

Instructions to use
libvdpau-sunxi with VDR

on



Cubieboard 1-3
and other A10/A20
on



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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

1.2 Mod's

(Keep in mind that you loose the warranty of your device)

1.2.1 Adding a reset-switch

PLACEHOLDER

2 Software

2.1 General

To use CedarX with VDR and Soffthd-device the standard 80MB Video-Memory is not enough!

The Bad → it is hardcoded in the Kernel since 3.4.7x.

There are two way's to fix it (on both you have to recompile the kernel):

- change the value in the kernel.
- disable CMA and use the kernelparameters.

2.2 Prepare the SD-Card for/with ArchLinux

2.2.1 Open fdisk

open fdisk

```
1 fdisk /dev/<device>
```

2.2.2 Create a partition

in fdisk

```
1 press o to kill all part
2 press n <enter> (several times)
3 press w to finish
```

2.2.3 Format and mount the partition

format and mount

```
1 mkfs.ext4 /dev/<device>
2 mount /dev/<device> /mnt/
```

2.2.4 Get the Basic-Image

Get the basic-image and write it to the SD-Card.

download the image and install it

```
1 cd /usr/local/src/
2 wget http://os.archlinuxarm.org/os/ArchLinuxARM-sun7i-latest.tar.gz
3 tar -xvf ArchLinuxARM-sun7i-latest.tar.gz -C /mnt/
4 sync
```

and copy the uboot!

copy uboot

```
1 dd if=/mnt/boot/u-boot-sunxi-with-spl.bin of=/dev/<device> bs=1024 seek=8
2 sync
```

then unmount the SD-Card and put it into the device.

unmount the SD-Card

```
1 umount /mnt/
```

2.3 Setup a linux-machine to use serial connection

2.3.1 Connect the cables

PLACEHOLDER

2.3.2 Install required software

On Linux-PC or Virtualbox (The writer uses Ubuntu kylin in Virtualbox)

Install GTK-Term

install GTK-Term

```
1 apt-get install gtkterm
```

open it and login on device

login on device

```
1 gtkterm -p /dev/ttyUSB0 -s 115200
2
3 # login user/password for ArchLinux
4
5 User: root
6 Pass: root
7
```

2.4 Setup ArchLinux

2.4.1 Setup Hostname

setup hostname

```
1 nano /etc/hostname
```

type in your preferred hostname and save it

save

```
1 <ctrl>+<shift>+<o>
```

2.4.2 Setup Language

Choose your language (locales)

uncomment the language that you want to use

```
1 nano /etc/locale.gen
```

and apply it

apply

```
1 locale-gen
```

2.4.3 Setup Network

Setting the ethernet to use dhcp

setup network

```
1 cp /etc/netctl/examples/ethernet-dhcp /etc/netctl/
2 netctl enable ethernet-dhcp
```

2.4.4 Activating HDMI-Output

create a config-file for loading the modules

```
setup HDMI
```

```
1 nano /etc/modules-load.d/sunxi_cedar_mod.conf
```

```
/etc/modules-load.d/sunxi_cedar_mod.conf
```

```
1 # load sunxi cedar module
2 sunxi_cedar_mod
3 lcd
4 hdmi
5 ump
6 disp
7 mali
8 mali_drm
9 cedar_dev
10 bt_gpio
11 bcmhdhd
12 sw_ahci_platform
```

2.4.5 Make a Reboot

```
1 reboot
```

2.4.6 Update Packages and System

```
update
```

```
1 pacman -Syu
```

2.4.7 Install X-Server and Mate

```
install
```

```
1 pacman -S xorg-server xorg-xinit xterm mate-desktop onboard mate-utils wget
```

2.4.8 Install some Packages

```
install
```

```
1 pacman -S xorg-server xf86driproto xorg-util-macros xorg-server-devel \
2 git base-devel xf86-video-fbturbo-git
```

2.5 Rebuild the Kernel

2.5.1 Get the Kernel used by the Arch-Distrie

get and rebuild

```
1 cd /usr/src
2 wget https://github.com/linux-sunxi/linux-sunxi/asunxi-v3.4.90-r1.tar.gz
3 tar xfvz sunxi-v3.4.90-r1.tar.gz
4 ln -s linux-sunxi-sunxi-v3.4.90-r1/ linux
5 cd linux
6 rm .config
7 cp /proc/config.gz /usr/src/
8 gunzip config.gz
9 cd linux
10 cp ../config .config
11 make clean
12 make oldconfig
```


2.6 Optional

2.6.1 qvdpautest

qvdpautest installation

```
1 cd /usr/local/src/  
2 git clone https://github.com/robertmassaioli/qvdpautest.git  
3 cd qvdpautest/  
4 ./build_and_run.bash
```

2.7 Notes

Notes

vdpau-sunxi is still in development.