



SSD20X 换屏参 SOP



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REVISION HISTORY

Revision No.	Description	Date
0.1	<ul style="list-style-type: none">Initial release	06/27/2019
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1. 编译 SDK&KERNEL

参考 SSD201 用户开发指南.pdf 编译 project 和 kernel, 需要注意的是如果点的屏是 MIPI 屏, kernel 必须使用如下 config:

(如果没有使用对应 mipi 的 config, 需要在运行 demo 前将寄存器 0x101e 的 0x0d 写成 0x1000:/config/riu_w 0x101e 0x0d 0x1000)

Nor flash:

```
infinity2m_ssc011a_s01a_display_for_mipi_defconfig
```

Nand flash:

```
infinity2m_spinand_ssc011a_s01a_display_for_mipi_defconfig
```

2. 配置点屏 DEMO

1. 将附件 h264Player.tar.gz 拷贝到编译服务器，放置到 project 同一级目录：



h264Player.tar.gz

```
Release_SDK/release/release_1123/sourcecode$ ls -la
tar_users      4096 Nov 26 17:07 .
tar_users      4096 Nov 23 17:00 ..
tar_users      4096 Nov 26 10:49 boot
tar_users      29980761 Nov 23 16:59 boot-TAKOYAKI-ALPHA006-1123.tar.gz
tar_users      4096 Nov 25 16:18 cipher
tar_users      4096 Nov 26 16:38 h264Player
tar_users      33056110 Nov 26 17:07 h264Player.tar.gz
tar_users      4096 Nov 26 10:51 images
tar_users      4096 Nov 26 10:13 JpegPlayer
tar_users      4096 Nov 26 16:49 kernel
tar_users      634163521 Nov 23 16:59 kernel-TAKOYAKI-ALPHA006-1123.tar.gz
tar_users      4096 Nov 26 11:45 project
tar_users      586777369 Nov 23 17:00 project_bak
tar_users      586778603 Nov 23 18:11 project-TAKOYAKI-ALPHA006-1123.tar.gz
tar_users      3589 Nov 26 16:46 Release_to_customer.sh
tar_users      4096 Nov 23 16:57 sdk
tar_users      346732141 Nov 23 16:59 sdk-TAKOYAKI-ALPHA006-1123.tar.gz
tar_users      8137492 Nov 23 18:04 SSD201_NOR_ZK_FASTBOOT.tar.gz
tar_users      14445353 Nov 23 17:53 SSD201_NOR_ZK_MINI.tar.gz
tar_users      28539280 Nov 23 17:11 SSD202_SPI NAND_ZK_FULL.tar.gz
```

2. 解压后，将点屏需要的屏参文件放到 h264Player 目录：

```
Release_SDK/release/release_1123/sourcecode/h264Player$ ls -la
tar_users      4096 Nov 26 16:38 .
tar_users      4096 Nov 26 17:07 ..
tar_users      4096 Nov 25 14:28 ffmpeg-4.1.3
tar_users      1517 Nov 22 14:12 Makefile
tar_users      7965 Nov 20 17:03 SAT070CP50_1024x600.h
tar_users      7594 Nov 26 16:38 SsPlayeEs.c
tar_users      6316 Nov 26 16:38 SsPlayeEs.c.o
tar_users      20652 Nov 26 16:38 SsPlayer
tar_users      14005 Nov 22 15:15 VS101BXN15V0_800x1280_MIPI.h
```

3. 在 SsPlayeEs.c 中 include 对应的屏参文件，并设置解码器输入/输出宽高，以及显示模块输入/输出宽高：

```

16
17 //include "SAT070CP50_1024x600.h"
18 #include "VS101BXXN15V0_800x1280_MIPI.h"
19
20 #define STCHECKRESULT(result)\
21   if (result != MI_SUCCESS)\
22 +-- 4 lines: {\
26   else\
27 +-- 3 lines: {\
30
31 #define VDEC_CHN_ID      0
32 #define USE_MIPI        1
33
34 #define VDEC_INPUT_WIDTH    1920
35 #define VDEC_INPUT_HEIGHT  1080
36
37 #define VDEC_OUTPUT_WIDTH   800
38 #define VDEC_OUTPUT_HEIGHT 1024
39
40 #define DISP_INPUT_WIDTH    VDEC_OUTPUT_WIDTH
41 #define DISP_INPUT_HEIGHT   VDEC_OUTPUT_HEIGHT
42
43 #define DISP_OUTPUT_X       0
44 #define DISP_OUTPUT_Y       0
45 #define DISP_OUTPUT_WIDTH   800//VDEC_OUTPUT_WIDTH
46 #define DISP_OUTPUT_HEIGHT 1280//VDEC_OUTPUT_HEIGHT
47
  
```

include 点屏对应的屏参文件

点的屏是mipi屏置为1, 非mipi屏为0

解码器输入/输出宽高

显示模块输入/输出宽高以及输出的位置

注意:

VDEC_INPUT_WIDTH/VDEC_INPUT_HEIGHT 必须跟输入码流的宽高保持一致。

DISP_OUTPUT_WIDTH/DISP_OUTPUT_HEIGHT 不能超过屏的宽高。

解码模块只能做缩放，所以 VDEC_INPUT_WIDTH/VDEC_INPUT_HEIGHT 必须大于 VDEC_OUTPUT_WIDTH/VDEC_OUTPUT_HEIGHT。

显示模块只能做拉伸，所以 DISP_INPUT_WIDTH/DISP_INPUT_HEIGHT 必须小于 DISP_OUTPUT_WIDTH/DISP_OUTPUT_HEIGHT。

4. 编译 h264Player Demo
 make clean;make 即可

```

aaron.feng@sigmastar:~/Code/P2/Release_SDK/release/release_1123/sourcecode/h264Player$ vi SsPlayEs.c
aaron.feng@sigmastar:~/Code/P2/Release_SDK/release/release_1123/sourcecode/h264Player$ make clean;make

>>>>=====
TARGET_NAME = SsPlayer

compile SsPlayEs.c.o
SsPlayEs.c: In function 'main':
SsPlayEs.c:208:5: warning: 'av_register_all' is deprecated [-Wdeprecated-declarations]
    av_register_all();
    ^
In file included from SsPlayEs.c:4:
./ffmpeg-4.1.3/host/include/Libavformat/avformat.h:2043:6: note: declared here
void av_register_all(void);
    ^
SsPlayEs.c:231:3: warning: implicit declaration of function 'usleep'; did you mean 'fseek'? [-Wimplicit-function-
    usleep(30*1000);
    ^
    fseek
SsPlayEs.c:240:3: warning: 'av_free_packet' is deprecated [-Wdeprecated-declarations]
    av_free_packet(packet);
    ^
In file included from ./ffmpeg-4.1.3/host/include/Libavformat/avformat.h:319,
                 from SsPlayEs.c:4:
./ffmpeg-4.1.3/host/include/Libavcodec/avcodec.h:4416:6: note: declared here
void av_free_packet(AVPacket *pkt);
    ^
generate SsPlayer
make done
<<<<=====
    
```

编译完成后，会生成 SsPlayer 可执行文件：

```

aaron.feng@sigmastar:~/Code/P2/Release_SDK/release/release_1123/sourcecode/h264Player$ ls -la
total 80
drwxr-xr-x  3 aaron.feng sigmastar_users  4096 Nov 26 17:26 .
drwxr-xr-x 10 aaron.feng sigmastar_users  4096 Nov 26 17:07 ..
drwxr-xr-x  3 aaron.feng sigmastar_users  4096 Nov 25 14:28 ffmpeg-4.1.3
-rwxr--r--  1 aaron.feng sigmastar_users  1517 Nov 22 14:12 Makefile
-rwxr--r--  1 aaron.feng sigmastar_users  7965 Nov 20 17:03 SAT070CP50_1024x600.h
-rwxr--r--  1 aaron.feng sigmastar_users  7594 Nov 26 16:38 SsPlayEs.c
-rw-r--r--  1 aaron.feng sigmastar_users  6316 Nov 26 17:26 SsPlayEs.c.o
-rwxr-xr-x  1 aaron.feng sigmastar_users 20652 Nov 26 17:26 SsPlayer
-rwxr--r--  1 aaron.feng sigmastar_users 14005 Nov 22 15:15 VS10IBXN15V0_800x1280_MIPI.h
aaron.feng@sigmastar:~/Code/P2/Release_SDK/release/release_1123/sourcecode/h264Player$
    
```

5. 运行 Demo

将编译生成的 SsPlayer 和 ffmpeg-4.1.3/host/lib/以及 1080P30_noneB.h264 拷贝或者挂载到板子 customer 目录按如下方式运行即可：

```

/ # cd /mnt/P2/player/
/mnt/P2/player # ls
1080P30_noneB.h264          dump_chn00_h264_1024_600_1024_1.yuv
SsPlayer                  dump_chn00_h264_1024_600_1024_2.yuv
boot.h264                 h264_1280_720.es
dec.h264                  lib
demo.mp4                  prog
dump_chn00_h264_1024_600_1024_0.yuv
/mnt/P2/player # export LD_LIBRARY_PATH=/lib:$PWD/lib:$LD_LIBRARY_PATH
/mnt/P2/player # ./SsPlayer 1080P30_noneB.h264
client [731] connected, module:sys
[MI_ERR ]: MI_SYS_IMPL_Init[3511]: gSysInitCount:2
client [731] connected, module:vdec
(sdk_Init 71)execlient [731] connected, module:disp
[MI_SYSCEG_GetPanelInfo 49] eTiming = 4, hdmiTx = 1, Not Fund!!!
    
```

3. 点屏 DEMO PIPELINE

h264Player Demo 主要是读取一个 h264 文件，送到 vdec 解码模块解码成 yuv 图像送给 disp 模块显示，具体如下：

