as Pico Projectors.

Applications

- In-car display
- Pico projector and portable media player
- Portable DVD and DVR players

Features

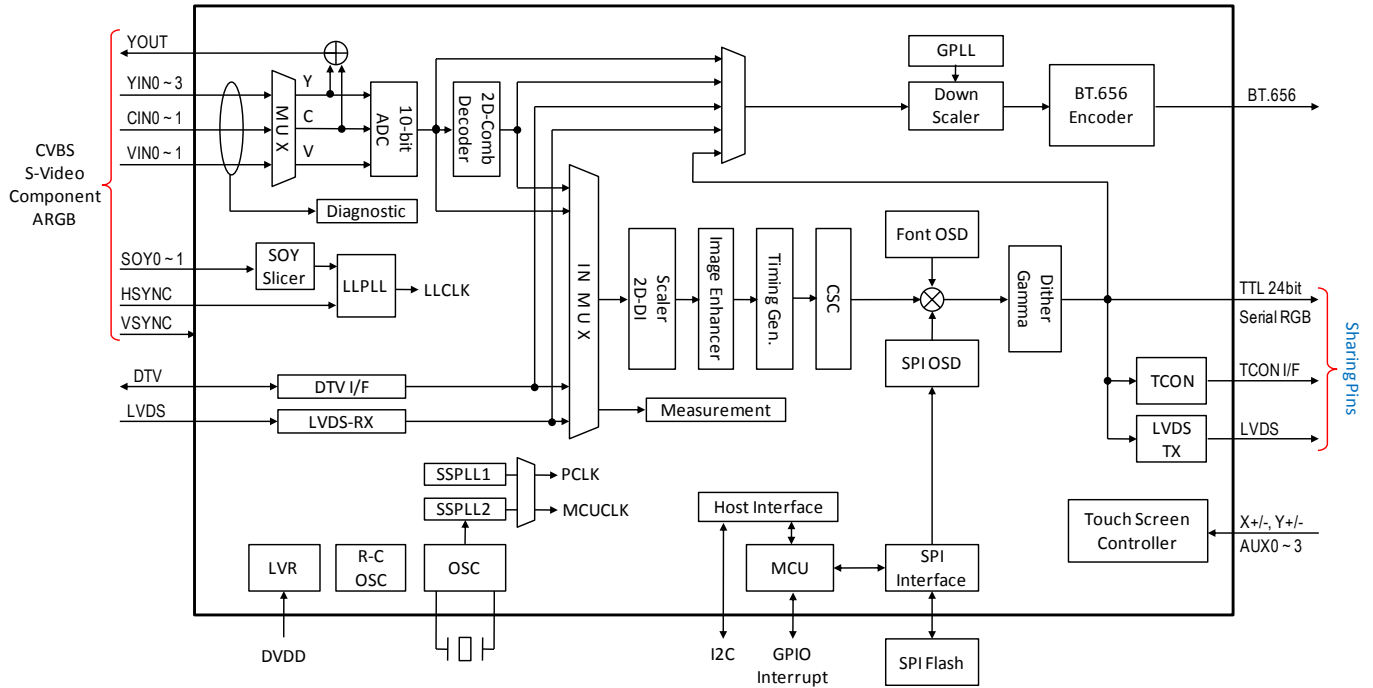
Analog Video Decoder

- NTSC (M, 4.43) and PAL (B, D, G, H, I, M, N, N combination), PAL (60), SECAM with automatic format detection
- Three 10-bit ADCs and analog clamping circuit.
- Fully programmable static gain or automatic gain control for the CVBS channel
- Programmable white peak control for the Y or CVBS channel
- Software selectable analog inputs allows composite, S-video, analog YPbPr or RGB
- High quality adaptive 2D comb filter for both NTSC and PAL inputs
- PAL delay line for color phase error correction
- Image enhancement with 2D dynamic peaking/CTI.
- Digital sub-carrier PLL for accurate color decoding
- Programmable hue, brightness, saturation, contrast, sharpness
- Selectable differential or single-ended CVBS input
- Digital horizontal PLL and advanced synchronization processing for VCR playback and weak signal performance
- High quality horizontal and vertical filtered down scaling with arbitrary scale down ratio
- Up to 2CH differential or 4CH single ended CVBS input

Analog RGB Inputs

- Triple high speed 10-bit ADCs with clamping and programmable gain amplifier
- SOG and H/VSING support for YPbPr or RGB input
- Built-in line locked PLL with sync separator
- Supports input resolution up to 1080p

TW8836 Functional Block Diagram



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