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# **Chromium Startup Guide for the i.MX51 and i.MX53 EVK boards**

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# 1 Introduction

This document will guide through the steps to run Google's Chromium on an i.MX53 EVK board.

The first chapter lists the required hardware equipment and cables

The second chapter describes the steps to deploy the MX53 Chromium image to an SD card. Finally, a few details on using Chromium are given in the third chapter.

## 2 Hardware setup

This section details the setup of the i.MX51 and i.MX53 boards required to run Chromium OS.

### 2.1 i.MX51 EVK setup

The Figure 1 shows an i.MX51 EVK board and its connectors:

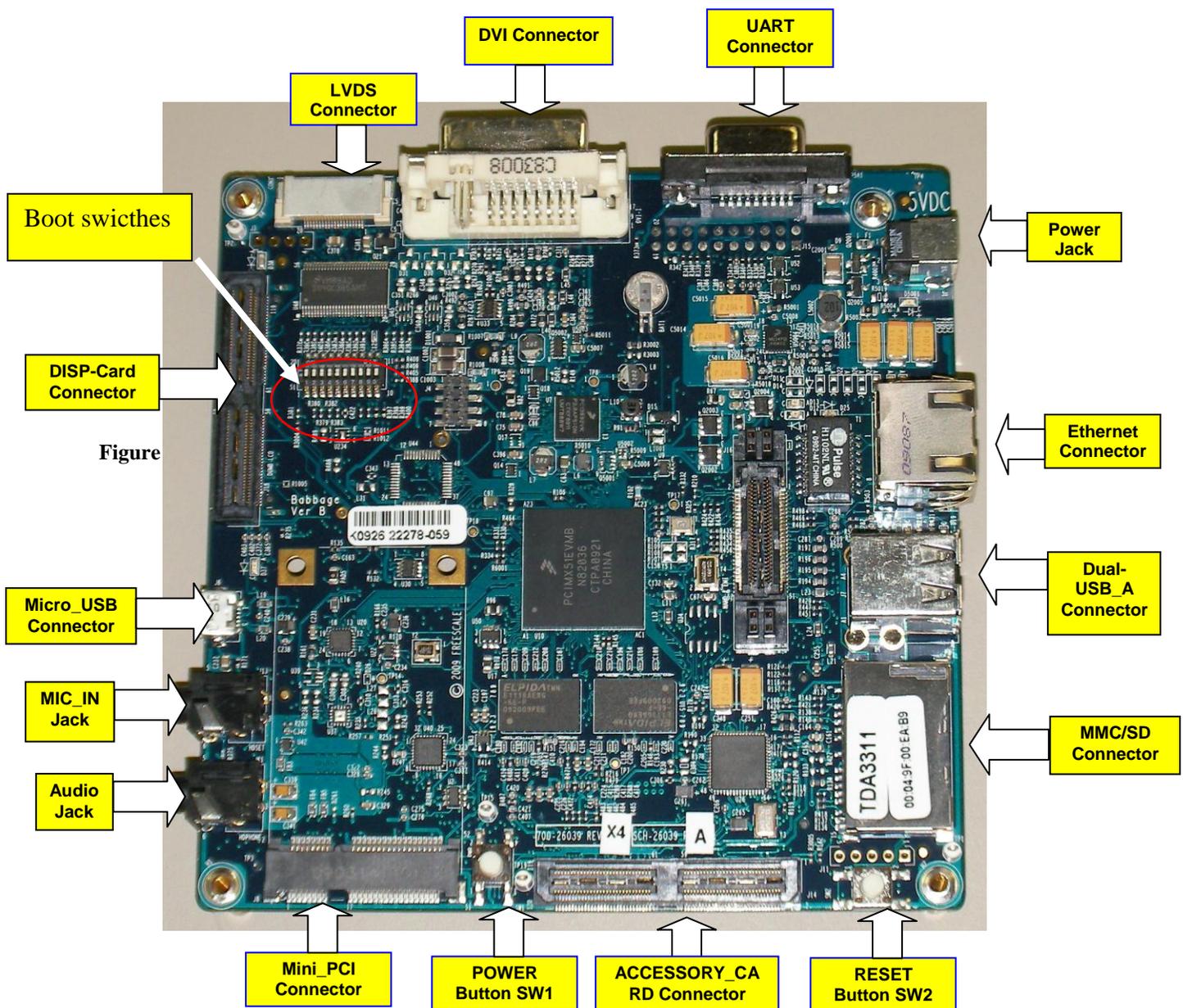


Figure 1: i.MX51 EVK board

The following cables and equipment are required:

- + A DVI cable
- + A monitor with a DVI input. Minimum supported resolution must be 800x600.
- + A DB9 cable for the serial console
- + A USB mouse and keyboard (connect them to the Dual USB connector shown above)
- + Speakers or headphones with a 3.5 mm stereo jack
- + An Ethernet cable
- + A 5V power supply
- + A PC running Linux, equipped with an SD card reader

Configure the i.MX51 EVK board to boot off of an SD card by setting the boot switches SW7 and SW8 to ON and by setting the other boot switches to off

The serial port is configured as follows: 115200 BPS, 8 bits, no parity, 1 stop bit and no flow control. Make sure the serial port terminal running on the PC is configured accordingly.

## 2.2 i.MX53 EVK setup

The Figure 3 shows an i.MX53 EVK board and its connectors:

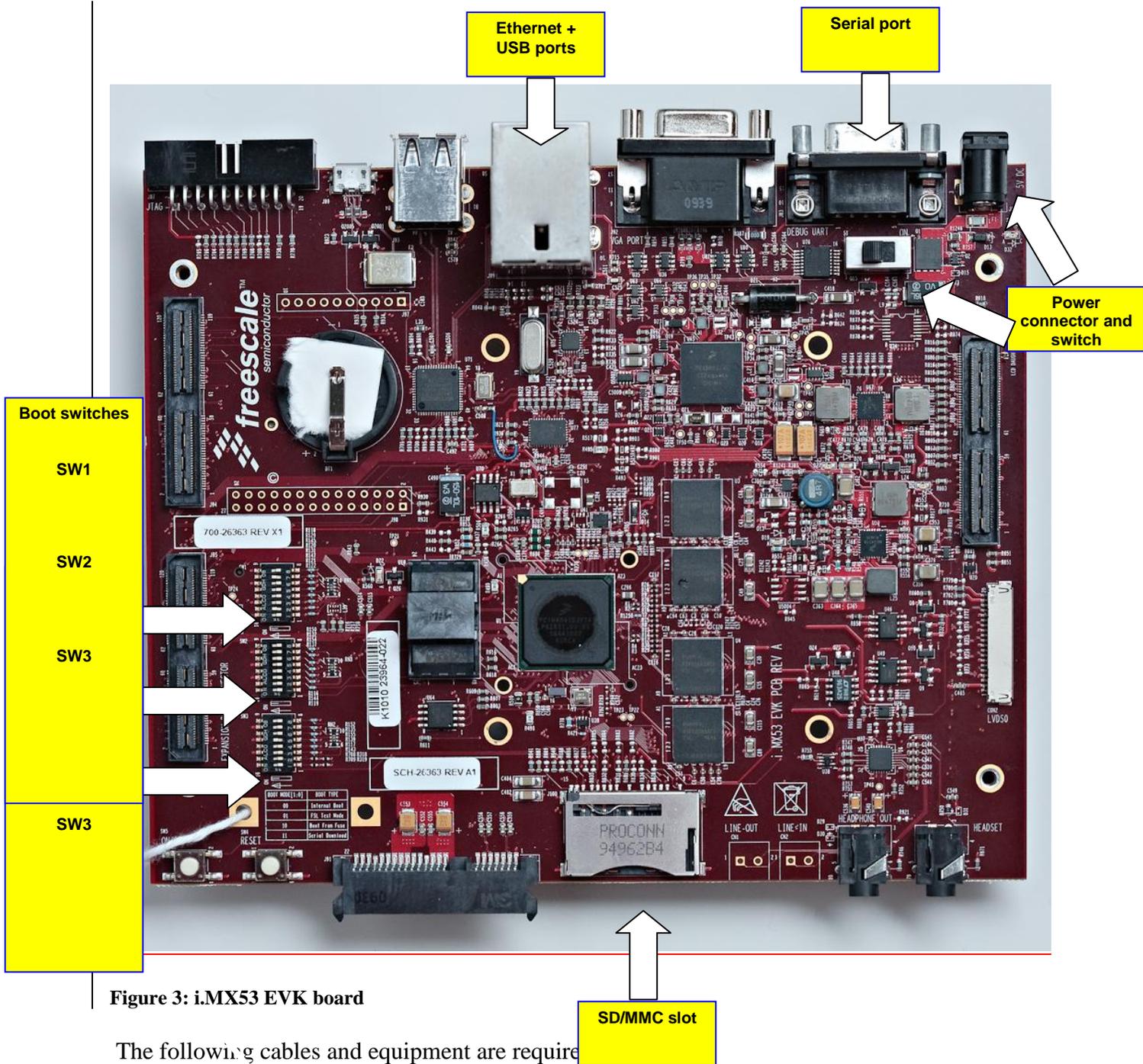


Figure 3: i.MX53 EVK board

The following cables and equipment are required

- + A 2+ GB SD card (we recommend SanDisk's)
- + A DB9 cable for the serial console
- + A USB mouse and keyboard (connect them to the Dual USB connector shown above)
- + a WVGA LCD display
- + An Ethernet cable
- + A 5V power supply
- + A PC running Linux, equipped with an SD card reader

Configure the i.MX53 EVK board to boot off of an SD card by setting the switches on:

- + SW1 's switches 2 and 7 ON all others set to off
- + All SW2's switches set to off
- + SW3's switch 5 set to on, all others set to off.

The serial port is configured as follows: 115200 BPS, 8 bits, no parity, 1 stop bit and no flow control. Make sure the serial port terminal running on the PC is configured accordingly.

## 3 Media set up

This paragraph describes the steps to copy the Chromium OS image to an SD card.

### 3.1 Copy the image to the SD card

The Chromium image contains the boot loader, the kernel, the partition table as well as the file system. The image is ready to be used.

- 1) Insert the 2+ GB SD card and find out the device node(s) your system will assign

```
$ cat /proc/partitions
7   0  352948 loop0
8   0 78125000 sda
8   1  75119908 sda1
8   2    1 sda2
8   5  3004123 sda5
8  32  3872256 sdc
8  33   32767 sdc1
8  34  530400 sdc2
```

The device nodes can be identified by the size of the SD card (4GB in the example above). We will assume the device node is /dev/sdc

- 2) Partitions may exist on your SD card and may have been mounted by your system. They must be un-mounted before the image can be copied to the SD card. A possible solution is shown here:

```
$ mount | grep sdc | awk ' { print $1 } ' | xargs -n1 sudo umount
```

- 3) Run the following commands to copy the Chromium image to your SD card, respectively for i.MX51 and i.MX53:

```
$ bunzip2 -c imx5_imx51evk-chromiumos.bin.bz2 | sudo dd of=/dev/sd[x] bs=512 conv=fsync
```

```
$ bunzip2 -c imx5_imx53evk-chromiumos.bin.bz2 | sudo dd of=/dev/sd[x] bs=512 conv=fsync
```

This will uncompress the Chromium image and copy it to the SD card

## 3.2 Boot the boards

### 3.2.1. i.MX51

- 1) Insert the SD card in the slot on the bottom of the i.MX51 EVK
- 2) Connect the power supply, serial cable and the DVI monitor
- 3) Before the system can successfully run, the MAC address of the Ethernet interface must be set. To do this, power on the board and press any key to stop the boot process when you see the message “Hit any key to stop autoboot”. The MAC address of your board can be found on a label stuck to the board

Type the following commands:

```
setenv fec_addr <your MAC address>
saveenv
reset
```

- 4) The board will boot up to the login screen. The user name is ‘fsl’, the password is ‘fsl’

### 3.2.2. i.MX53

- 1) Insert the SD card in the slot on the top of the MX53 EVK
- 2) Connect the power supply, serial cable et WVGA LCD display (see for information about using DVI)
- 3) Before the system can successfully run, the MAC address of the Ethernet interface must be set. To do this, power on the board and press any key to stop the boot process when you see the message “Hit any key to stop autoboot”. The MAC address of your board can be found on a label stuck to the board

Type the following commands:

```
setenv fec_addr <your MAC address>
saveenv
reset
```

- 4) The board will boot up to the login screen. The user name is ‘fsl’, the password is ‘fsl’

### 3.3 Details on using Chromium

Here are a few details on using the Chromium image:

- + The login/password pair is fsl/fsl. This is a local account only.
- + Type ALT+F2 to switch to a text console. The login/password is chronos/fsl
- + Type ALT+F1 to switch to the GUI
- + Should you need to define a network proxy, edit the file `/sbin/session_manager_setup.sh` and add the following variables:

```
export all_proxy=<your proxy>  
export no_proxy=<your exceptions>
```

- + The i.MX53 EVK board can also be connected to a DVI monitor, by using a daughtercard. The kernel command line must be changed from:

```
console=tty1 console=ttymx0 rootwait root=/dev/mmcblk0p2 rw wvga
```

to:

```
console=tty1 console=ttymx0 rootwait root=/dev/mmcblk0p2 rw  
video=mxcdi0fb:RGB24,1024x768M-16@60
```