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# CYBER9385/2(tm)

## MULTIMEDIA FLAT PANEL CONTROLLER

### FEATURES

#### Highly Integrated Design

- 64 bit GUI engine
- 64 bit EDO DRAM interface up to 4MB
- Built-in TrueVideo® processor
- Motion video capture
- Flicker free TV-Output support (Cyber9385 Only)
- Built-in RAMDAC & frequency synthesizer
- Flat panel display up to 1280x1024

#### Accelerated Graphics Functions

- 256 Raster Operations (ROPs) for up to 24 bit packed pixel true color graphic modes
- Optimized graphic engine for: BitBLTs, line drawing, short stroke vectors, rectangle fills, and text transfer.
- Linear display memory addressing up to 4GB memory space
- Four-color hardware cursor & popup icon up to 128x128x2

#### Versatile Frame Buffer Interface and UMA Support

- Supports 64/48/32 bit 256Kx16 DRAM up to 4MB
- Integrated DSTN frame buffer for dual scan panels
- Unified Memory Architecture (UMA) system memory sharing
- Dynamic frame buffer sharing for optional external Video Processor

#### Advanced Power Management

- Supports 0V and 3.3V/5V suspend
- Self-refresh and slow-refresh DRAM
- 8 GPIO, SMI, and activity detect-pin

#### Mixed Voltage Operation and I/O

- Independent power plane for internal logic, host, memory, panel, and CRT interfaces
- Programmable dual-drive output buffer

#### Simple Bus Interface Support

- PCI rev. 2.1 support with no additional TTL
- VESA DDC, DPMS, and VAFC

#### TrueVideo® Processor

- On-chip YUV-to-RGB color space conversion
- Hardware bilinear H/V interpolated scaling

- Supports DirectDraw(tm) acceleration for sprites, page flipping, double buffer, and color keying
- Proprietary edge recovery algorithm
- Multitap horizontal filtering

### Motion Video Capture

- Glueless interface to MPEG 1, 2 & video decoders
- Supports Zoom Video (ZV port)
- 8/16 pin port for RGB or YUV4:2:2/4:1:1 video data
- Dual apertures for simultaneous graphics and video access to the display memory areas
- Mixed color depth overlay provides true color video overlaid on any color depth of graphics
- Dual video overlay for VAFC video source and PCI video stream

### Flickering Free TV-Output to NTSC/PAL Encoder (Cyber 9385 Only)

- Internal line buffer for flicker reduction
- Provides RGB, composite sync and sub-carrier clock for an external NTSC/PAL encoder
- Simultaneous display (flat panel & TV or CRT)

### Hi-Res and Hi-Ref Display Support

- 16/24 bit interface to color DSTNs up to 1024x768
- 9/12/18/24 bit/Analog for TFTs or (9+9)/(12+12)
- /(18+18) for double pixel/clock TFTs up to 1280x1024
- Supports 85 Hz refresh rate at 3.3V

### Advanced Flat Panels Image Control

- Frame rate control and spatial dithering for increased color depth
- Auto expansion and centering

### Cyber9385/2(tm) Application Diagram



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