

MVIP2004: Adaptive Bandpass Video Decoder

The MVIP2004 Video Decoder Core converts composite or S-Video input signals to component YUV outputs, with optional further conversion to YCbCr or RGB. It interfaces with our analog input section to clamp and automatically control the gain of the incoming signal prior to digitization. This control guarantees full utilization of the resolution of the analog to digital converter.

This core utilizes MetaVideo's proprietary adaptive bandpass filter algorithm to separate NTSC or PAL composite video into Luma and Chroma. The result is consumer quality decoding with a minimal use of approximately 25K gates for the decoder section. There are no line memories required to implement this design.

Sync locked timing, combined with bandpass filtering, which notches luma detail at FSC frequency provides a good quality picture even with noisy sources. The gain of Chroma is automatically adjusted and it is demodulated into its color components under burst lock with automatic phase control, providing consistently accurate color rendition.

Path width options include 8, 9, and 10 bits, parallel or multiplexed. Output timing is 4FSC / 8FSC with 13.5 MHz / 27 MHz available. With our library of other video modules, and staff of experienced video engineers, MetaVideo stands ready to customize this module to your precise needs.

Features:

- Detection of 525 or 626 formats;
- Automatic Control of Input Gain to achieve maximum resolution at ADC;
- Automatic Chroma Gain to Compensate for Weak Signals;
- Detection and Pass Through of VBI Data.

Applications:

- Digital TV,
- LCD Display Front End;
- PC Video Capture;

Specifications:

- NTSC or PAL (B,D,G,H,I,M,N,Nc) Composite or S-Video Input Formats;
- 4FSC YUV Output standard;
- Output Options include YUV, YCbCr, and RGB

