

망고 210 ICS 4.0.4 1.3M SR130PC10 Camera Developer Guide

<http://www.mangoboard.com/>

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Document History

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1. 커널 수정

mach-mango210.c 에서 CONFIG_VIDEO_SR130PC10관련 소스가 제대로 되어있는지 확인합니다.

```
/kernel$ vi arch/arm/mach-s5pv210/mach-mango210.c
```

```
#ifndef CONFIG_VIDEO_SR130PC10
#include <media/sr130pc10_platform.h>
#define CAM_ITU_CH_A
#undef CAM_ITU_CH_B
#endif
.....
#ifdef CONFIG_VIDEO_SR130PC10
                &sr130pc10,
                &sr130pc10,
#endif
.....
#ifdef CONFIG_VIDEO_SR130PC10

static struct sr130pc10_platform_data sr130pc10_plat = {
    .default_width = 640,
    .default_height = 480,
    .pixelformat = V4L2_PIX_FMT_UYVY,
    .freq = 24000000,
    .is_mipi = 0,
};

static struct i2c_board_info sr130pc10_i2c_info = {
    I2C_BOARD_INFO("SR130PC10", 0x20),
    .platform_data = &sr130pc10_plat,
};

static struct s3c_platform_camera sr130pc10 = {
    #ifdef CAM_ITU_CH_A
        .id = CAMERA_PAR_A,
    #else
        .id = CAMERA_PAR_B,
    #endif
};
```

```

.type           = CAM_TYPE_ITU,
.fmt           = ITU_601_YCBCR422_8BIT,
.order422     = CAM_ORDER422_8BIT_YCBYCR,//CAM_ORDER422_8BIT_CBRY,
#ifdef CAM_ITU_CH_A
.i2c_busnum    = 0,
#else
.i2c_busnum    = 1,
#endif

.info         = &sr130pc10_i2c_info,
.pixelformat   = V4L2_PIX_FMT_UYVY,
//.srclk_name  = "mout_mpll",
.srclk_name    = "xusbxti",
.clk_name     = "sclk_cam0",
.clk_rate     = 24000000,
.line_length   = 1920,
.width        = 640,
.height       = 480,
.window       = {
    .left      = 0,
    .top       = 0,
    .width     = 640,
    .height    = 480,
},

/* Polarity */
.inv_pclk     = 1,
.inv_vsync    = 1,
.inv_href     = 0,
.inv_hsync    = 0,

.initialized  = 0,
#ifdef CAM_ITU_CH_A
.cam_power    = mango210_cam_power_A,
#else
.cam_power    = mango210_cam_power_B,
#endif
};
#endif

```

make파일을 확인합니다.

/kernel/drivers\$ vi media/video/Makefile

```
obj-$(CONFIG_VIDEO_NOON010PC30) += noon010pc30.o
obj-$(CONFIG_VIDEO_SR130PC10) += sr130pc10.o
```

android/device/crazyboys/mango210\$ vi BoardConfig.mk

```
#USE_CAMERA_STUB := true
USE_CAMERA_STUB := false
.....
ifeq ($(USE_CAMERA_STUB),false)
BOARD_CAMERA_LIBRARIES := libcamera
endif
```

true로 되어있어서 false로 변경하였습니다.

BOARD_CAMERA_LIBRARIES := libcamera 로 정의 하기 위해서 입니다.

./build_kernel config시 SR130PC10 CIF camera sensor support라 되어있습니다.

```
< > NOON010PC30 CIF camera sensor support
< * > SR130PC10 CIF camera sensor support
< > SoC camera support
< > Samsung S5P and EXYNOS4 camera host in
[+1] V4L2 USB device
```

사용하는 데는 문제가 없지만 객관적으로 바꾸어줍니다.

아래와 같이 Kconfig를 변경합니다.

/kernel\$ vi drivers/media/video/Kconfig

```
config VIDEO_SR130PC10
    tristate "SR130PC10 Camera Sensor"
    depends on I2C && VIDEO_V4L2
    ---help---
    This driver supports CRZ SR130PC10 SoC camera module
```

2. 빌드 커널

./build_kernel config

```
Device Drivers --->
```

```
<*> Multimedia support --->
[*] Video capture adapters --->
<*> SR130PC10 Camera Sensor
```

```
< > Virtual Video Driver
< > CPiA2 Video For Linux
< > SR030PC30 VGA camera sensor support
< > N00N010PC30 CIF camera sensor support
<*> SR130PC10 Camera Sensor
< > SoC camera support
< > Samsung S5P and EXYNOS4 camera host interface driver
[*] V4L USB devices --->
< > S5K4BA supporting camera driver
< > S5KA3DFX Camera Sensor
< > S5K4ECGX Camera Sensor
< > N00N130PC20 Camera Sensor
< > MT9P111 5M Camera Sensor
```

```
cp .config mango210_10.1inch_sr130pc10_defconfig
cp mango210_10.1inch_sr130pc10_defconfig arch/arm/configs/
./build_kernel defconfig mango210_10.1inch_sr130pc10_defconfig
./build_kernel
```

zImage가 만들어집니다.

만들어진 zImage는 /kernel/arch/arm/boot에 있고 image에도 생성됩니다.

3. 에러

1.3m카메라 실행하였는데 안됩니다.

```
202.200635] binder: 2146:2871 transaction failed 29189, size 164-0
[ 202.711519] s3c-fimc-0 : (0) Clock sclk_fimc(0) enabled.
[ 202.712651] s3c-fimc-0 : fimc_open: fd.lcd_hres=1280 fd.lcd_vres=800
[ 202.730445] s3c-fimc-0 : s3c-fimc0 opened.
[ 202.730531] s3c-fimc-0 : fimc_querycap: called
[ 202.744408] MT9P111 0-003d: mt9p111 has been probed
[ 202.744520] s3c-fimc-2 : (2) Clock sclk_fimc(2) enabled.
[ 202.752459] s3c-fimc-2 : fimc_open: fd.lcd_hres=1280 fd.lcd_vres=800
[ 202.765377] s3c-fimc-2 : (2) Clock sclk_fimc(2) disabled.
[ 202.765432] s3c-fimc-2 : s3c-fimc2 opened.
```

```
[ 202.769287] s3c-fimc-2 : fimc_querycap: called
[ 204.211566] mt9p111_i2c_rxdata failed!
[ 214.217944] MT9P111 0-003d: mt9p111_s_ctrl: no such control
[ 215.220509] s3c-fimc-0 : fimc_querycap: called
[ 215.220599] s3c-fimc-0 : fimc_querycap: called
```

로그를 보니 mt9p111관련 내용이 보입니다.

커널이 제대로 안 올라갔습니다.

다시 컴파일 후 라이팅하면 됩니다.

기본이지만 확인이 필요한 사항

./build_kernel 후 image에 zImage가 생성되었는지, 제대로 라이팅 되었는지.