

MV 4412 Android 4.0 Downloading



Microvision Co., Ltd.

Document Information

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Satus	Working

Revision History

Date	Version	Update Descriptions	Editor
2012. 7. 17.	V1.0	First Edition	Microvision

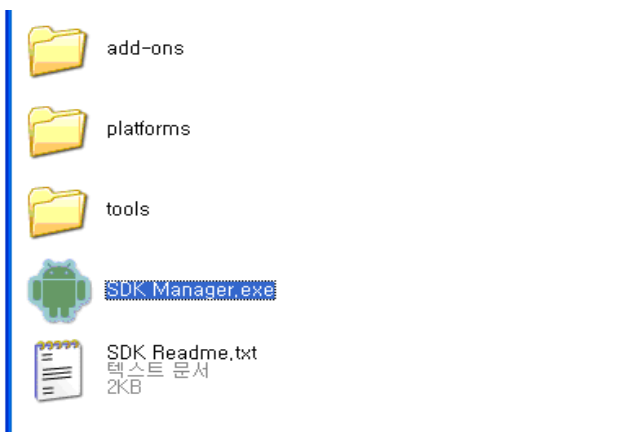
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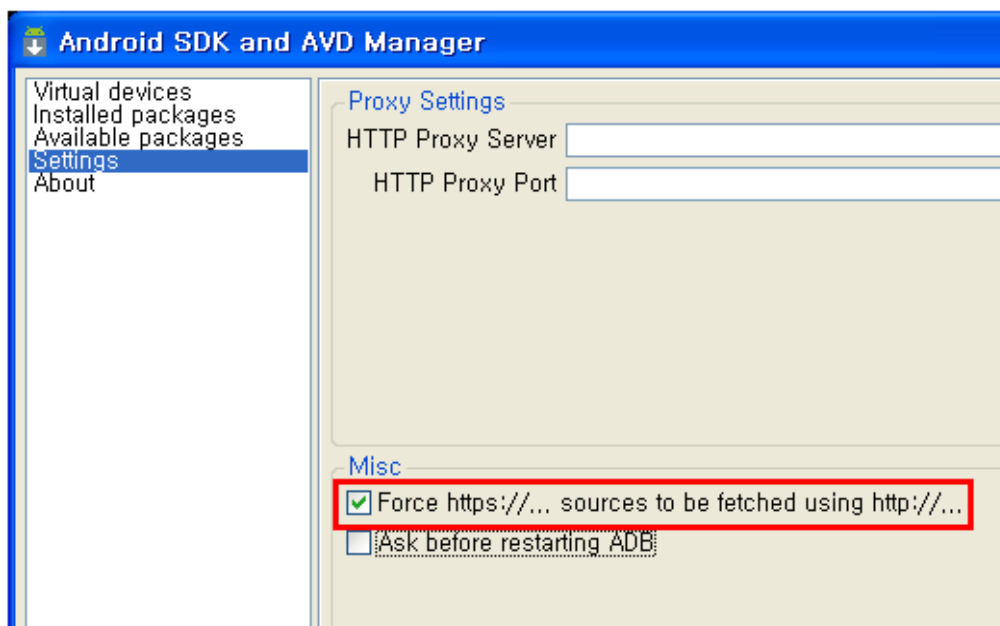
1. SDK Setup

MV4412-LCD uses fastboot to download the image. To use the fastboot, SDK should be installed. (Download link for SDK is <http://developer.android.com/sdk/index.html>)

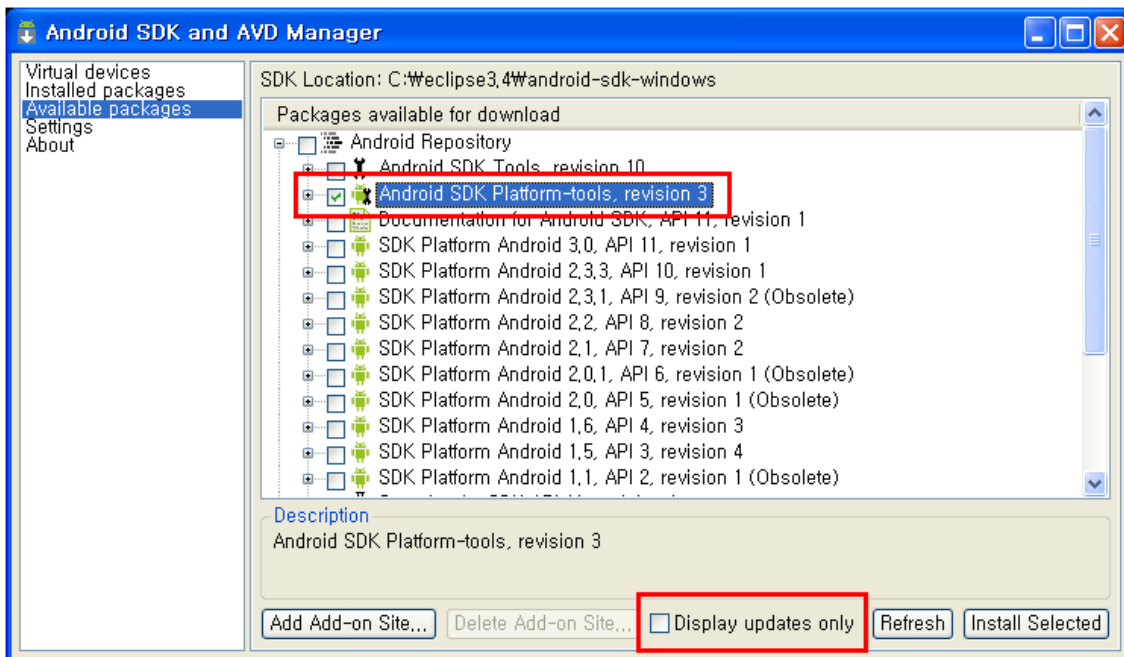
Run "SDK Manager.exe". If asked for update, please proceed all for 2.3 or 4.0.



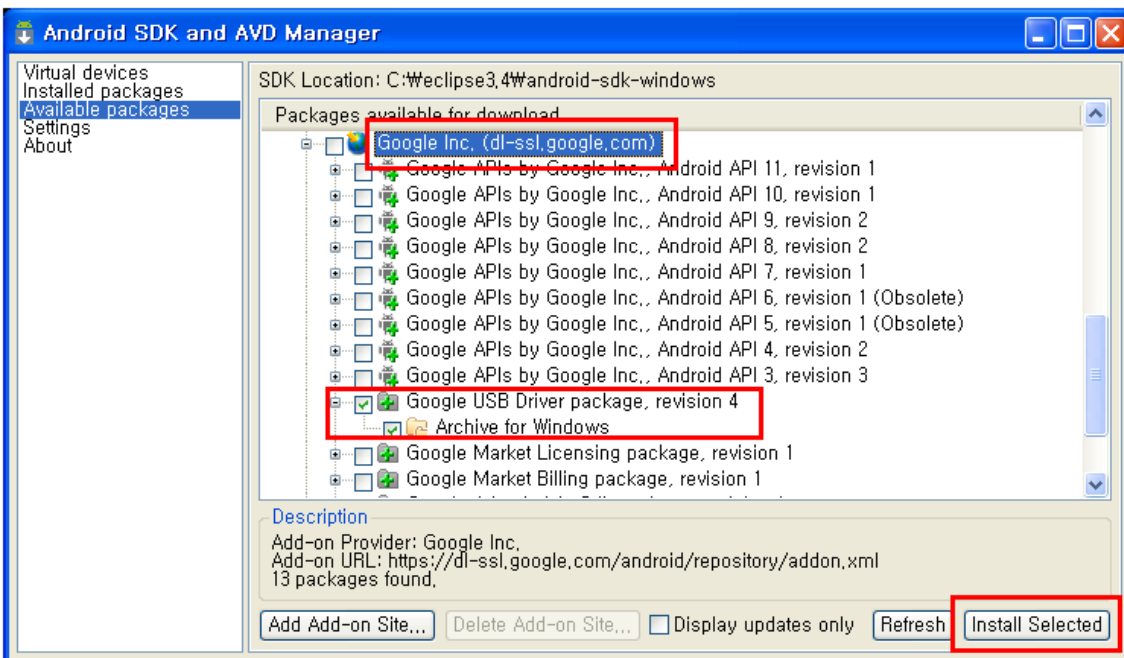
Check "Force" at "Settings"



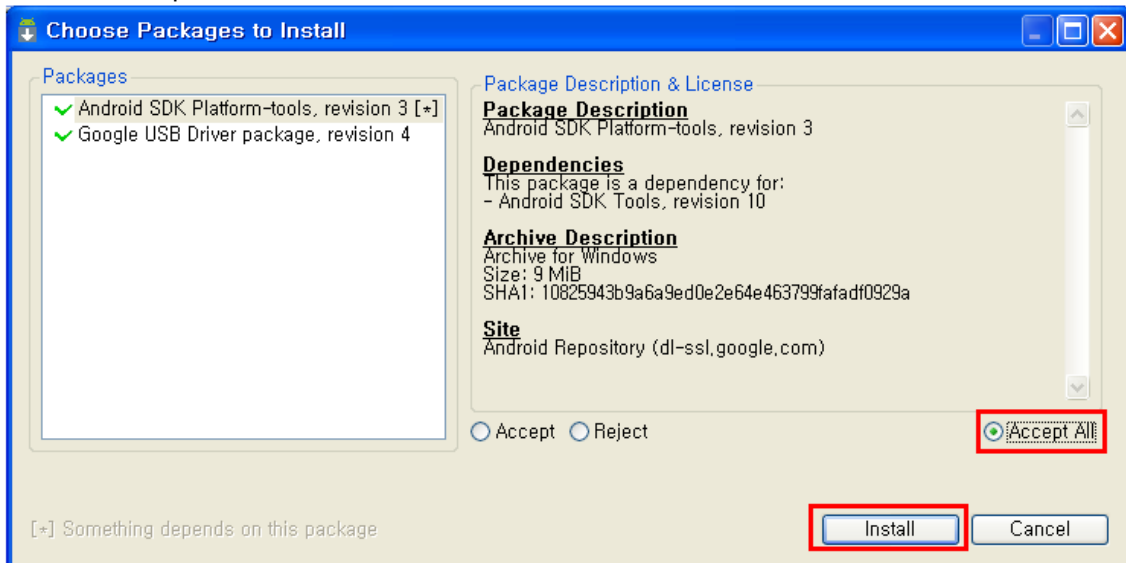
Select “Android SDK Platform-tools” and clear ““Display updates only”



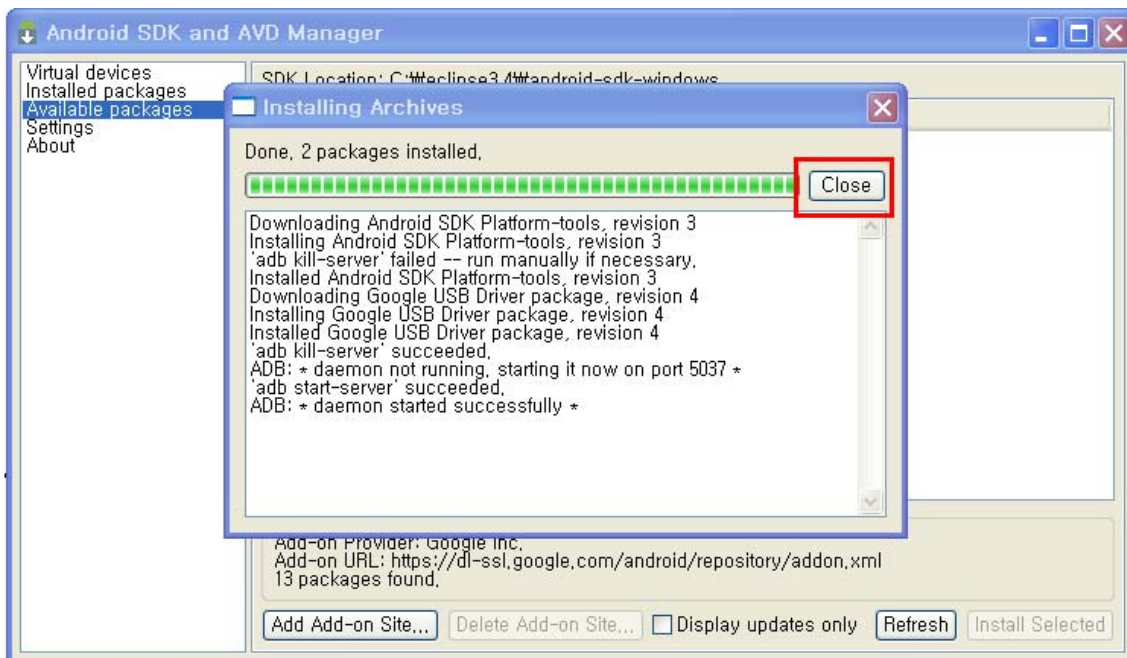
At Google Inc (dl-ssl.google.com), Select “Google USB Driver package...” And click “install Selected”.



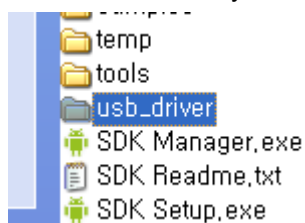
Select "Accept All" and click "install".



Click "Close"



After installation, you will see the below “usb_driver” folder in the SDK.



Open the file “android_winusb.inf” by using editor and modify it as below.

...

[Google.NTx86]

; HTC Dream

%SingleAdbInterface% = USB_Install, USB\VID_0BB4&PID_0C01

%CompositeAdbInterface% = USB_Install, USB\VID_0BB4&PID_0C02&MI_01

%SingleBootLoaderInterface% = USB_Install, USB\VID_0BB4&PID_0FFF

; HTC Magic

%CompositeAdbInterface% = USB_Install, USB\VID_0BB4&PID_0C03&MI_01

;

;Moto Sholes

%SingleAdbInterface% = USB_Install, USB\VID_22B8&PID_41DB

%CompositeAdbInterface% = USB_Install, USB\VID_22B8&PID_41DB&MI_01

;

;Google NexusOne

%SingleAdbInterface% = USB_Install, USB\VID_18D1&PID_0D02

%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_0D02&MI_01

%SingleAdbInterface% = USB_Install, USB\VID_18D1&PID_4E11

%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4E12&MI_01

%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4E22&MI_01

; Samsung SMDK

%SingleBootLoaderInterface% = USB_Install, USB\VID_18D1&PID_0002

%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_0005&MI_01

[Google.NTamd64]

; HTC Dream

%SingleAdbInterface% = USB_Install, USB\VID_0BB4&PID_0C01

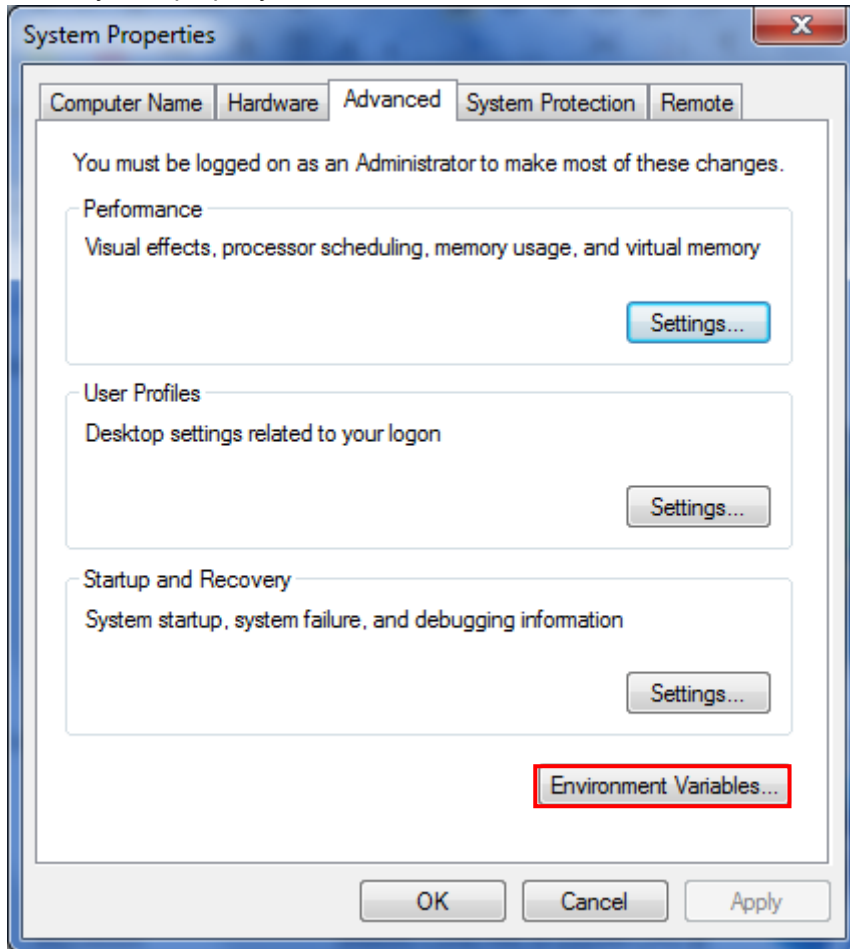
%CompositeAdbInterface% = USB_Install, USB\VID_0BB4&PID_0C02&MI_01

%SingleBootLoaderInterface% = USB_Install, USB\VID_0BB4&PID_0FFF

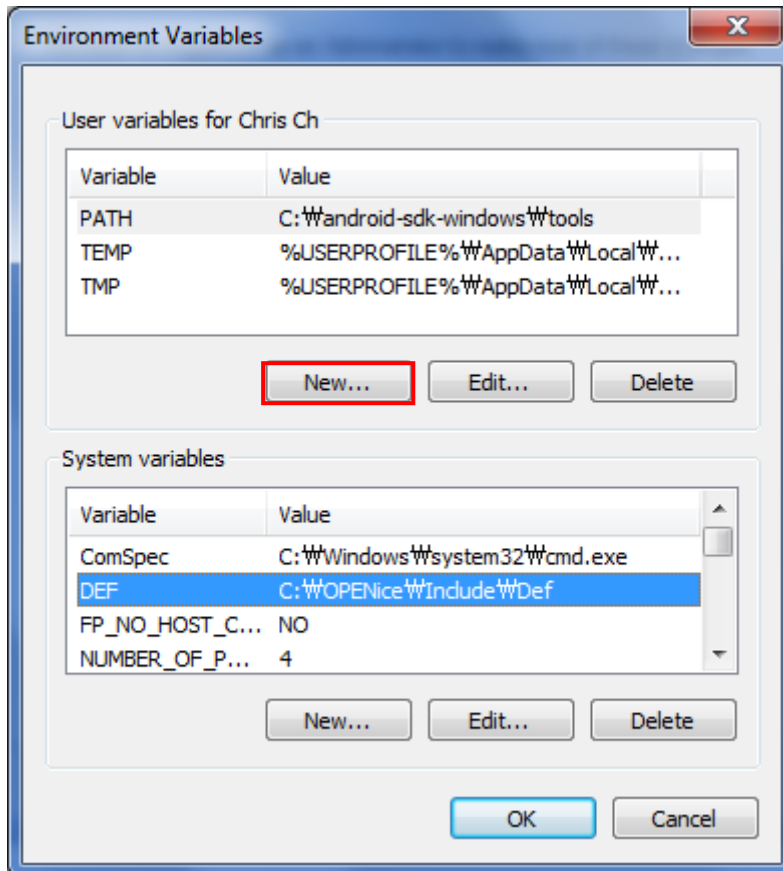
; HTC Magic

```
%CompositeAdbInterface% = USB_Install, USB\VID_0BB4&PID_0C03&MI_01
;
;Moto Sholes
%SingleAdbInterface% = USB_Install, USB\VID_22B8&PID_41DB
%CompositeAdbInterface% = USB_Install, USB\VID_22B8&PID_41DB&MI_01
;
;Google NexusOne
%SingleAdbInterface% = USB_Install, USB\VID_18D1&PID_0D02
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_0D02&MI_01
%SingleAdbInterface% = USB_Install, USB\VID_18D1&PID_4E11
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4E12&MI_01
%CompositeAdbInterface% = USB_Install, USB\VID_18D1&PID_4E22&MI_01
```


In the system property, click advanced → environment variable.



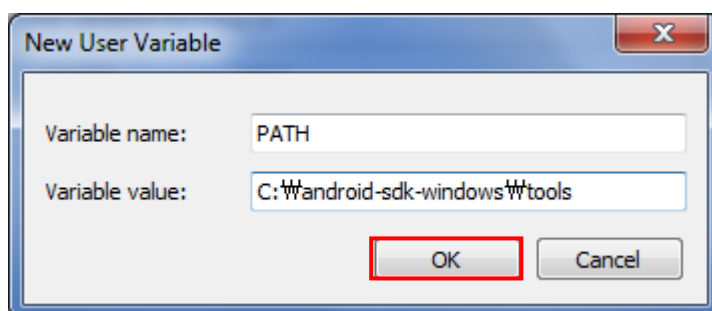
Click “New” at the “Environment Variable”.



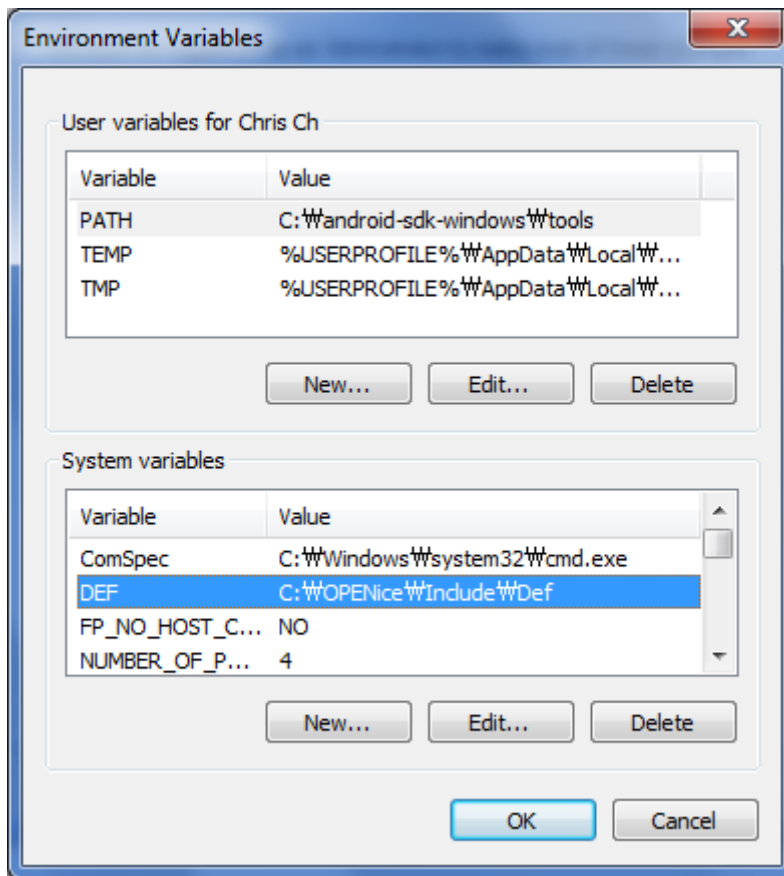
Set the variable name to “PATH” and put the SDK directory path to the value.

PATH

C:\android-sdk-windows\tools

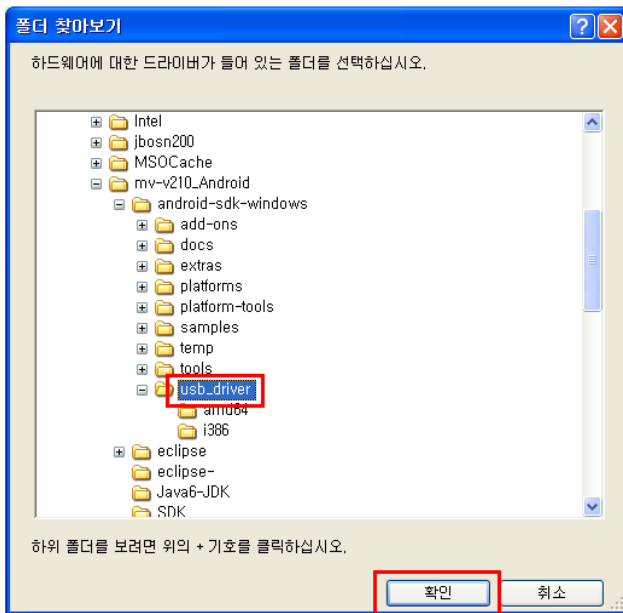


Click "OK"



Connect the board with the USB serial and execute the fastboot at u-boot mode and it will find the USB drive. You will see the installation message on your PC. You can assign the USB driver "android_winusb.inf" which is generated in the SDK installation.

MV4412 # fastboot

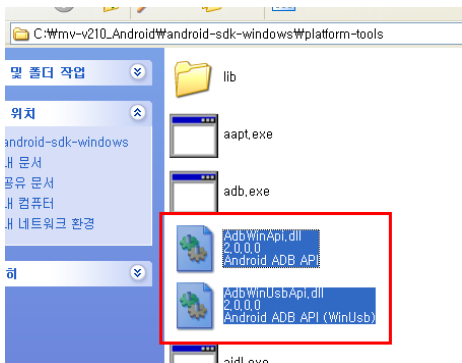


Fastboot.exe file is in C:\android-sdk-windows\tools. Please copy the compiled image to the same directory. and it places the compiled image.

(u-boot.bin/zImage/ramdisk-uboot.img/system.img)


And then, run "cmd" for DOS mode window and run "fastboot" to download the image.

If there is an error message of "AdbWinApi.dll" can't be found, you can copy AdbWinApi.dll, AdbWinUsbApi.dll at C:\android-sdk-windows\platform-tools to the C:\android-sdk-windows\tools.



2. Downloading

To download the image with the MV 4412-LCD board, we need the emulator called CodeViser from J&D Tech. The cmm script file is in the directory, CDWTAG.

 E4x12_evt1_lpddr2.cmm

Below is the screen after the u-boot is executed using CodeViser. After entering the u-boot mode, you can use the u-boot command from now.

```
U-Boot 2010.12 (Jul 05 2012 - 15:26:35) for MV4412

CPU: S5PC220 [Samsung SOC on SMP Platform Base on ARM CortexA9]
APLL = 1200MHz, MPLL = 800MHz
DRAM: 1023 MiB
vdd_arm: 1200
vdd_int: 1000
vdd_g3d: 1000
vdd_mif: 1000
TrustZone Enabled BSP
BL1 version: 20111128

Checking Boot Mode ... EMMC4.41
GPV3CON=0x00000000
REVISION: 1.1
MMC Device 0: 3776 MB
MMC Device 1: 0 MB
MMC Device 2 not found
*** Warning - using default environment

Net: smc911x-0
Hit any key to stop autoboot: 0
MV4412 #
```

To download the image, we need to make the partition and format.

```
MV4412 # fdisk -c 0
```

```

Checking Boot Mode ... EMMC4.41
GPV3CON=0x00000000
REVISION: 1.1
MMC Device 0: 3776 MB
MMC Device 1: 0 MB
MMC Device 2 not found
*** Warning - using default environment

Net: smc911x-0
Hit any key to stop autoboot: 0
MV4412 # fdisk -c 0
Count: 10000
fdisk is completed

partition #   size(MB)   block start #   block count   partition_Id
  1           2734       1995048         5599737       0x0C
  2            302       136026         619674        0x83
  3            302       755700         619674        0x83
  4            302      1375374         619674        0x83
MV4412 #

```

MV4412 # fatformat mmc 0:1

```

MV4412 # fatformat mmc 0:1
Start format MMC&d partition&d ...
Partition1: Start Address(0x1e7128), Size(0x5571f9)
size checking ...
Under 8G
write FAT info: 32
Fat size : 0x155c
Erase FAT region.....
.....
Partition1 format complete.
MV4412 #

```

MV4412 # ext3format mmc 0:2

```

MV4412 # ext3format mmc 0:2
Start format MMC0 partition2 ....
** Partition2 is not ext2 file-system 0 **
Partition2: Start Address(0x2135a), Size(0x9749a)
Start ext2format...
Wirte 0/3block-group
Reserved blocks for journaling : 4102
Start write addr : 0x2135a
Erase inode table(0) - 0x2140a.....
d_indirect_point:0x24de2
Wirte 1/3block-group
Reserved blocks for journaling : 4102
Start write addr : 0x6135a
Erase inode table(1) - 0x6140a.....
Wirte 2/3block-group
Reserved blocks for journaling : 4102
Start write addr : 0xa135a
Erase inode table(2) - 0xa136a.....
MV4412 #

```

MV4412 # ext3format mmc 0:3

```

MV4412 # ext3format mmc 0:3
Start format MMC0 partition3 ....
** Partition3 is not ext2 file-system 0 **
Partition3: Start Address(0xb87f4), Size(0x9749a)
Start ext2format...
Wirte 0/3block-group
Reserved blocks for journaling : 4102
Start write addr : 0xb87f4
Erase inode table(0) - 0xb88a4.....
d_indirect_point:0xbc27c
Wirte 1/3block-group
Reserved blocks for journaling : 4102
Start write addr : 0xf87f4
Erase inode table(1) - 0xf88a4.....
Wirte 2/3block-group
Reserved blocks for journaling : 4102
Start write addr : 0x1387f4
Erase inode table(2) - 0x138804.....
MV4412 #

```

MV4412 # ext3format mmc 0:4

```

MV4412 # ext3format mmc 0:4
Start format MMC0 partition4 ....
** Partition4 is not ext2 file-system 0 **
Partition4: Start Address(0x14fc8e), Size(0x9749a)
Start ext2format...
Wirte 0/3block-group
Reserved blocks for journaling : 4102
Start write addr : 0x14fc8e
Erase inode table(0) - 0x14fd3e.....
d_indirect_point:0x153716
Wirte 1/3block-group
Reserved blocks for journaling : 4102
Start write addr : 0x18fc8e
Erase inode table(1) - 0x18fd3e.....
Wirte 2/3block-group
Reserved blocks for journaling : 4102
Start write addr : 0x1cfc8e
Erase inode table(2) - 0x1cfc9e.....
MV4412 #

```

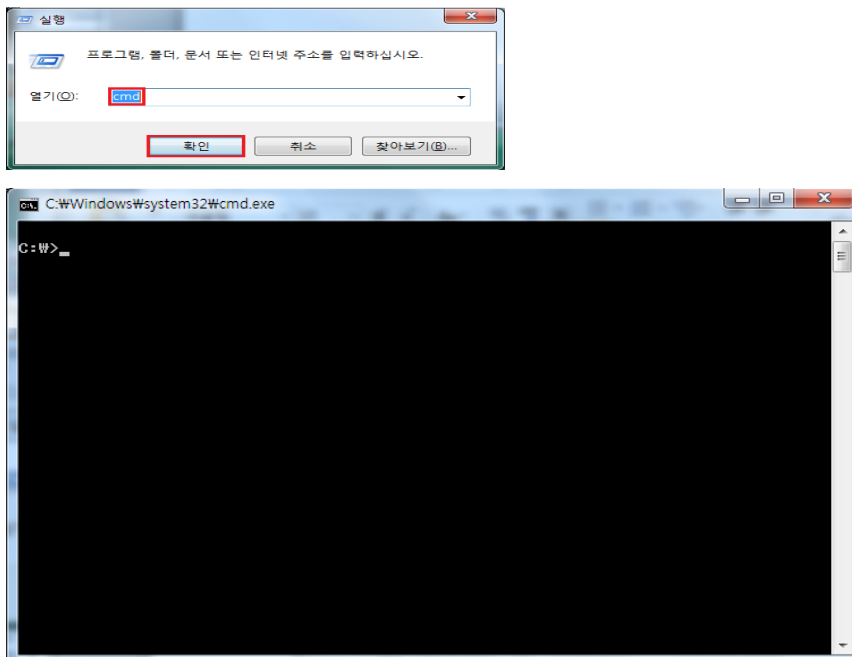
MV4412 # fastboot

```

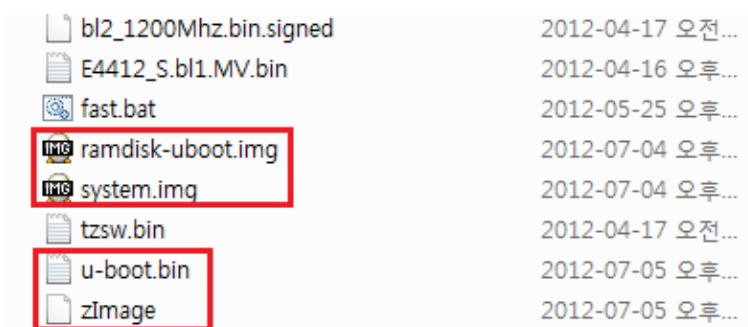
MV4412 # fastboot
[Partition table on MoviNAND]
ptn 0 name='fwbl1' start=0x1 len=N/A (use hard-coded info. (cmd: movi))
ptn 1 name='bl2' start=N/A len=N/A (use hard-coded info. (cmd: movi))
ptn 2 name='bootloader' start=N/A len=N/A (use hard-coded info. (cmd: movi))
ptn 3 name='tzsw' start=N/A len=N/A (use hard-coded info. (cmd: movi))
ptn 4 name='kernel' start=N/A len=N/A (use hard-coded info. (cmd: movi))
ptn 5 name='ramdisk' start=N/A len=0x0(~27262976KB) (use hard-coded info. (cmd:
movi))
ptn 6 name='system' start=0x1 len=0x0(~317273088KB)
ptn 7 name='userdata' start=0x1 len=0x0(~317273088KB)
ptn 8 name='cache' start=0x1 len=0x0(~317273088KB)
ptn 9 name='fat' start=0x1 len=0x0(~1427901952KB)
OTG cable Connected!

```

After completing the above steps, open “cmd” window for the next step.



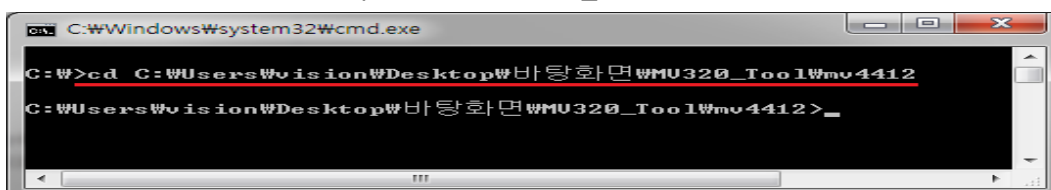
Copy the image to the folder which has the Fastboot execution file.



Here the image “bl2_1200Mhz.bin.signed / E4412_S.bl1.MV.bin / tzsw.bin” is not from the compilation but the image from Samsung. This image is in the CD from the board package.

In the CMD window, please move to the folder where the image is located as below.

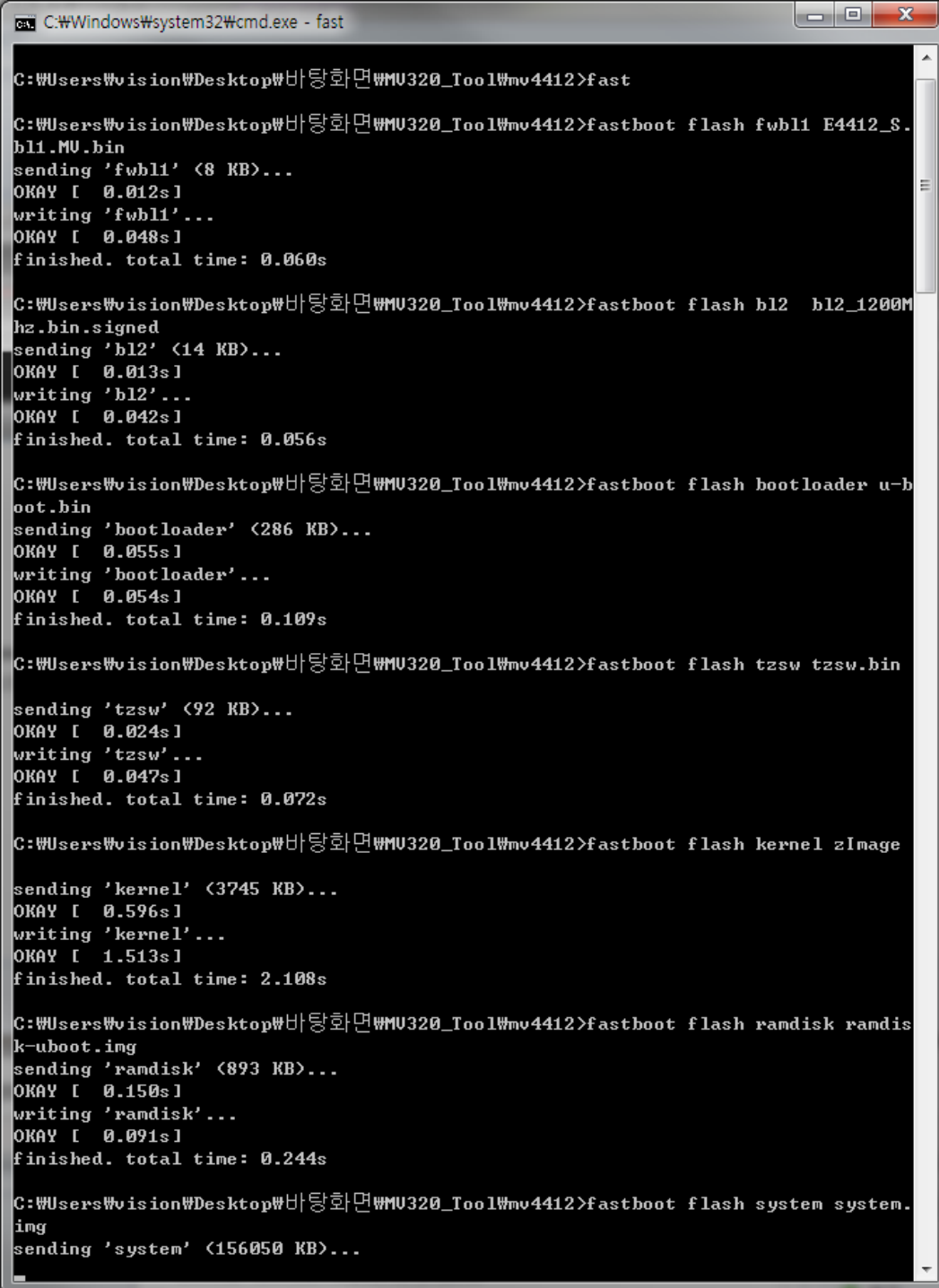
C:\>cd C:\Users\vision\Desktop\바탕화면\MV320_Tool\mv4412



Execution of the below command will write the image to the board.

Previously we run the command each time but now we use the batch file "fast.bat" to run all the command at the same time so that all the images can be written.

C:\Users\vision\Desktop\바탕화면\MV320_Tool\mv4412 > fast



```
C:\Windows\system32\cmd.exe - fast
C:\Users\vision\Desktop\바탕화면\MV320_Tool\mv4412>fast
C:\Users\vision\Desktop\바탕화면\MV320_Tool\mv4412>fastboot flash fwb11 E4412_S.
b11.MU.bin
sending 'fwb11' (8 KB)...
OKAY [ 0.012s]
writing 'fwb11'...
OKAY [ 0.048s]
finished. total time: 0.060s
C:\Users\vision\Desktop\바탕화면\MV320_Tool\mv4412>fastboot flash b12 b12_1200M
hz.bin.signed
sending 'b12' (14 KB)...
OKAY [ 0.013s]
writing 'b12'...
OKAY [ 0.042s]
finished. total time: 0.056s
C:\Users\vision\Desktop\바탕화면\MV320_Tool\mv4412>fastboot flash boot loader u-b
oot.bin
sending 'boot loader' (286 KB)...
OKAY [ 0.055s]
writing 'boot loader'...
OKAY [ 0.054s]
finished. total time: 0.109s
C:\Users\vision\Desktop\바탕화면\MV320_Tool\mv4412>fastboot flash tzsw tzsw.bin
sending 'tzsw' (92 KB)...
OKAY [ 0.024s]
writing 'tzsw'...
OKAY [ 0.047s]
finished. total time: 0.072s
C:\Users\vision\Desktop\바탕화면\MV320_Tool\mv4412>fastboot flash kernel zImage
sending 'kernel' (3745 KB)...
OKAY [ 0.596s]
writing 'kernel'...
OKAY [ 1.513s]
finished. total time: 2.108s
C:\Users\vision\Desktop\바탕화면\MV320_Tool\mv4412>fastboot flash ramdisk ramdis
k-uboot.img
sending 'ramdisk' (893 KB)...
OKAY [ 0.150s]
writing 'ramdisk'...
OKAY [ 0.091s]
finished. total time: 0.244s
C:\Users\vision\Desktop\바탕화면\MV320_Tool\mv4412>fastboot flash system system.
img
sending 'system' (156050 KB)...
```