

User Manual for Digital Video-Audio Recorder/Player

iW-PRDOL-UM-01

R 1.0

15th July, 2009

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DOCUMENT IDENTIFICATION

Project Name	iW-PRDOL
Document Name	iW-PRDOL-UM-01-R1.0.doc
Document Home	
Revision No	Rev 1.0
Status	Initial
Audience	

DOCUMENT REVISION HISTORY

Revision	Date	Description	Author
1.0	15 th July 2009	Initial Draft Version	CHN

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1. Introduction

1.1 Purpose

The purpose of this document is to describe about iWave Digital Video-Audio Recorder/Player in detail.

Features:

- Live video and audio can be recorded
- Support for AVI format to store audio and video
- Storage media can be SD card, USB pen drive and Hard disk
- CODEC type and bit rate are configurable, supported CODECs are MPEG-4 and H.264
- Recorded video file can be played in any standard media player which supports MPEG-4/H.264 CODEC.
- Video resolutions supported are CIF, QVGA, VGA, D1
- Both analog and digital cameras are supported
- Achieved frame rate in PAL camera is 25 fps & NTSC camera is 30 fps
- Currently DVR is running on i.MX27 platform (ARM926EJS). Same software can be easily ported to other platforms.
- Downloaded/recorded video files can be played from SD, USB pen drive, hard disk

1.2 Scope

This describes the hardware connection procedure and usage of DVR system.

1.3 Glossary

Table 1: Glossary

Acronyms	Description.
DVR	Digital Video-Audio Recorder/Player
AVI	Audio Video Interleave
LCD	Liquid Crystal Display
MPEG-4	Moving Picture Experts Group
GUI	Graphical User Interface
SD	Secure Digital
USB	Universal serial bus
i.MX27	Multimedia Processor name

OSS	Open Sound System
ATA	Advanced Technology Attachment
HDD	Hard Disk Driver

1.4 DVR Block Diagram

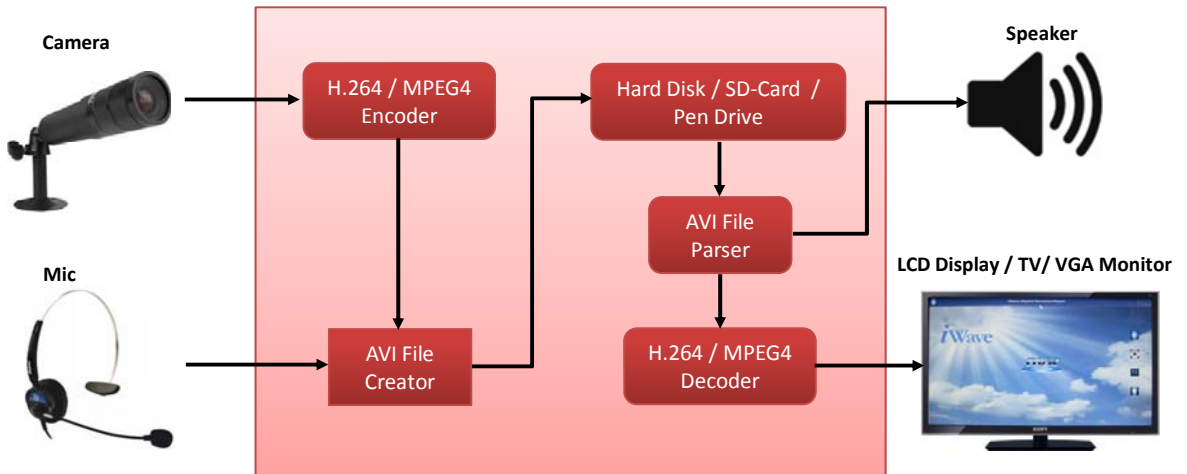


Figure 1: DVR Block Diagram

1.5 DVR Technical Block Diagram

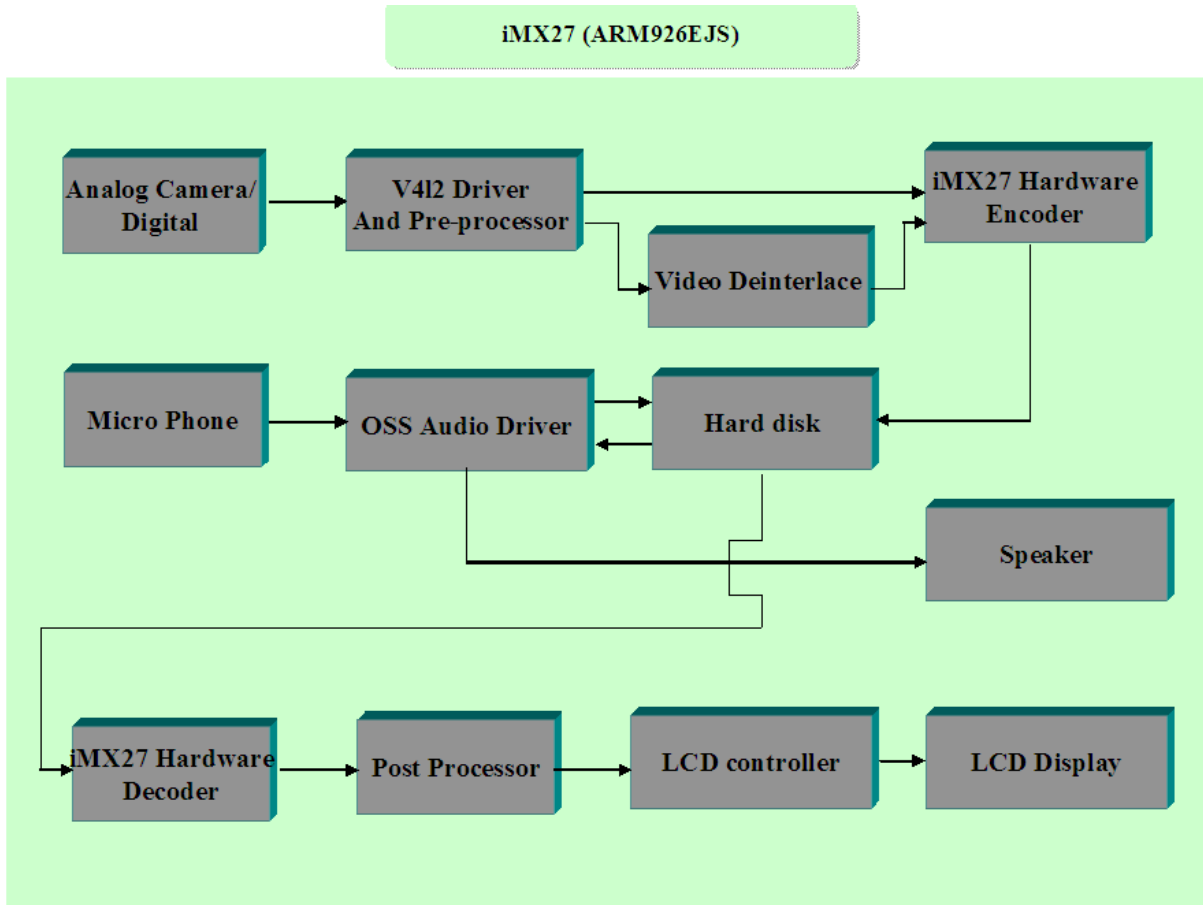


Figure 2: DVR Technical Block Diagram

2. Hardware Setup

The DVR system setup is shown in figure3.



Figure 3: DVR Hardware setup

2.1 DVR components interface

DVR system supports various components, such as camera input, SD-Card slot, USB port, etc; figure 4 shows various hardware components of DVR.



Figure 4: DVR components

Hardware interface details:

1 -> SD-Card slot

2 -> Camera in

3 -> 5V Power supply port

4 -> USB port

3. DVR System

DVR is provided with the user friendly GUI with simple four button approach.

Figure below shows DVR's GUI with various options available; these options can be accessed via touch.



Figure 5: Graphical User Interface

Label's specified in figure4 is detailed below

1 -> Start Playback / Resume Playback

2 -> Start Recording

3 -> Pause Playback

4 -> Stop Playback/Recording

- Playback button can be used for two purposes, one is to start the playback and the other is to resume the playback when playback is paused using Pause playback button.
- The stop button is common for both Playback stop and for recording stop.

The following sections describe the options in detail.

3.1 Playback

To play the file recorded or stored avi movie files, click on **play** back button. Upon play button press, File browser will be appeared. Select the file from the browser and click on “open”.

Current DVR will be having the file named with “iwave.avi”, is the last recorded file. User can play other general files.

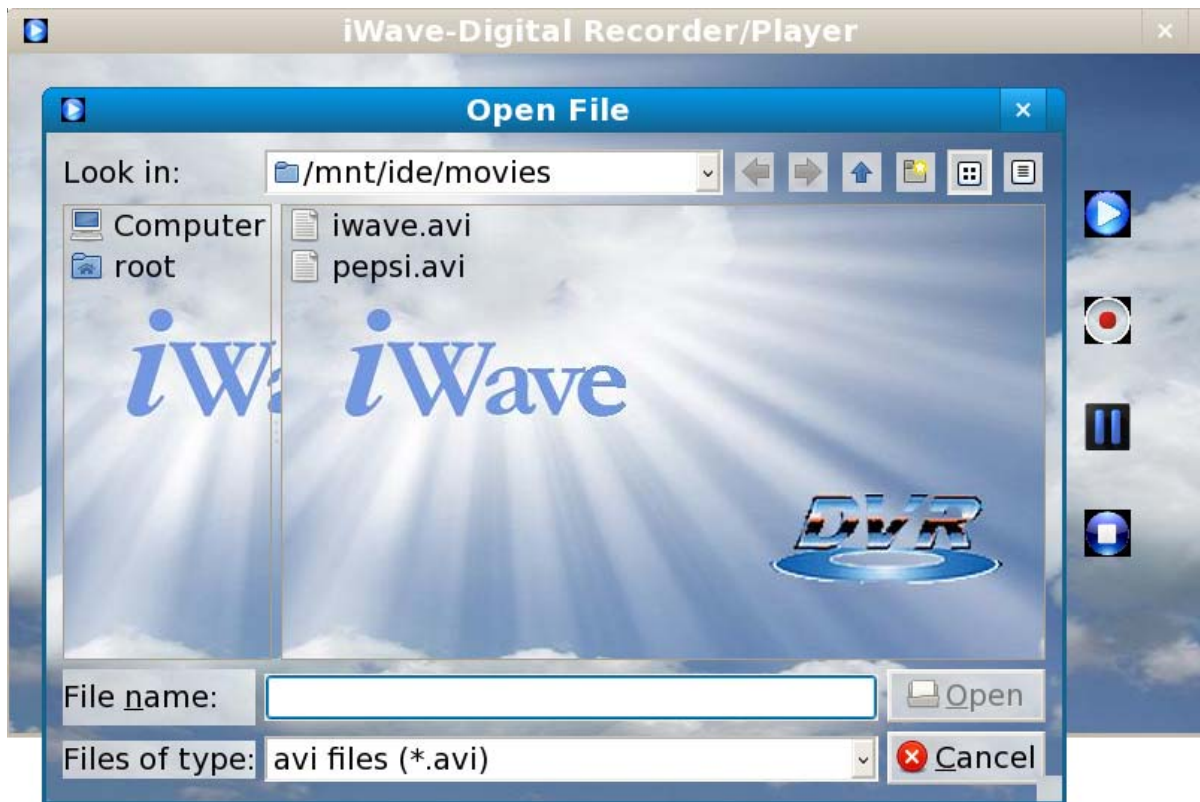


Figure 6: Playback button

3.2 Recording

To record the live video and audio click on record Button. Upon record button press, DVR will start recording the live video-audio. When the recording is going on, Live video will be displayed on LCD as shown in figure 7.



Figure 7: Record button