Angel USB PVR
External Tuner
MPEG-1&2 PVR & Video Capture Device

Product Overview

Angel USB PVR is a single TV tuner USB solution with hardware encoder and advanced picture quality enhancements for Windows XP Media Center Edition. The Angel USB PVR unit features an MPEG2 encoder device which offers a video decoder with three-dimensional (3D) luminance/chrominance (Y/C) separation, 3D noise reduction, and an MPEG-1/MPEG-2 encoder in a single chip.

The unit is designed to allow 1 or 2 units to connect to the PC which enables multi-tuner applications which will be supported in Microsoft's Symphony MCE release. These features include watching one live program while recording another, recording two programs simultaneously, and watching TV on a digital media adaptor device

General Feature Set

- Single analog tuner (NTSC, PAL or SECAM) configuration
- Hardware-based MPEG-1 and MPEG-2 encoding
- Supports baseband audio and video capture
- Stereo audio decoding, with support for worldwide standards (48kHz)
- Video quality enhancements, including 3D Y/C separation and 3D noise reduction
- Full 10-bit D-1 capture in NTSC / PAL / SECAM
- DVD formatted recording
- USB1.1 or 2.0
- Supports raw and sliced VBI capture
- Bus Powered – (requires 750mA bus)

NOTE: These specifications are subject to change without notice.

Analog Video

The device has 1 set of video inputs. Under SW control, the user can select either:
- Analog Composite Video Input
- Analog S-Video Input
- Tuner

Audio

The device has 1 sets of analog stereo audio inputs. All audio is captured at 48 kHz. The audio encoder supports MPEG-1 Layer-2 encoding.

MPEG Encoder

The MPEG encoder supports the following features:
- MPEG-1 or MPEG-2 format
- VBR from 2 Mbps to 15 Mbps (6 Mbps over USB 1.1) for MPEG-2
- VBR from 64 Kbps to 5 Mbps for MPEG-1
- NTSC or PAL video formats
- Programmable 3-D filter
- Auto 3:2 pull down detection
- VBI extraction
- VCD, SVCD & DVD formats

Macrovision detection up to and including V7.01 is supported. Type 1, 2, and 3 can be detected.

I/O

The following connectors are supported on the front panel of the unit:

- RF Video Input via a single "F" connector" or "IEC-female" connector
- S-Video mini-DIN connector for baseband S-Video
- RCA connector for Composite Video input
- Dual RCA connectors for baseband audio

Thermal

Operating Temperature: 0 to 55 degrees C ambient [5-85% relative humidity]
Storage Temperature: -20 to 70 degrees C [5-85 % humidity]

Power

The unit is powered from the USB or an optional Power Adaptor and draws
- 5V at 740mA

Weight

TBD

Dimension

5.0 inch   x   3.7 inch   x   1.1 inch

Software

Driver

The Encoder chip microcode and USB firmware are downloaded over the USB bus so that the unit can be upgraded in the field. The driver works under Windows XP.

The drivers are WDM compliant and can be integrated with a variety of 3rd party applications (see below).

3rd Party Applications

The Angel USB product is designed for use under Microsoft's Media Center Edition operating system. In addition, it works with a number of third party SW applications such as Sonic MyDVD. Other applications may be integrated depending on OEM requirements. It is important to note that the availability & performance of various Angel features will be determined based on the capabilities of the 3rd party application.

PC

The requirements for the PC will be set by the SW application(s) more than by the hardware. Of course, a USB1.1 or 2.0 port is required. The driver requires:
- Pentium III 800 MHz or equivalent AMD
- 128 MB RAM
- Graphics board with DirectX 9 support
- Sound board with DirectX 9 support
- Windows XP

Testing:

Angel USB has passed the following hardware and software certifications and testing:
- FCC/CE/VCCI Class B—passed 3/05
- Hardware reliability testing—passed 2/05
- WHQL—passed 2/05