



A20 音频驱动使用说明

V1.0

2013-06-27



Revision History

Version	Date	Changes compared to previous issue
V1.0	2013-06-27	初建版本

For allwinner tech on



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1. 音频模块

audio-codec,hdmi,hdcp,sdpif,i2s,pcm

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2. 代码位置

lichee\linux-3.4\sound\soc\sun7i

hdc

hdmiaudio

i2s

pcm

spdif

built-in.o

Kconfig

Makefile

modules.builtin

modules.order

sun7i-codec.c

sun7i-codec.h

sun7i-codec.o

158 KB

1 KB

1 KB

1 KB

0 KB

56 KB

5 KB

158 KB

文件夹

文件夹

文件夹

文件夹

文件

文件

文件

BUILTIN 文件

ORDER 文件

UltraEdit Docum...

UltraEdit Docum...

文件

2013-6-24 16:43

2013-6-24 13:30

2013-6-24 16:28

2013-6-21 16:19

2013-6-21 16:19

2013-6-24 10:07

2013-6-21 16:16

2013-6-21 16:16

2013-6-25 14:56

2013-6-25 15:38

2013-6-21 16:42

2013-6-21 16:16

2013-6-24 10:07

图 1 音频驱动代码位置

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3. 编译方式

打来配置方式，路径如下图 2-6。对应的方式如图 6 所示，分别对应编译 audio-codec,hdmi,hdcp,sdpif,i2s,pcm 模块。例如：只是需要 audio-codec，选择第一个即可，默认的情况全部编译到内核。

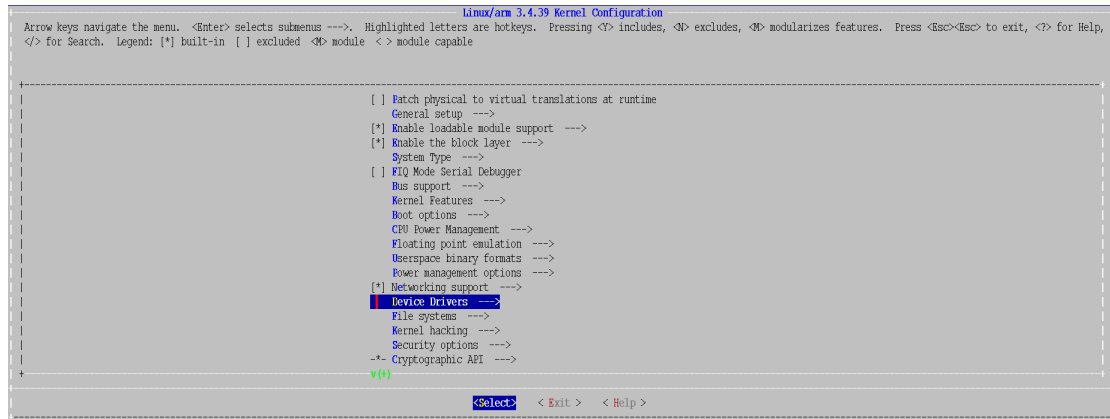


图 2

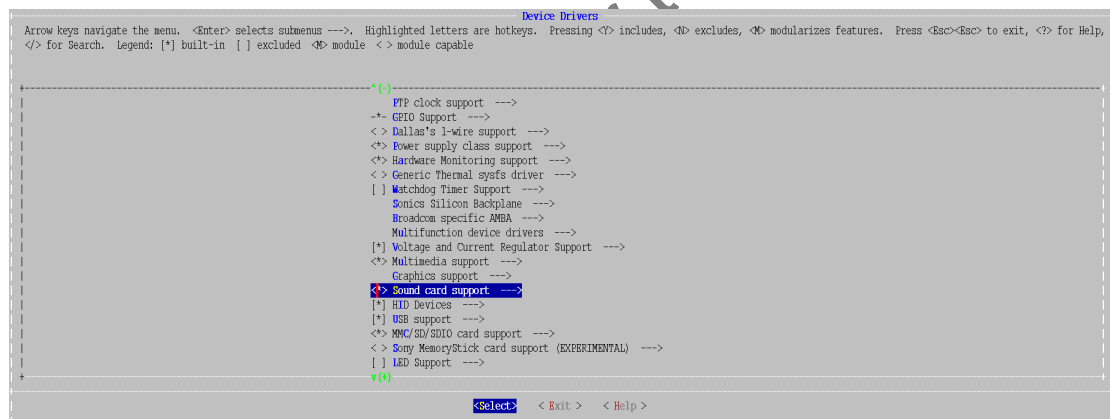


图 3





图 4

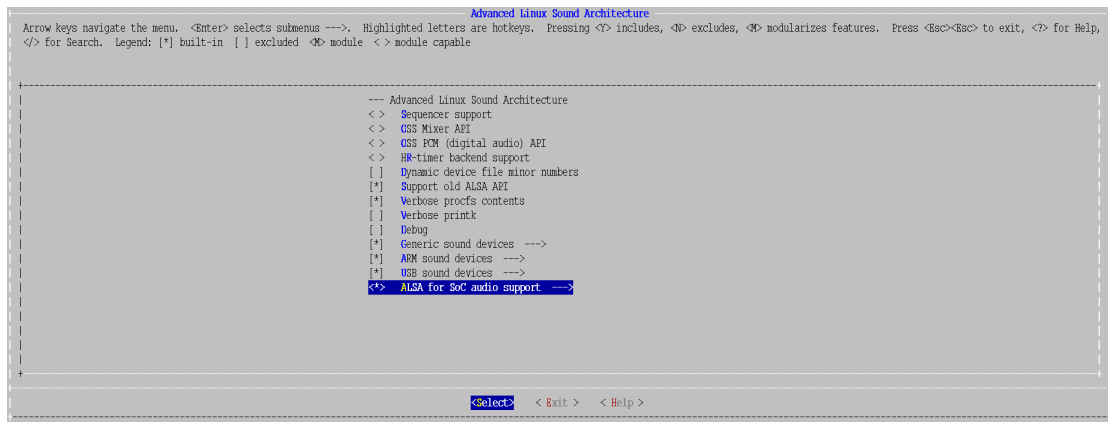


图 5

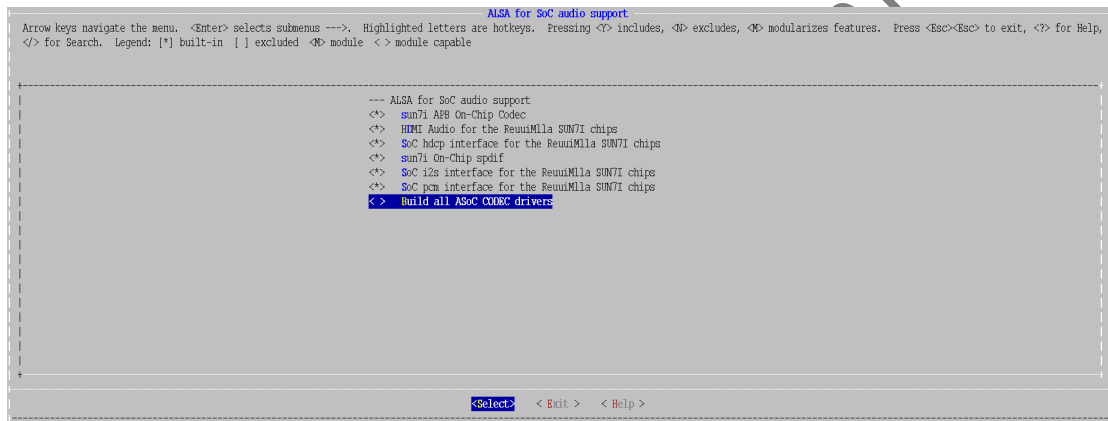


图 6

4. 配置项说明

4.1.Audio-codec

[audio_para]

audio_used = 1

hp_mute_used=0

audio_pa_ctrl = port:PH15<1><default><default><0>

;hp_mute = port:PI3<1><default><default><0>

audio_used: audio 模块是否加载到内核，默认选择 1

hp_mute_used: 控制外部 mute 电路的使能，有硬件电路时候再选择，默认的时候没有这电路，不使用

audio_pa_ctrl: 外部 PA 使能控制，默认配置的是 PH15，输出为低电平，驱动里有对应的开关操作。

hp_mute: 外部 mute 电路的使能

Hdmi

4.2.[hdmi_para]

hdmi_used = 1

hdcp_enable = 0//为 1，音频部分走 HDCP，默认为 0，音频走 HDMI

4.3.[i2s2_para]

i2s_channel = 2

i2s_master = 4

i2s_select = 1

audio_format = 1

signal_inversion = 1

over_sample_rate = 256

sample_resolution = 16

word_select_size = 32

pcm_sync_period = 256

msb_lsb_first = 0

sign_extend = 0

slot_index = 0

slot_width = 16

frame_width = 1

tx_data_mode = 0

rx_data_mode = 0



```
;i2s_mclk          = port:PB05<2><1><default><default>
;i2s_bclk          = port:PB06<2><1><default><default>
;i2s_lrclk         = port:PB07<2><1><default><default>
;i2s_dout0         = port:PB08<2><1><default><default>
;i2s_dout1         =
;i2s_dout2         =
;i2s_dout3         =
;i2s_din           = port:PB12<2><1><default><default>
```

i2s2_para 是专门为 HDCP 使用的，默认配置就可以，不需要任何改动。HDMI 的音频部分走 HDMI 还是 HDCP，在 hdmi 配置项里可以切换，见上面 HDMI 配置说明。

4.4.[spdif_para]

```
spdif_used        = 0
spdif_mclk        =
spdif_dout         = port:PB13<4><1><default><default>
spdif_din         =
```

Spdif 默认不配置到内核里，输出口配置 PB13，不需要改动

4.5.[i2s_para]

```
i2s_used          = 0
i2s_channel       = 2
i2s_master        = 4
i2s_select        = 1
audio_format      = 1
signal_inversion  = 1
over_sample_rate  = 256
sample_resolution = 16
word_select_size  = 32
pcm_sync_period   = 256
msb_lsb_first     = 0
sign_extend       = 0
slot_index        = 0
slot_width        = 16
frame_width       = 1
tx_data_mode      = 0
rx_data_mode      = 0
i2s_mclk          = port:PB05<2><1><default><default>
i2s_bclk          = port:PB06<2><1><default><default>
i2s_lrclk         = port:PB07<2><1><default><default>
i2s_dout0         = port:PB08<2><1><default><default>
i2s_dout1         =
i2s_dout2         =
```



i2s_dout3 =
i2s_din = port:PB12<2><1><default><default>

主要项目说明:

i2s_used: 默认情况下 I2S 不使用。

i2s_select: 为 1 配置为 I2S, 为 0 配置为 PCM, 默认配置为 1

4.6.[pcm_para]

pcm_used = 0
pcm_channel = 2
pcm_master = 4
pcm_select = 1
audio_format = 4
signal_inversion = 1
over_sample_rate = 256
sample_resolution = 16
word_select_size = 32
pcm_sync_period = 256
msb_lsb_first = 0
sign_extend = 0
slot_index = 0
slot_width = 16
frame_width = 1
tx_data_mode = 0
rx_data_mode = 0
pcm_mclk = port:PA09<6><1><default><default>
pcm_bclk = port:PA14<6><1><default><default>
pcm_lrclk = port:PA15<6><1><default><default>
pcm_dout0 = port:PA16<6><1><default><default>
pcm_dout1 =
pcm_dout2 =
pcm_dout3 =
pcm_din = port:PA17<6><1><default><default>

主要项目说明:

pcm_used : 默认情况下 pcm 不使用。

pcm_select: 为 1 配置为 pcm, 为 0 配置为 i2s, 默认配置为 1

5.Declaration

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