

## DVD A/V Decoder

### GENERAL DESCRIPTION

The W9922QF is a high performance single-chip DVD decoder. It performs real-time decompression of ISO/IEC-11172 MPEG1 and 13818 MPEG2 streams, including system/ program layer, audio and video data. It incorporates an 8-bit/16-bit host interface and a configurable parallel DVD/CD interface. Also, its versatile features help to build high-quality and cost-effective standalone DVD or SVCD Player.

### FEATURES

#### System

- MPEG 1 system and MPEG2 program/audio/video decoding and synchronization
- DVD/SVCD/VCD/CD compatibility
- Configurable parallel DVD interface
- Standard 4-Pin CD Interface
- Standard ATAPI/IDE interface
- Supports input data Rate up to 20 Mbps
- 8051 or general 16-bit processor interface
- Supports 1M × 16 bit SDRAM
- High quality error concealment
- Decrypts DVD CSS
- Supports trick playback commands
- Power management mode

#### Audio Decoding

- Decodes MPEG2, MPEG1 Audio (layer 1, 2)
- Decodes Dolby Digital<sup>®</sup> AC-3 5.1-channel and down mixing to 2-channel
- Supports Linear PCM, CD-DA audio
- Outputs serial PCM audio data with 16, 18, 20 and 24 bits resolution
- Supports sampling rate at 16, 22.05, 24, 32, 44.1, 48, 96 KHz
- Supports Karaoke function, vocal or guide melody channel, key-shift
- S/PDIF outputs meet IEC958 specs
- Digital mute control and volume adjustment

#### Video Decoding

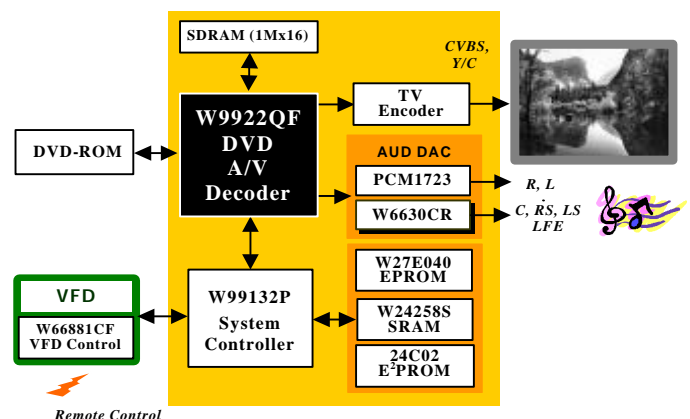
- Decodes MPEG2 MP@ML, MPEG1 video bitstreams
- Decode DVD, SVCD (D1, 2/3 D1, 1/2 D1), VCD
- Supports 720 × 480 at 30 Hz and 720 × 576 at 25 Hz
- Supports 8 bits YCbCr
- On-chip TV, NTSC/PAL, timing generator
- DVD sub-picture and highlight processing
- Supports SVCD OGT functions
- Supports aspect ratios in 16:9 and 4:3 TV, by Pan & Scan and Letter Box conversion
- Frame rate conversion
- Video digest functions
- Horizontal and vertical scaling
- BrightView<sup>®</sup> (γ-correction), Normal, Bright, Soft
- Flexible zooming, x1/4, x1/2 to x2, x4
- Fade in/out control
- OSD 2/4/8-bit per pixel with Alpha-blending, translucency, transparency
- OSD Run-length encoding at 8bits
- Full screen OSD

#### Physical

- 3.3 Volt operation with input 5 Volt
- 160-pin PQFP

### APPLICATIONS

Following figure shows a typical configuration of DVD player application.



1. "Dolby Digital", "AC-3" are trademarks of Dolby Laboratories Licensing Corporation.