

Instructions to use libvdpau-sunxi with VDR

on



Cubieboard 1-3 and other A10/A20

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1 Hardware

1.1 Technical



Name	:	Cubieboard 2
Size	:	10 cm x 6 cm
CPU	:	Allwinner A20 SoC (2 ARM-Cortex A7-Cores with 1 GHz)
GPU	:	Mali-400MP2 (OpenGL ES 2.0/1.1)
VPU	:	CedarX (max 2160p (Ultra HD))
RAM	:	512MB (Test) / 1GB (Produktion) DDR3
CONN	:	2x USB Host, 1x USB On-the-go, 1x CIR, 1x SATA
VID-OUT	:	HDMI @ 1080p
AUD-OUT	:	S/PDIF, Headphone, HDMI-Audio
AUD-IN	:	Mikrophone, Line-In
Storage	:	4 GB NAND-Flash, 1x MicroSD
Network	:	10/100-Ethernet
DB-Con.	:	96 Pin incl I ² C, SPI, LVDS

2 Software

2.1 Installation Driver and Library's

2.1.1 xf86 Driver

xf86 Driver installation

```
1 cd /usr/local/src/  
2 git clone https://github.com/ssvb/xf86-video-fbturbo.git  
3 cd xf86-video-fbturbo  
4 autoreconf -vi  
5 ./configure --prefix=/usr  
6 make -j3  
7 make install  
8 cp xorg.conf /etc/X11
```

2.1.2 FFmpeg (2.4.4)

Alternative libav should work.

It's important to compile FFmpeg with "--enable-shared" flag

FFmpeg installation (2.4.4)

```
1 cd /usr/local/src/  
2 wget http://ffmpeg.org/releases/ffmpeg-2.4.4.tar.bz2
```

```
3 tar xfvj ffmpeg-2.4.4.tar.bz2
4 cd ffmpeg-2.4.4
5 ./configure --enable-shared --prefix=/usr
6 make -j3
7 make install
```

2.1.3 Libvdpau-sunxi

```
libvdpau-sunxi
1 cd /usr/local/src/
2 git clone -b deint https://github.com/zillevdr/libvdpau-sunxi/
3 cd libvdpau-sunxi
4 make -j3
5 make install
```

2.2 Sound

There are two way's to use the Sound-devices of the Allwinner A10/A20 SoC's

ALSA and Pulse-Audio

2.2.1 ALSA

To use analog audio on the HDMI-Port you have to edit the: /etc/asound.conf !

```
/etc/asound.conf
1 pcm.dmixer {
2   type dmix
3   ipc_key 1024
4   slave {
5     pcm "hw:0,0"
6     period_size 3000
7     buffer_size 24000
8     rate 48000
9     format S16_LE
10  }
11 }
12
13 pcm.sunxihdmi {
14   type plug
15   slave.pcm dmixer
16 }
```

2.2.2 Pulse-Audio

2.3 Kernel Modules

Add modules to /etc/modules.

```
edit /etc/modules
```

```
1 nano /etc/modules
```

add following:

```
1 # /etc/modules: kernel modules to load at boot time.
2 #
3 # This file contains the names of kernel modules that should be loaded
4 # at boot time, one per line. Lines beginning with "#" are ignored.
5
6 #For SATA Support
7 sw_ahci_platform
8
9 #Display and GPU
10 lcd
11 hdmi
12 ump
13 disp
14 mali
15 mali_drm
16 cedar_dev
17 bt_gpio
18 bcmhdh
```

2.4 The Video Disk Recorder

2.4.1 vdr-plugin-softhddevice

To use the OSD of the VDR you have to use the old bitmap surface of softhddevice. On a normal PC with a NVIDIA-card this surfaces are not used anymore.

So you have to enable it again in the Makefile of the Plugin.

Enable Bitmap-Surface in SoftHD-device Makefile

```
1 CONFIG += -DUSE_BITMAP          # VDPAU, use bitmap surface for OSD
```

And search the line with: ### Make it standard and add -fsigned-char at the lines:

Add a fix in SoftHD-device Makefile

```
1 override CXXFLAGS += $(CFLAGS) $(DEFINES) $(INCLUDES) \  
2   -g -W -Wall -Wextra -Winit-self -Werror=overloaded-virtual -fsigned-char  
3 override CFLAGS> += $(CFLAGS) $(DEFINES) $(INCLUDES) \  
4   -g -W -Wall -Wextra -Winit-self -Wdeclaration-after-statement -fsigned-char
```

2.4.2 a basic VDR startscript

a basic VDR startscript

```
1 #!/bin/sh  
2 export LC_MESSAGES=de_DE.UTF-8  
3 export LC_LANG=de_DE.UTF-8  
4 export VDPAU_DRIVER=sunxi;  
5 export DISPLAY=:0.0;  
6 export VDPAU_OSD=1;  
7 export VDPAU_DEINT=1;  
8  
9 chmod 0777 /dev/disp;  
10 chmod 0777 /dev/cedar_dev;  
11 chmod 0777 /dev/g2d;  
12  
13 /usr/local/bin/vdr -d -l 2 -P streamdev-client -P"softhddevice -x -a sunxihdmi"
```