

Mango220 Android How to compile and Transfer image to Target

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

<http://cafe.naver.com/embeddedcrazyboys>

Crazy Embedded Laboratory



Document History

Revision	Date	Change note

- 1. **Release Note 2012 03 14**.....오류! 책갈피가 정의되어 있지 않습니다.
- 1.1. Base 코드.....오류! 책갈피가 정의되어 있지 않습니다.
- 1.2. 수정사항.....오류! 책갈피가 정의되어 있지 않습니다.

1. 컴파일 and How to transfer on target

```
## Mango220 build and boot
```

```
# Environment
```

```
http://cafe.naver.com/embeddedcrazyboys/22475
```

```
#Compile
```

```
[ u-boot compile ]
```

```
./build_uboot clean
```

```
./build_uboot config
```

```
./build_uboot
```

```
[ kernel compile ]
```

```
-----SD/MMC Kernel Config -----
```

```
#sdmmc boot and 7inch cap touch 1024x600 , 5M CAM
```

```
./build_kernel clean
```

```
[CAM_A]
```

```
./build_kernel defconfig mango220_android_sdmmc_7inch_1024_600_mt9p111_5M_CAM_A_defconfig
```

```
[CAM_B]
```

```
./build_kernel defconfig mango220_android_sdmmc_7inch_1024_600_mt9p111_5M_CAM_B_defconfig
```

```
./build_kernel
```

```
#sdmmc boot and 7inch cap touch 1024x600 , TVP5150
```

```
./build_kernel clean
```

```
[CAM_A]
```

```
./build_kernel defconfig mango220_android_sdmmc_7inch_1024_600_tvp5150_CAM_A_defconfig
```

```
[CAM_B]
```

```
./build_kernel defconfig mango220_android_sdmmc_7inch_1024_600_tvp5150_CAM_B_defconfig
```

```
./build_kernel
```

```
#sdmmc boot and 7inch cap touch 1024x600 , SR130PC10 1.3M
```

```
./build_kernel clean
```

```
[CAM_A]
./build_kernel defconfig
mango220_android_sdmmc_7inch_1024_600_sr130pc10_1_3M_CAM_A_defconfig
```

```
[CAM_B]
./build_kernel defconfig
mango220_android_sdmmc_7inch_1024_600_sr130pc10_1_3M_CAM_B_defconfig
```

```
./build_kernel
```

```
-----eMMC Kernel Config -----
```

```
#eMMC boot and 7inch cap touch 1024x600 , 5M CAM
```

```
./build_kernel clean
```

```
[CAM_A]
./build_kernel defconfig mango220_android_emmc_7inch_1024_600_mt9p111_5M_CAM_A_defconfig
```

```
[CAM_B]
./build_kernel defconfig mango220_android_emmc_7inch_1024_600_mt9p111_5M_CAM_B_defconfig
./build_kernel
```

```
#eMMC boot and 7inch cap touch 1024x600 , TVP5150
```

```
./build_kernel clean
```

```
[CAM_A]
./build_kernel defconfig mango220_android_emmc_7inch_1024_600_tvp5150_CAM_A_defconfig
```

```
[CAM_B]
./build_kernel defconfig mango220_android_emmc_7inch_1024_600_tvp5150_CAM_B_defconfig
```

```
./build_kernel
```

```
#eMMC boot and 7inch cap touch 1024x600 , SR130PC10 1.3M
```

```
./build_kernel clean
```

```
[CAM_A]
./build_kernel defconfig
```

```
mango220_android_emmc_7inch_1024_600_SR130PC10_1_3M_CAM_A_defconfig
[CAM_B]
./build_kernel
mango220_android_emmc_7inch_1024_600_SR130PC10_1_3M_CAM_B_defconfig
```

defconfig

```
./build_kernel
```

```
[ android compile ]
```

```
tar xf android-jb411-xxx.tgz
```

```
tar xf android-jb411-xxx-prebuilts.tgz
```

```
[SDMMC boot ]
```

```
$ cd android-jb411
```

```
$ vi device/crazyboys/mango220/BoardConfig.mk
```

```
BOARD_USES_EMMMC := false
```

```
#BOARD_USES_EMMMC := true
```

수정 후 컴파일

```
[EMMC boot ]
```

```
$ cd android-jb411
```

```
$ vi device/crazyboys/mango220/BoardConfig.mk
```

```
#BOARD_USES_EMMMC := false
```

```
BOARD_USES_EMMMC := true
```

수정 후 컴파일

How to compile

```
./build_android.sh
```

```
#SD Boot 최초 한번
```

```
SD card를 linux pc에 삽입
```

```
#df
```

```
명령으로 디바이스 확인
```

```
# cd image
```

#How To Fusing

\$ dmesg | tail

```
[12403.632015] usb 2-5: new high-speed USB device number 25 using ehci_hcd
[12403.856263] hub 2-0:1.0: unable to enumerate USB device on port 5
[12483.752014] usb 2-5: new high-speed USB device number 26 using ehci_hcd
[12483.976252] hub 2-0:1.0: unable to enumerate USB device on port 5
[12513.801490] sd 9:0:0:0: [sdd] 15644672 512-byte logical blocks: (8.01 GB/7.45 GiB)
[12513.802983] sd 9:0:0:0: [sdd] No Caching mode page present
[12513.802986] sd 9:0:0:0: [sdd] Assuming drive cache: write through
[12513.807109] sd 9:0:0:0: [sdd] No Caching mode page present
[12513.807113] sd 9:0:0:0: [sdd] Assuming drive cache: write through
[12513.808249]  sdd: sdd1 sdd2 sdd3 sdd4
```

#image

sudo ./sdwriter sdd 220 bin

#Boot mode

SD CH2 : Off[1], ON, Off, Off, Off, Off[6]

eMMC CH4: Off[1], Off, On, Off, On, Off[6]

[Linux host pc ubuntu 12.0.4]

[icanjji@icanjji-pc image]\$ lsusb

```
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 002 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 003 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 004 Device 001: ID 1d6b:0003 Linux Foundation 3.0 root hub
Bus 001 Device 002: ID 8087:0024 Intel Corp. Integrated Rate Matching Hub
Bus 002 Device 002: ID 8087:0024 Intel Corp. Integrated Rate Matching Hub
Bus 001 Device 003: ID 05e3:0716 Genesys Logic, Inc. USB 2.0 Multislot Card Reader/Writer
Bus 002 Device 005: ID 18d1:0002 Google Inc.
```

Mango220 <-> usb otg <-> Linux PC 연결 후

"lsusb" 명령으로 드라이버 인식을 확인 합니다.

[SD/MMC and eMMC fusing command]

8GB

fdisk -c 0 500 1000 300

fatformat mmc 0:1

fastboot

Host PC

sudo ./fastboot flash fwbl1 E4412_S.bl1.SMDK.MR3.bin

sudo ./fastboot flash bl2 E4412_S.bl2.SMDK.MR3.bin.signed

sudo ./fastboot flash bootloader u-boot.bin

sudo ./fastboot flash tzsw E4412_S.tzsw.SMDK.MR3.bin.signed

sudo ./fastboot flash kernel zImage

sudo ./fastboot flash ramdisk ramdisk-uboot.img

sudo ./fastboot -w

sudo ./fastboot flash system system.img

sudo ./fastboot flash kernel zImage;sudo ./fastboot flash ramdisk ramdisk-uboot.img;sudo ./fastboot -w;sudo ./fastboot flash system system.img

[env]

setenv bootcmd "movi read kernel 0 40008000;movi read rootfs 0 41000000 100000;bootm 40008000 41000000"

Window PC only

드라이버 설치 image 디렉토리)

adb_usb_driver 디렉토리

mango220-how-to-adb-driver.pdf

[eMMC only start]

Boot switch : 3, 5 ON

SD/MMC card insert

```
## u-boot
```

```
emmc partition 0 1 0
```

```
mmc erase boot 0 0 0; mmc erase user 0 0 0
```

```
[eMMC only end ]
```

[SD/MMC and eMMC fusing command]

```
## 8GB
```

```
fdisk -c 0 500 1000 300
```

```
fatformat mmc 0:1
```

```
fastboot
```

image 디렉토리에서 dos command 실행

```
## Host PC
```

```
fastboot flash fwbl1 E4412_S.bl1.SMDK.MR3.bin
```

```
fastboot flash bl2 E4412_S.bl2.SMDK.MR3.bin.signed
```

```
fastboot flash bootloader u-boot.bin
```

```
fastboot flash tzsw E4412_S.tzsw.SMDK.MR3.bin.signed
```

```
fastboot flash kernel zImage
```

```
fastboot flash ramdisk ramdisk-uboot.img
```

```
fastboot -w
```

```
fastboot flash system system.img
```

```
# u-boot ethernet
```

eth1addr 변수를 꼭 지정하고 해야합니다.

```
ex) setenv eth1addr 00:40:5c:26:0a:5c
```

인터페이스는 다음과 같이 선택합니다.

0번 포트 선택: setenv ethact smc911x-0

fusing via tftp

[u-boot ip]

setenv ipaddr 192.168.3.20; setenv serverip 192.168.3.9; setenv gatewayip 192.168.3.1; setenv netmask 255.255.255.0

[bootloader fusing]

==> set boot mode to eMMC CH0

tftp 41000000 E4412_S.bl1.SMDK.MR3.bin; emmc open 0; movi write zero fwbl1 0 41000000; emmc close 0

tftp 41000000 E4412_S.bl2.SMDK.MR3.bin.signed; emmc open 0; movi write zero bl2 0 41000000; emmc close 0

tftp 41000000 u-boot.bin; emmc open 0; movi write zero u-boot 0 41000000; emmc close 0

tftp 42000000 E4412_S.tzsw.SMDK.MR3.bin.signed; emmc open 0; movi write zero tzsw 0 42000000; emmc close 0

[Kernel fusing]

tftp 41000000 zImage; movi write kernel 0 41000000

[tftp boot]

setenv bootcmd "tftp 40008000 zImage ;movi read rootfs 0 41000000 100000;bootm 40008000 41000000"

[SD Env]

setenv bootcmd "movi read kernel 0 40008000;movi read rootfs 0 41000000 100000;bootm 40008000 41000000"