

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	

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1. 音频模块:

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

2. 代码位置:

lichee\linux-3.4\sound\soc\sun7i

hdcp	文件夹	2013-6-24 16:43
hdmiaudio	文件夹	2013-6-24 13:30
i2s	文件夹	2013-6-24 16:28
pcm	文件夹	2013-6-21 16:19
sdpiif	文件夹	2013-6-21 16:19
built-in.o	158 KB 0 文件	2013-6-24 10:07
Kconfig	1 KB 文件	2013-6-21 16:16
Makefile	1 KB 文件	2013-6-21 16:16
modules.builtin	1 KB BUILTIN 文件	2013-6-25 14:56
modules.order	0 KB ORDER 文件	2013-6-25 15:38
sun7i-codec.c	56 KB UltraEdit Docum...	2013-6-21 16:42
sun7i-codec.h	5 KB UltraEdit Docum...	2013-6-21 16:16
sun7i-codec.o	158 KB 0 文件	2013-6-24 10:07

图 1 音频驱动代码位置

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。

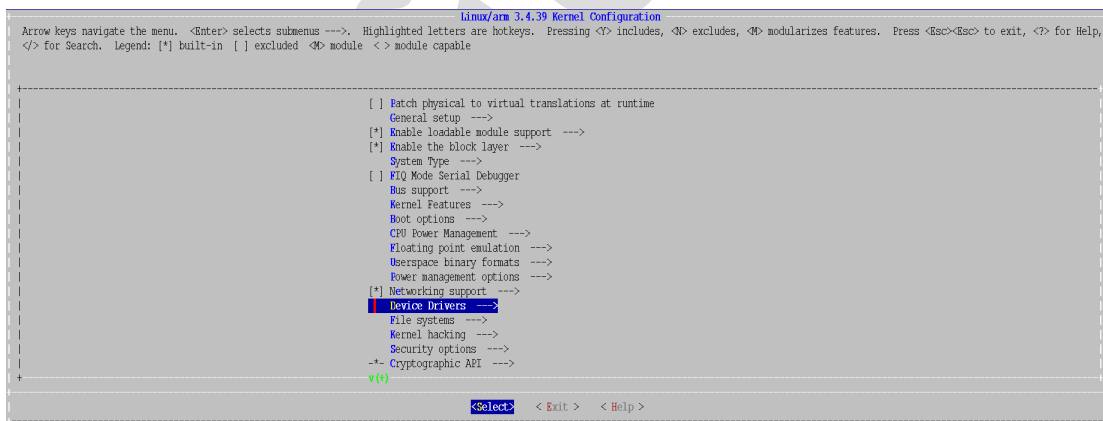


图 2

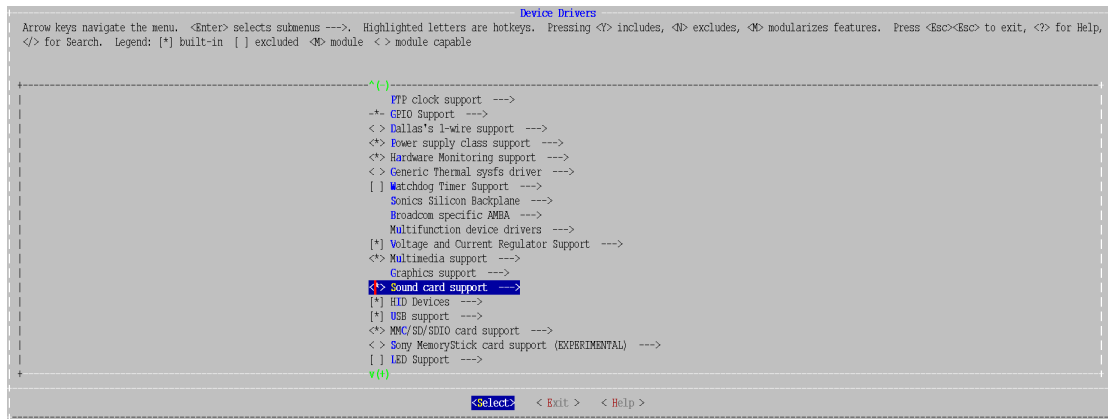


图 3

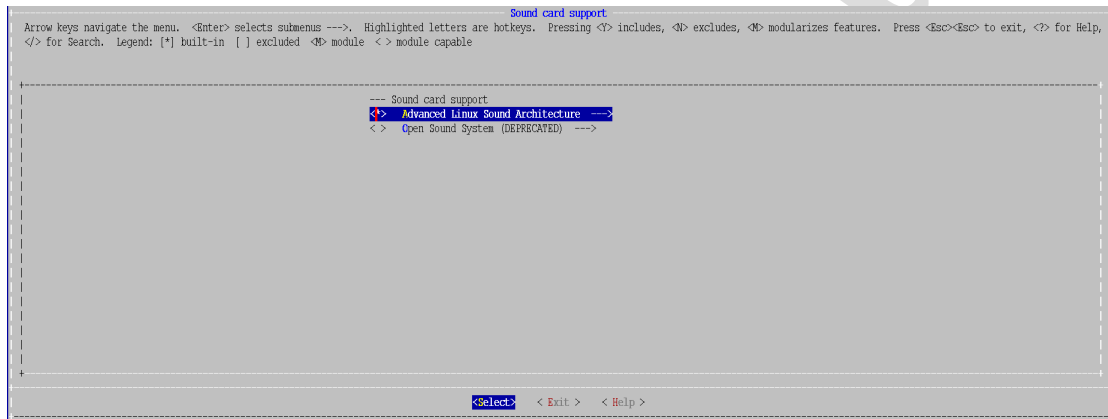


图 4

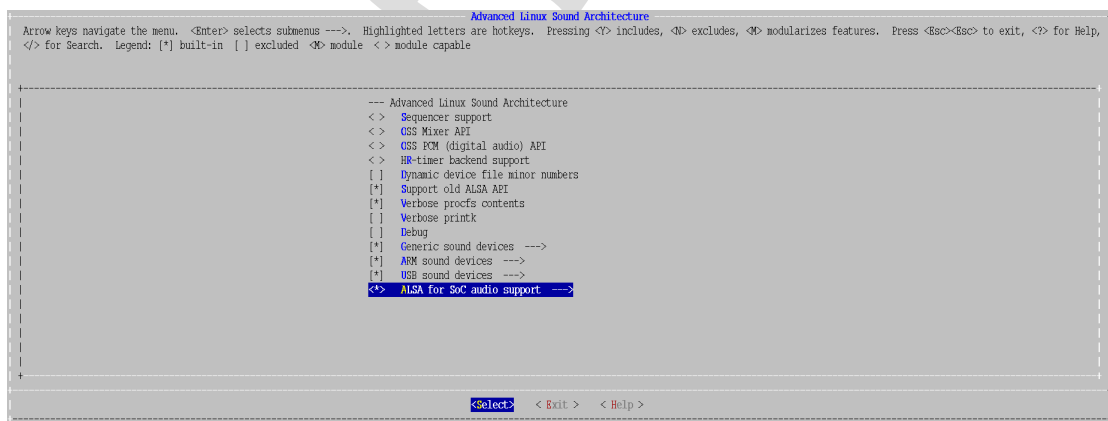


图 5

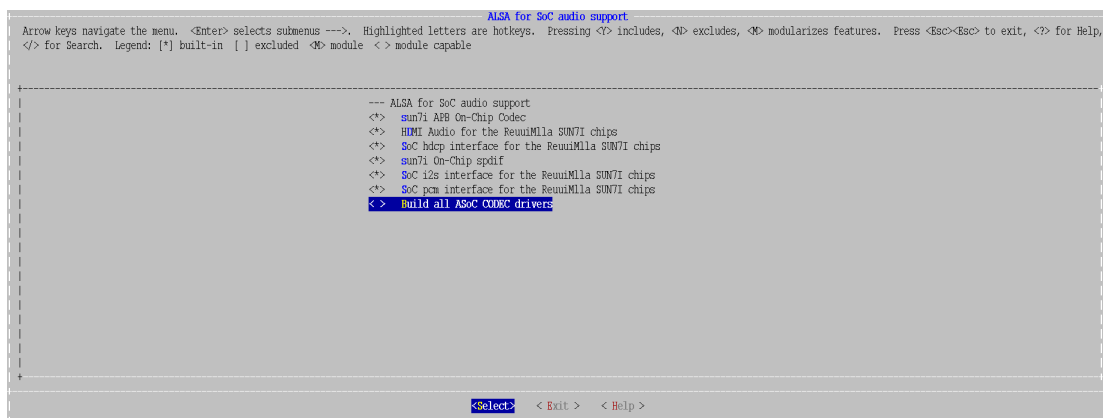


图 6

4. 配置项说明

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

[hdmi_para]

hdmi_used = 1

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

[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_lrcclk     = 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。

[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

[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

[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。

5.Declaration

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