![Winbond Electronics Corp.]

TV ENCODER

GENERAL DESCRIPTION

The W9950P digital video encoder converts digital R,G,B 24-bit data and YCrCb (4:2:2) 16-bit data into analog composite video and Y/C video signals. The video format is 525-line (M) NTSC or 625-line (B,D,G, H,I) PAL.

The W9950P can operate in master or slave mode. In master mode, the W9950P internally generates the required video timing signals HSYNC and VSYNC and a FIELD signal according to the specified NTSC/PAL video standard. In slave mode, it accepts HSYNC and VSYNC input signals to synchronize with an external video source.

The input data are converted into luminance and chrominance components. Gamma correction can be selected by the Gamma pin in RGB 24-bit mode. The chroma data are then low passed by a 1.3 MHz filter and modulated by a color subcarrier.

The Y signal consists of luminance, sync, and blank signals. It is converted by an 8-bit D/A converter into an analog Y signal. The C signal consists of color burst and modulated color information. It is converted by an 8 bit D/A converter into an analog C signal. The analog Y and C signal outputs are available for interfacing to S-video input machines. There are two analog composite outputs. This allows one output to provide baseband composite video and the other output to drive an RF modulator simultaneously.

The W9950P may be placed in power-down mode by selecting the SLEEP pin.

The W9950P is designed for digital video applications such as video CD,and Video games. Since no internal registers require CPU programming, the PC board wire routing is very simple.

FEATURES

- Monolithic CMOS process
- Two composite outputs
- Y/C video output (S video)
- Power-down mode
- Optional Gamma correction
- CCIR601 or square pixel input data rates
- Master/slave sync signal switchable
- Interlaced and non-interlaced operation
- Optional internal voltage reference
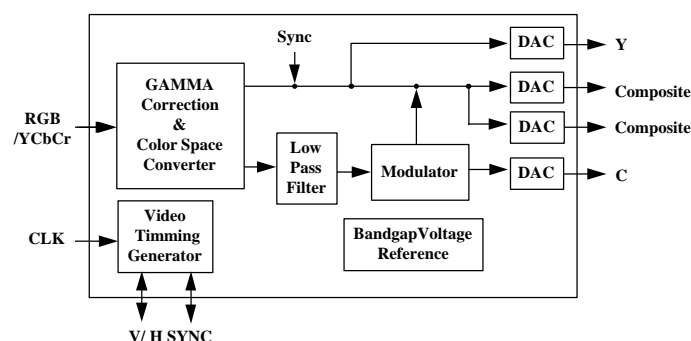- Internal digital oscillator (no crystal required)
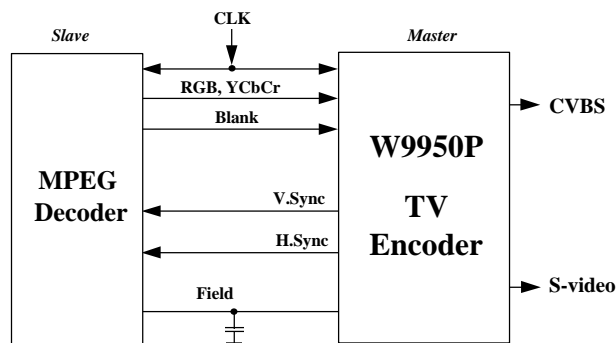

Fig 1. W9950P Functional Block

Fig 2. W9950P Application

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