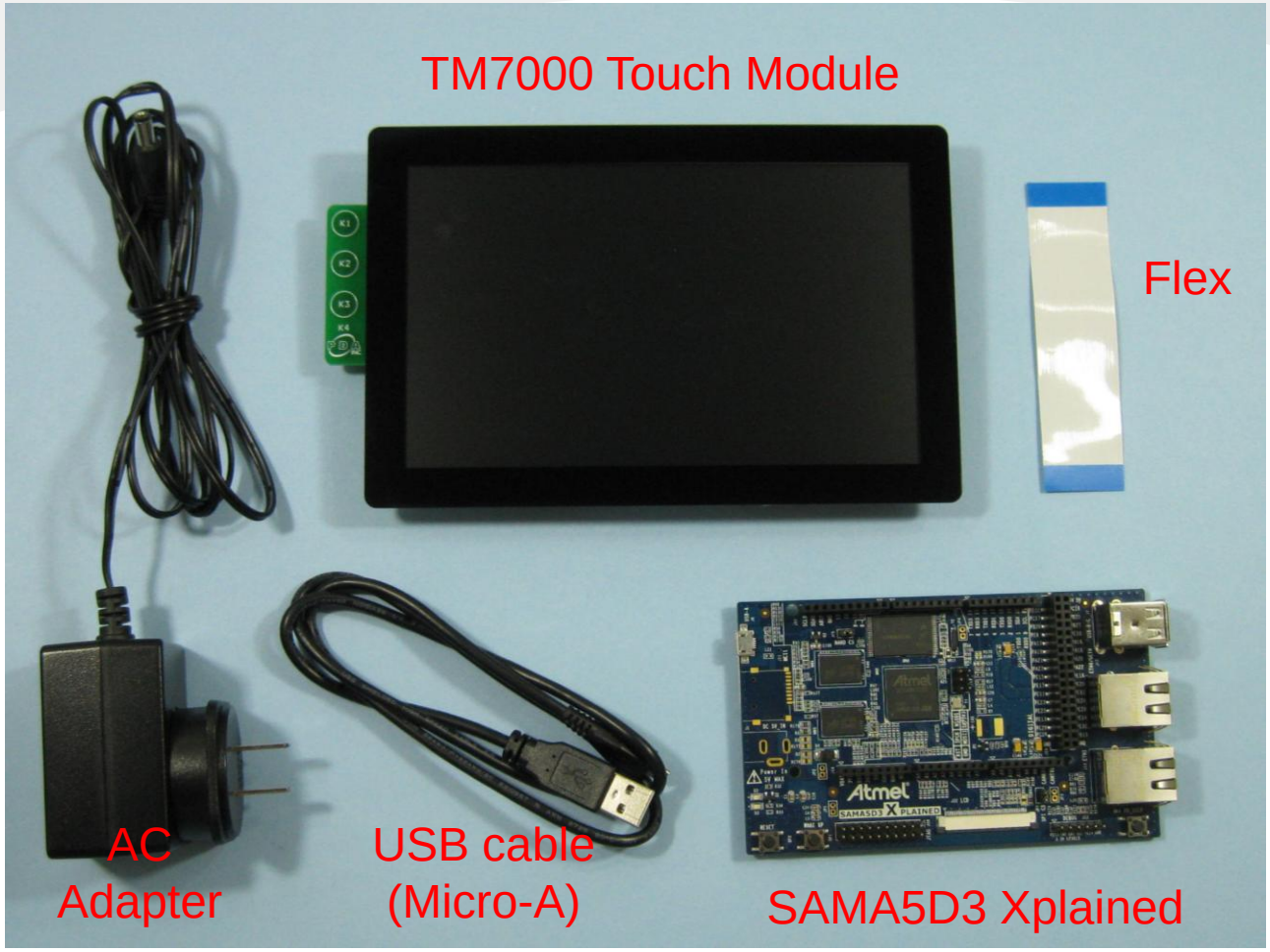
PDA TM7000 – SAMA5D3 Xplained Quick Start

Apr 7, 2014

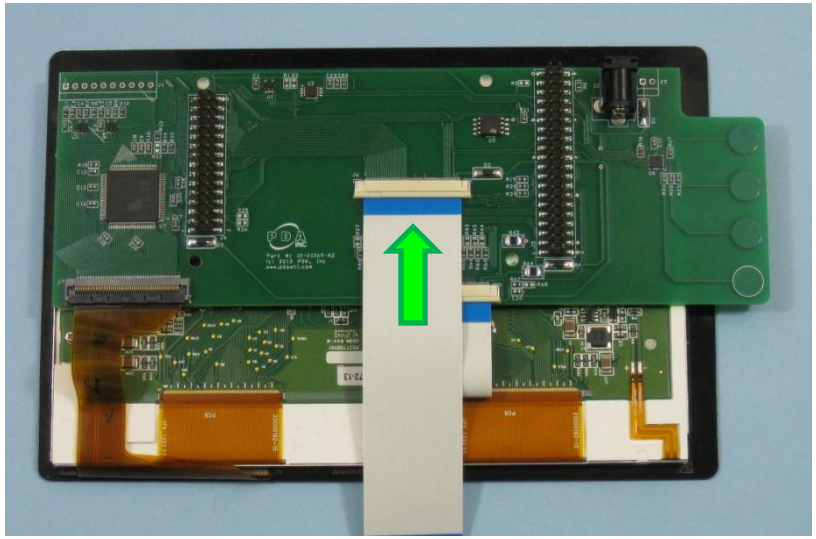
Hardware


TM7000 Touch Module
Flex
AC
Adapter
USB cable
(Micro-A)
SAMA5D3 Xplained

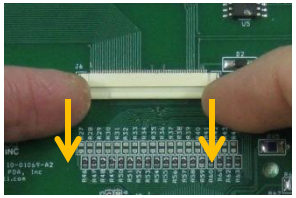
Hardware Setup

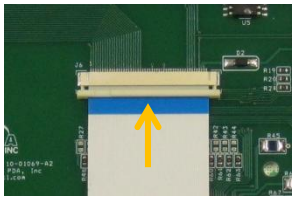
Hardware Setup

1. Connect flex cable to the Touch Module (J6)
   - Contacts on flex face **DOWN** toward PCB
   - Take care when inserting the flex to avoid damage



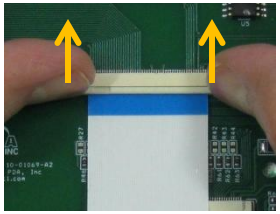
Slide latch down evenly using catch features on each side.





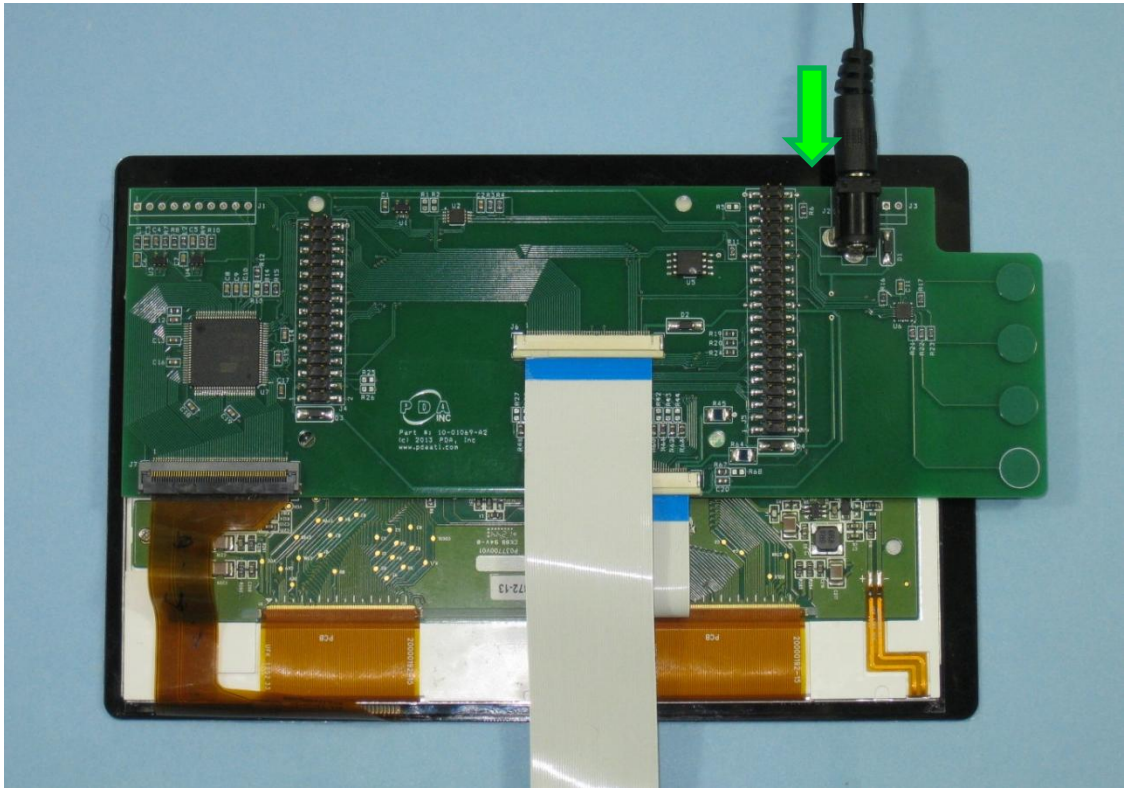
Insert flex into connector.
Flex contacts face DOWN.
Flex inserts UNDER latch.

Slide latch up evenly using catch features on each side.



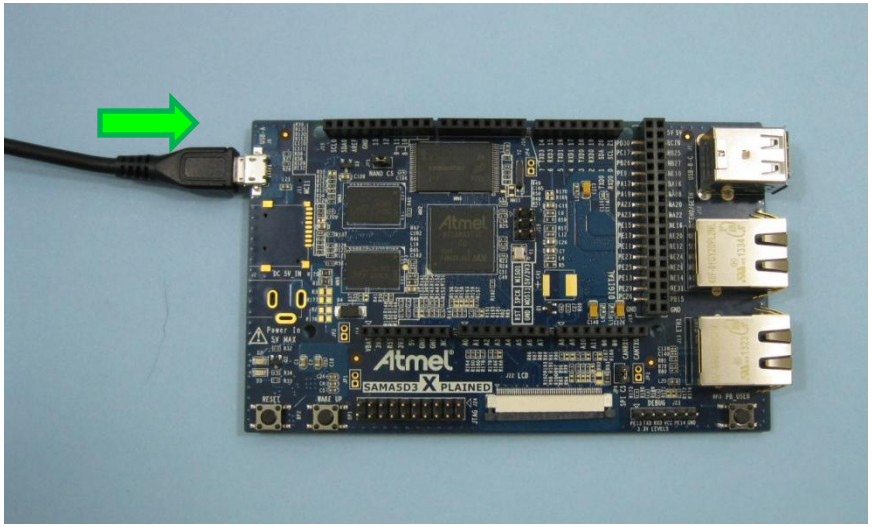
Hardware Setup

2. Connect the AC Adapter to the Touch Module (J2)



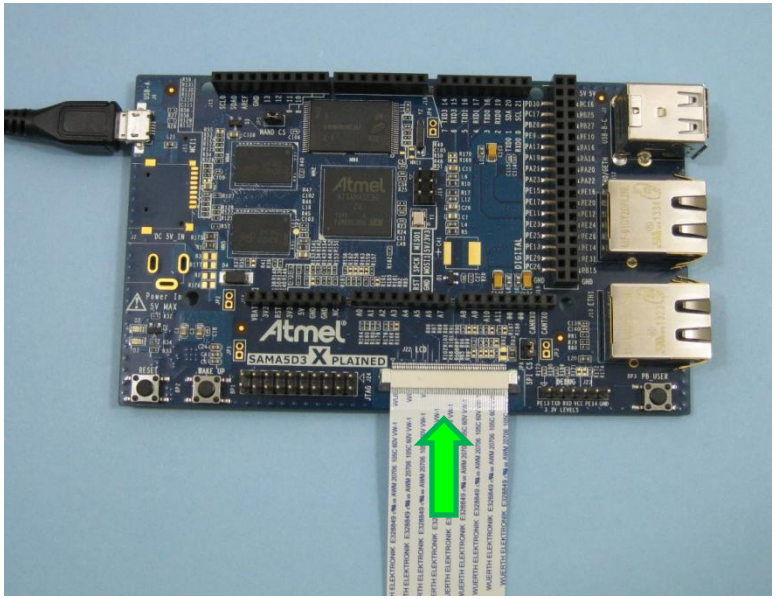
Hardware Setup

3. Connect USB cable to the SAMA5D3 Xplained USB-A Connector (J6)
   (Do not connect USB cable to computer yet)

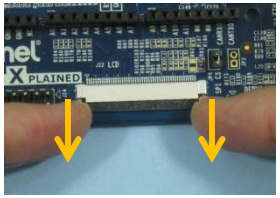


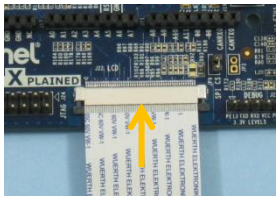
Hardware Setup

4. Connect flex cable to SAMA5D3 Xplained LCD Connector (J22)
   - Contacts on flex face **UP** away from PCB
   - Take care when inserting the flex to avoid damage



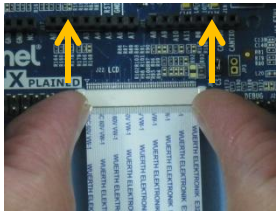
Slide latch down evenly using catch features on each side.
DO NOT FORCE LATCH





Insert flex into connector.
Flex contacts face UP.
Flex inserts OVER latch.

Slide latch up evenly using catch features on each side.

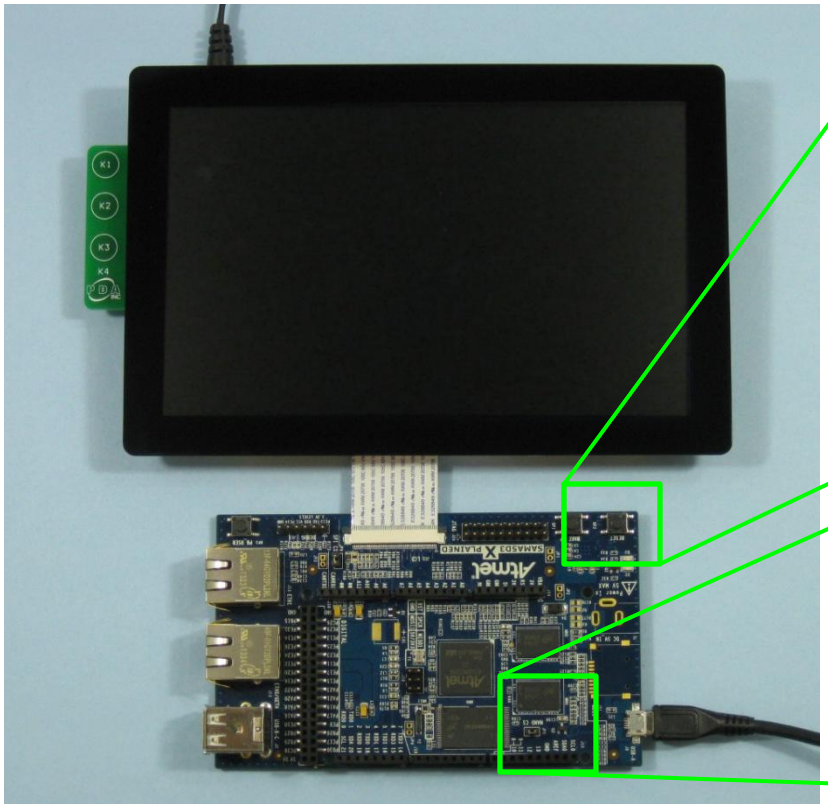


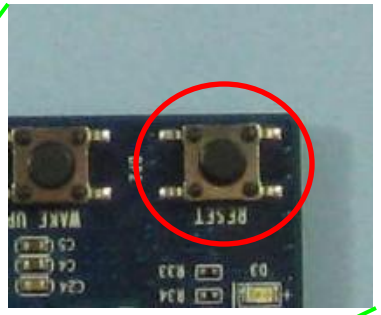
Hardware Setup

5. Re-position the setup with Touch Module oriented as shown below

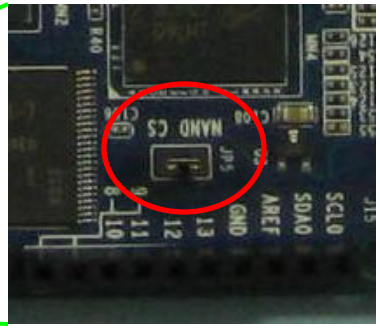
Hardware Setup

6. Note the location of the NAND_CS jumper (J5) and RESET button (BP2)





RESET button



NAND_CS jumper

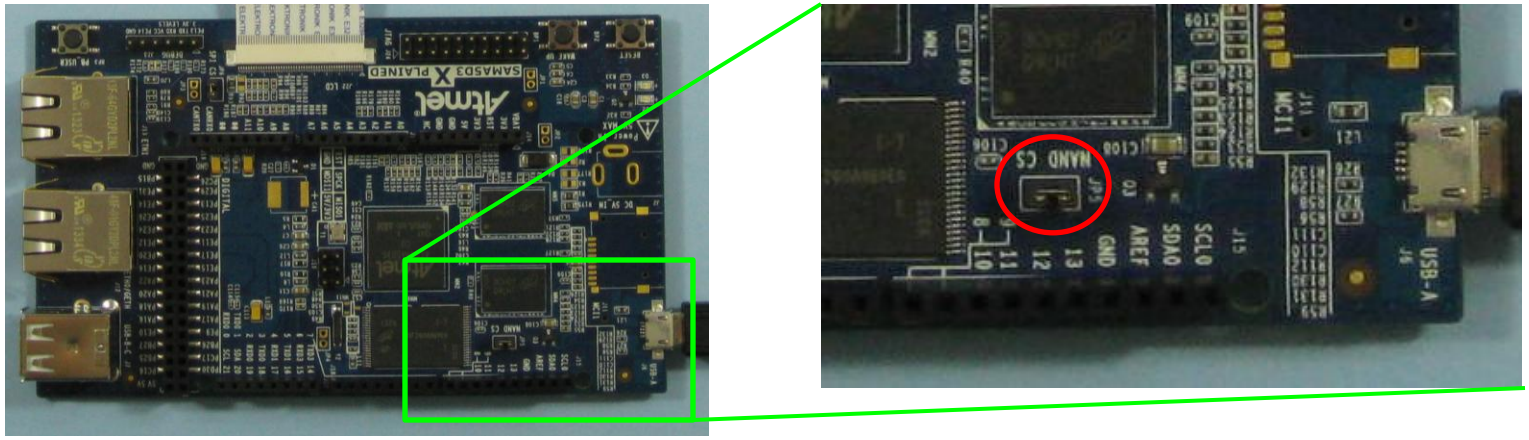
Loading an Image to NAND Flash

Load Image

1. If the Atmel SAM-BA software is not already installed, visit
   http://www.atmel.com/tools/ATMELSAM-BAIN-SYSTEMPROGRAMMER.aspx

   download and install SAM-BA and any patches.

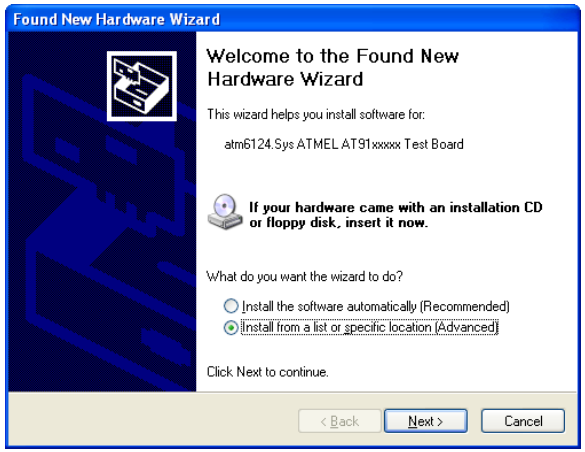
2. Remove shorting block from the NAND_CS jumper JP5 on the Xplained PCB

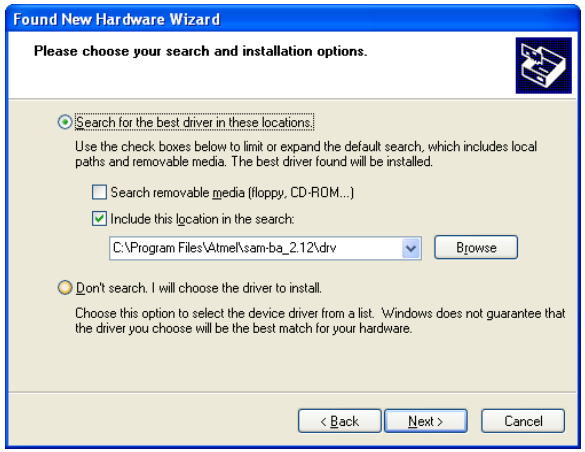


Load Image

3. Connect USB cable to computer (or press RESET button is already connected).

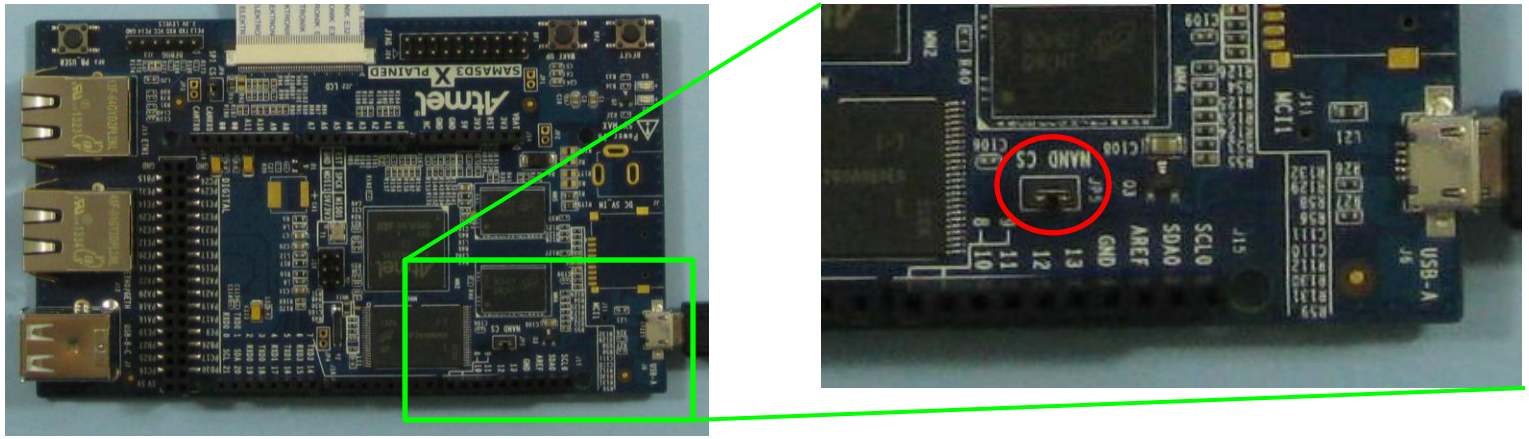
4. If the “Found New Hardware Wizard” is displayed:
   - choose to install drivers automatically if the Xplained hardware has previously been flashed using SAM-BA on the computer.
   - otherwise (or if automatic install fails) choose to install from a specific location and point to the ‘drv’ sub-folder where SAM-BA was installed (for example, “C:\Program Files\Atmel\sam-ba_2.12\drv”)





Load Image

5. Replace the shorting block on NAND_CS jumper JP5



Load Image

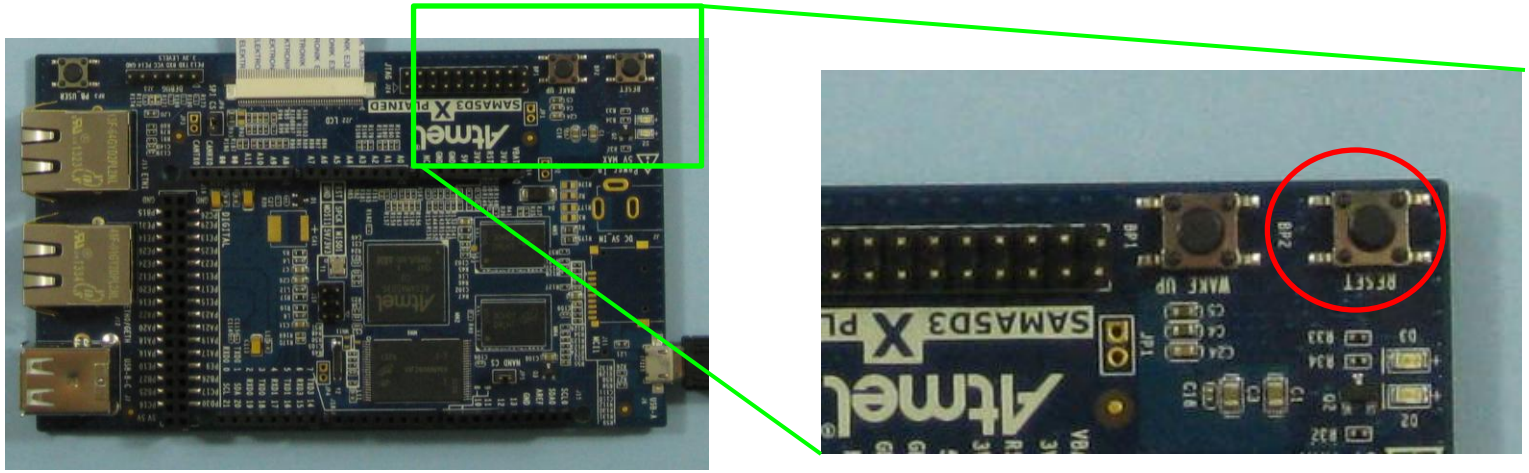
6. Locate the folder containing SAMA5D3 Xplained image files
   (visit http://www.at91.com/linux4sam/bin/view/Linux4SAM/GettingStarted#DemoArchiveBinaries)

7. Run the batch file appropriate for this touch module
   (for the TM7000 touch module, use “demo_linux_nandflash_pda7.bat”)

8. After a minute Notepad should launch with log output from SAM-BA
   - scroll to the end of the file and verify SAM-BA reported:
     `-I- === DONE. ===`
   - if Notepad launches within only a few second an error likely occurred.
   - if the flash process resulted in any errors they will be identified by lines which begin with:
     `-E-`

Load Image

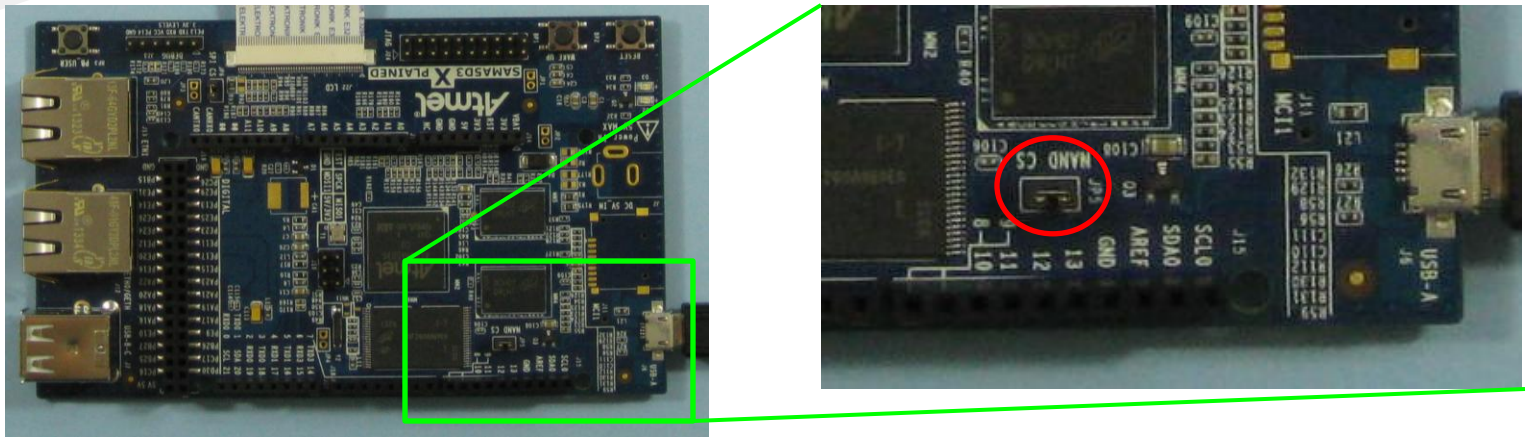
9. Press the RESET button BP2 to reset the Xplained hardware and launch the installed image.



Running an Image from NAND Flash

Run Image

1. Verify shorting block is installed on NAND_CS jumper JP5 on the Xplained PCB

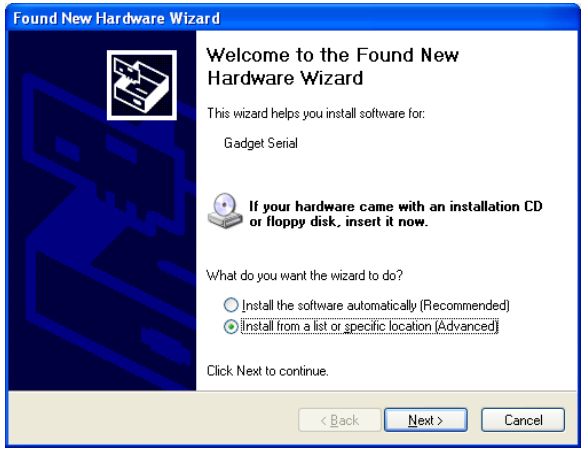


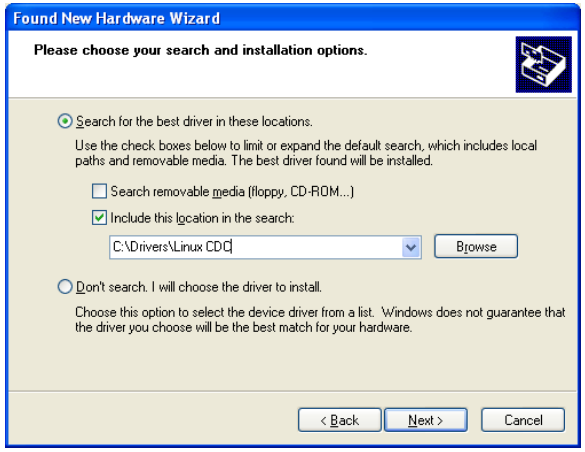
2. Connect USB cable to computer (or press RESET button if already connected).

3. After several seconds, the computer may indicate the connection of a USB device. This is a virtual COM port which can be used to access the Linux shell console (if applicable).

Run Image

4. If the “Found New Hardware Wizard” is displayed:
   - choose to install drivers automatically if the Xplained hardware has previously been used on the computer.
   - otherwise (or if automatic install fails) choose to install from a specific location and point to the folder containing the Gadget Linux USB-CDC driver information file.
     (download from https://www.kernel.org/doc/Documentation/usb/linux-cdc-acm.inf)





5. After an additional delay (depending on the image loaded into NAND flash) the image will be running