

## Video CD Decoder

### GENERAL DESCRIPTION

W9925QF-K is a high performance single-chip VCD decoder. It performs real-time decompression of ISO/IEC-11172 MPEG streams, including system layer, audio and video data. It incorporates an 8-bit host interface and a CD interface which make it easy to use. Also, its versatile features help to build high-quality and cost-effective standalone VCD applications.

### FEATURES

#### Integration

- MPEG system/audio/video decoding and synchronization
- CD-ROM decoding
- Glue-less interface to 8051-series micro controllers
- Standard 4-Pin CD Interface
- On Screen Display
- NTSC/PAL TV timing generation

#### System Operations

- Fully supports VCD2.0, VCD1.1, Karaoke CD, CD-I FMV, and CDDA titles
- Digest function, provides quick overviews of contents in one or more discs with audio output
- Versatile playback commands
- Fast forward play with speed-up audio
- Enhanced error recovery algorithms to overcome disc scratches and CD-drive errors
- Write/read pictures via host

#### Video Processing

- High quality video output of still pictures (704x480 or 704x576) with only 4M DRAM
- Provides vertical scaling which allows full screen display of 240(480)-line sources on PAL systems
- Zoom-in effect for normal/high resolution pictures
- User-programmable fade-in, fade-out effects
- Frame rate conversion for various kinds of titles played on different TV systems
- Automatic picture size adjustment for NTSC programs on PAL TV and vice versa

#### Audio Processing

- Key control functions
- 3-D audio mode, offering more live effect
- Surround effect

- Provides voice cancellation mode to remove the voice component in Karaoke titles
- Digital volume control and various channel selection modes both in MPEG and CDDA playback

#### Physical

- Supports both Fast Page DRAM and EDO DRAM
- 8-bit Y/Cb/Cr video output
- Two programmable I/O pins for system control
- User-programmable power-saving mode
- Low power consumption: 0.5W at full speed operation
- 3.3V VDD operation, input 5V acceptable
- 100-pin plastic QFP

#### W9925QF-K Functional Block

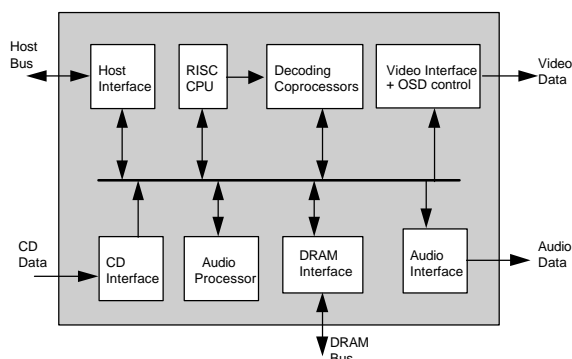


Figure-1 W9925QF-K functional block diagram

### APPLICATION

W9925QF-K provides an excellent price/performance ratio on VCD player system solutions. Figure-2 shows a typical application example of VCD player making use of W9925QF-K.

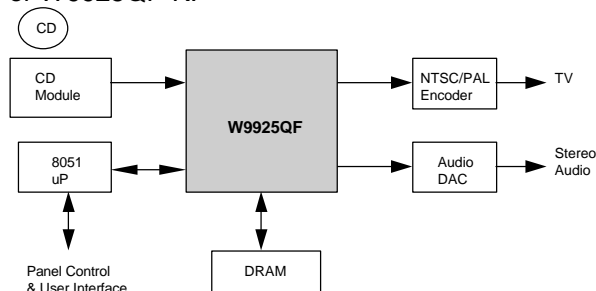


Figure-2 Application example of W9925QF-K in a VCD player

**Winbond Corporate Headquarters**  
Tel : 886-3-5790666  
Fax : 886-3-5796139

**Taipei Sales Office**  
Tel : 886-2-27190505  
Fax : 886-2-27197502

**Winbond Electronics North America Corp.**  
Tel : 1-408-943666  
Fax : 1-408-9436668

**Winbond Electronics H.K. Ltd.**  
Tel : 852-27513100  
Fax : 852-27552064