

i.MX Android

FAQ

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HOW to download android source code behind a firewall?

If you have https proxy and your firewall support socks, then take the following steps:

```
* Install Dante - a socks client
$ sudo apt-get install dante-client
* Configure Dante by adding below lines into /etc/dante.conf
    route {
        from: 0.0.0.0/0 to: . via: DNS_OR_IP_OF_YOUR SOCKS_SERVER port =
PORT_OF_YOUR SOCKS_SERVER
        proxyprotocol: socks_v5
    } resolveprotocol: fake
* Set environment variable for http proxy and socks
$ export https_proxy=...
$ export SOCKS_USER=...
$ export SOCKS_PASSWD=...
* Download Android code from google
$ curl https://dl-ssl.google.com/dl/googlesource/git-repo/repo > ~/bin/repo
$ chmod a+x ~/bin/repo
$ repo init -u https://android.googlesource.com/platform/manifest -b
android-4.0.3_r1
$ cp /opt/imx-android-r14-beta/code/r14-beta/default.xml .repo/manifests/
default.xml
$ socksify ~/bin/repo sync
```

HOW to setup a global proxy for Ethernet

On the device, the following commands install the records in the "secure" table for HTTP proxy host and port.

```
$ sqlite3 /data/data/com.android.providers.settings/databases/
settings.db "INSERT INTO secure
VALUES(38, 'global_http_proxy_host', '<proxy_host>');"
$ sqlite3 /data/data/com.android.providers.settings/databases/
settings.db "INSERT INTO secure
VALUES(39, 'global_http_proxy_port', '<proxy_port>');"

```

The values "38" and "39" represent free entries in the "secure" table of "settings.db". To locate which entries are free, you can dump the table using sqlite3 doing the following:

```
$ sqlite3 /data/data/com.android.providers.settings/databases/settings.db
$ .dump
```

The values for "<proxy_host>" and "<proxy_port>" is the host name of the proxy and the port respectively. The "<proxy_host>" is already associated with HTTP; therefore, it is

not necessary to have this part of the host name. For example, "www.proxynome.net", or "www.proxynome.com" is valid if this can resolve to an IP address.

In addition to the global HTTP proxy data, you need to setup a global network DNS. The following command creates the data as a property of the system which is not preserved across reboots. "W.X.Y.Z" represents the IP address of a valid DNS server.

```
$ setprop net.dns1 W.X.Y.Z
```

HOW to use ADB over ethernet?

On the Linux PC (assume you had built Android code or install Android SDK), complete the following actions to use ADB over ethernet:

```
$ ping IP_OF_YOUR_BOARD (run "netcfg" on board to get IP address)
$ export ADBHOST=IP_OF_YOUR_BOARD
"adb" is a host tool created during Android build.It's under out/host/linux-
x86/bin/. Make sure you set path properly.
$ adb kill-server (not sure why need this step. Just re-start adb daemon on
board)
$ adb shell
# NOW YOU ARE IN ANDROID SHELL ON BOARD
```

On the device, please set a ADB port property:

```
$ setprop service.adb.tcp.port 5555
```

After setup the ADB listener port, please re-enable the USB debug function in the Settings application.

HOW to setup PC to support ADB?

In this release, Google's vendor ID and product ID is used for all the Android gadget functions. So user can download the latest android SDK package, and use ADB tool to try ADB function.

On Windows, please install Google's extra Window's USB driver contained in the SDK package when Windows found your device.

On Linux, please add the following rules for udev rule file: /etc/udev/rules.d/51-android.rules

`SUBSYSTEM=="usb", SYSFS{idVendor}=="18d1", MODE="0777"`

HOW to enable USB tethering?

The USB tethering feature is supported in this release, and upstream device can be WIFI or Ethernet. USB tethering can be enabled in the Settings UI after your OTG USB cable is connected to PC: Settings -> WIRELESS & NETWORKS -> More.. -> Tethering & portable hotspot -> USB tethering. And meanwhile, **make sure you have disabled ADB.**

On Linux PC, you can easily get a USB network device when USB tethering enabled, and the IP and DNS server is automatically configured.

On Windows PC, when connected board with PC, you can see a unknown device named "Android" in the device manager. You have to install the tethering driver by the tool/tetherxp.inf file from release package manually. After successfully installed, you can see "Android USB RNDIS device" in the device manager. By this time, you can use USB RNDIS network device to access the network.

HOW to use MTP?

The Media Transfer Protocol is a devised set of custom extensions to the Picture Transfer Protocol (PTP). Whereas PTP was designed for downloading photographs from digital cameras, Media Transfer Protocol supports the transfer of music files on digital audio players and media files on portable media players, as well as personal information on personal digital assistants.

From the version of 4.0, Android supports MTP as default protocol transfer files with PC, instead of the USB Mass Storage. And in this release, we disable the UMS but enable MTP as Google suggested.

Please make sure you disable the ADB and USB Tethering when using MTP. When connecting the board to PC by USB cable, a USB icon will be showed in the notification bar. Then you can click the notification area, and press "Connected as a media device" to launch the USB computer connection option UI. There's MTP and PTP can be choosed as current transfer protocol. You can also launch the option UI by Settings Application -> Storage -> MENU -> USB computer connection.

MTP on Windows XP

Windows XP does not support MTP protocol by default(support PTP by default), so you must install Windows Media Player (Version >= 10) to support it. When connecting with PC, you can see MTP devices in windows explorer. Windows XP only support copy/paste files in the explorer, and you can not directly open the files in MTP device.

MTP on Windows 7

Windows 7 supports MTP(PTP) protocol by default. When connecting with PC, you can see

MTP devices in windows explorer. You can do any operations just like operation your hard disk.

MTP on ubuntu

Ubuntu does not support MTP protocol by default (support PTP by default), so you must install the following packages: libmtp, mtp-tools by

```
$ sudo apt-get install mtp-tools
```

If you default libmtp version is not 1.1.1 (current latest libmtp on ubuntu is 1.1.0) , you must upgrade it manually by:

```
$ sudo apt-get install libusb-dev
$ wget http://downloads.sourceforge.net/project/libmtp/libmtp/1.1.1/libmtp-1.1.1.tar.gz
$ tar -xvf libmtp-1.1.1.tar.gz
$ cd libmtp-1.1.1
$ ./configure --prefix=/usr
$ make
$ sudo make install
```

After all these done, you can transfer the files between PC and Device by the following commands:

- mtp-detect: find current connected MTP device
- mtp-files: list all the files on MTP device
- mtp-getfile: get the files on MTP device by file ID listed by mtp-files
- mtp-sendfile: put files onto MTP device.

There's an alternative GUI application make it easier to access MTP device instead of commands, which called gMtp. you can install it by:

```
$ sudo apt-get install gmt
```

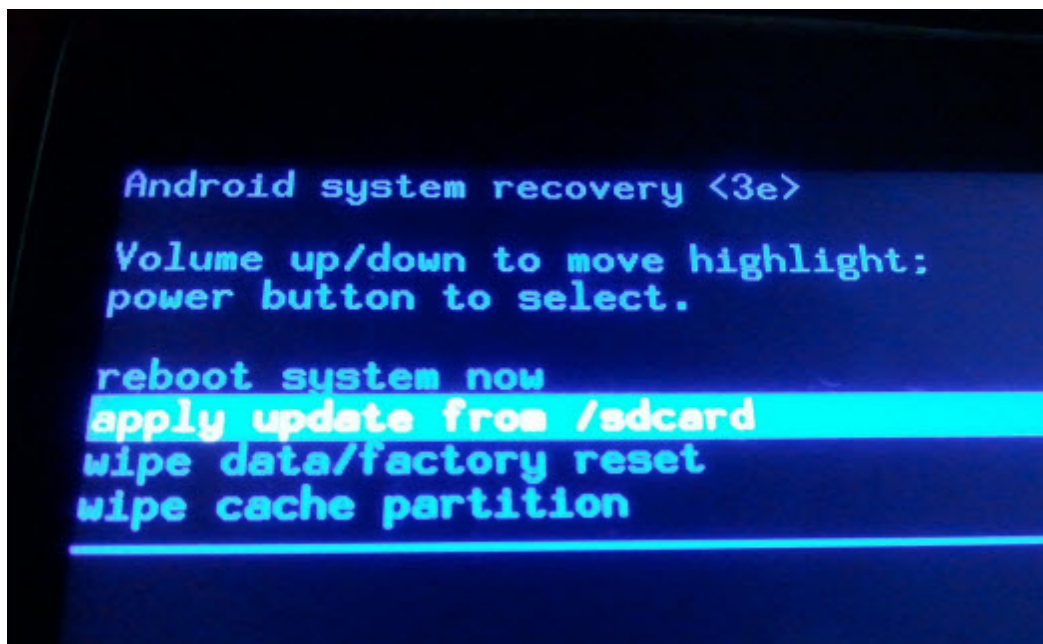
After installed, you can launch gmt, and access MTP device as in the file explorer.

HOW to enter Android Recovery mode manually?

Press "**VOLUME -**" and "**Power**" , you can enter Recovery mode, this check is in u-boot.git board support file, you can change your preferred combo keys.

HOW to show text menu in recovery mode?

- When system had complete to bootup, You will see a Android Robot Logo
- You can press "**MENU**" "**HOME**" or "**F1**"(by USB keyboard, for developer)" going to the **text menu** like this:



- Move the menu item by **VOLUME UP** and **VOLUME DOWN** button
- Select the menu item by **Power Key**.
- Select the required option using the direction keys on the keypad or keyboard.
 - Apply update from /sdcard, you may update the software from update.zip.
 - Wipe data/factory reset. /data and /cache partitions are formatted.
 - Wipe cache partition. /cache partition is formatted.
- Reboot the system.

WHAT's the key mapping of USB keyboard?

The default DELL USB Keyboard's key mapping is defined as below:

Key	Act as
ESC	BACK

F1	MENU
F2	SOFT_RIGHT
F3	CALL
F4	ENDCALL
F5	ENDCALL
F8	HOME
F9	DPAD_CENTER
UP	DPAD_UP
DOWN	DPAD_DOWN
BACK	DEL
ENTER	ENTER

Why all the music played have the noise in customer's hardware?

Freescall property audio codec will only function well with the IIM kernel driver in kernel image. Otherwise the Freescall property audio codec will output some noise audio PCM. Please make sure the device /dev/mxc_mem which is a symbolic link to IIM driver is available.

HOW to enable USB host on OTG port?

As SabreSD board USB_ID pin hw issue, we can use device only or host only function for this OTG port. In this release by default, we enable usb device mode. If you want to use USB host, please select the following configures in kernel:

- CONFIG_USB_OTG
- CONFIG_USB_EHCI_ARC_OTG
- CONFIG_MXC_OTG

How to generate uramdisk.img

The following steps generate a RAMDISK image recognized by uboot:

Assume you had already installed u-boot-tools.


```
$ cd myandroid/out/target/product/imx53_smd  
  
$ mkimage -A arm -O linux -T ramdisk -C none -a 0x70408000 -n "Android  
Root Filesystem" -d ./ramdisk.img ./uramdisk.img
```

How to enter MFGTool (Download Mode) without switch

You can type this command under uboot command line:

```
U-Boot > download_mode          # or download  
resetting                       # the board reset to download mode
```

After type this command, you will got the HID device if you have plug the USB cable.