



# *Bali USB PVR*

## *External (USB) MPEG-1/2*

### *Encoder and Capture device for the PC*

#### *With TV Tuner*

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#### **About Emuzed**

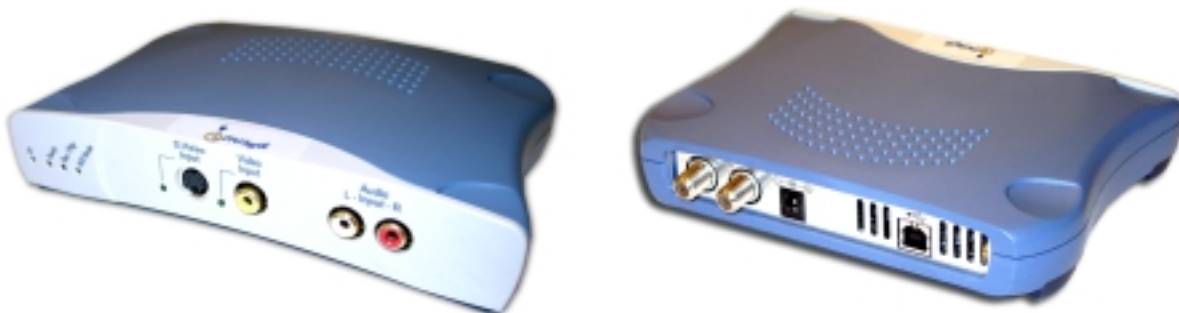
Emuzed is a leading provider of multimedia solutions to PC OEMs. Founded in 1999, the company is headed by a management team with a successful track record and significant multimedia experience. We offer complete solutions for PC multimedia capture and management including hardware, software, as well as industrial designs. Emuzed products are robust and of the highest quality, and we provide a flexible business model that allows OEMs to buy finished products or license designs for manufacturing.

#### **Product Overview**

Bali USB PVR is a very high quality, low cost external, MPEG-1 / MPEG-2 encoder, with an integrated on-board TV tuner and optional FM tuner, for the PC. The unit connects to the PC via a USB cable. This product consists of an external box and a software application. Additional accessories such as cables and a power supply are required for operation. The application allows the user to capture full motion D-1 quality video clips in MPEG-1 or MPEG-2 format on the PC.

#### **General Feature Set**

- MPEG-1, MPEG-2 capture
- VCD, SVCD, DVD formatted recording
- Full D-1 capture in NTSC & PAL
- On-board TV tuner
- BTSC, EIAJ and SAP stereo decoding for NTSC version
- NICAM and Dual Carrier decoding for PAL version
- Optional FM tuner
- Optional infrared (IR) receiver for operating the unit using remote control



**Emuzed Bali USB PVR**



NOTE: These specifications are subject to change without notice.

### Features

#### Video

The device has 1 set of video inputs. Under SW control, the user can select either:

- Composite Video Input
- S-Video Input
- RF TV Input

The MPEG encoder supports the following features:

- MPEG-1 or MPEG-2 format
- VBR from 0.25 to 15 Mbps (6.5 Mbps over USB 1.1)
- NTSC or PAL video formats
- Pixels per Line: 720, 704, 640, 544, 480, 360, 320, 160
- Lines per Frame: 112, 240, 480, 144, 288, 576
- Programmable 2-D filter
- Auto 3:2 pull down detection
- VBI extraction
- VCD, SVCD & DVD formats

#### Audio

The device has 1 set of stereo audio inputs. The device also supports TV Tuner audio with on board audio processor – BTSC, EIJA and SAP stereo standard for NTSC version and NICAM and Dual Carrier for PAL version. The audio A/D converter allows the user to select one of 3 different sampling rates; 32, 44.1 and 48kHz. The audio encoder supports the following options:

- MPEG-1 Layer-2 encoding
- Selectable bit rates: 32, 48, 56, 64, 80, 96, 112, 128, 160, 192, 224, 256, 320, 384

#### I/O

The following I/O connectors are supported on the unit:

##### Front Panel

- One Composite Video Input
- One S-Video Input
- One Stereo Audio Input (dual RCA)
- Optional IR receiver

##### Back Panel

- RF TV Input
- Optional RF FM Input
- USB connector (the USB cable is NOT permanently attached to this unit)
- 6V power input jack
- Optional power on/off switch

#### USB Interface

Bali USB PVR supports the USB v2.0 standard (also supports USB1.1 bus). One of the advantages of using USB2.0 is that the device will not suffer when other USB devices (e.g., printer, modem, USB drives, etc) are plugged into the same 2.0 bus. Also, higher bit rates are achievable with USB2.0.

### LEDs

There are 6 LEDs on the chassis:

- ON Green On when 3.3V supply is operating
- READY Yellow On when uCode is loaded into KFIR
- REC Green On when in RECORD mode
- AUX Yellow Not used
- SVID Green On when S-Video input is present and selected
- COMP Green On when Composite input is present and selected

### Thermal

Operating Temperature: 5 to 40 degrees C ambient  
Storage Temperature: -20 to 50 degrees C [10-90 % humidity].

### Power

The unit is powered from an external power supply that provides +6V @1.7A to the power input connector on the back of Bali USB PVR.

### Software



### *MovieMill TV Software*

The Bali USB PVR unit ships with USB drivers and a simple capture and TV control application (MovieMill TV). The key features are outlined below.

- Preview in a window or full screen. Preview is implemented by means of a real time software decoder included in the bundle. Audio is rendered through sound card and proper audio/video synchronization is ensured
- Capture to a file. Manual stop or timed capture
- Video and audio and TV input selection
- Color controls (Brightness, Saturation, Tint, Sharpness, Contrast)



- TV tuner control including:
  - Antenna/Cable selection
  - Channel selection
  - Favorite channels setup
  - Scanning for available channels
  - Fine tune

The capture and playback control features of this application are described in a separate document.

### Driver

The KFIR and USB uCodes are downloaded over the USB cable so that the unit can be completely field upgradeable. The driver works under Windows 98SE, Windows ME, Windows 2000 and Windows XP.

The drivers are WDM compliant and can be integrated with a variety of 3<sup>rd</sup> party applications with minimal engineering effort.

### Customization

Emuzed will customize the driver, installation and MovieMill application to reflect OEM's company name, logo, and product name. MovieMill user interface is localization-ready and can support multiple languages using OEM customization kit.

### 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 500 MHz or equivalent AMD
- 128 MB RAM
- Graphics board with DirectX 8 support
- Sound board with DirectX 8 support
- CD-ROM drive
- IDE Hard drive with master mode support
- Free USB 2.0 or 1.1 port
- Windows 98SE, ME, 2000 or XP

### Accessories

Both an external power supply and a USB cable (USB2.0 compatible) can be supplied with this product.

### 3rd Party Software

Variety of 3<sup>rd</sup> party application supports this product including DVD/PVR application with time shift recording, electronic programming guide and scheduler. Please contact Emuzed for more information.