

kArmTI v1.27, Quick Start - Part I - Emulator Start-up

1. Introduction

kArmTI is an emulator based on the open-source ti-nspire emulator created by Goplat [nspire-emu by Goplat @ Omnimaga forum](#).

In general, kArmTI provides an easier GUI (Graphic User Interface) to the emulator. Besides easing the booting-up process of the emulator, it also includes the possibility of using skins and making simple animated gifs among other features.

The code has not yet reached a totally matured phase but can nevertheless be used without major problems. Current state and more details can be found in the Omnimaga forum [kArmTI - TI-Nspire emulator with skin](#)

The objectives of this QuickStart are to show the user how:

Part1 - Emulator Start-up

Part2 - Add a skin

Part3 - Improve Keyboard usage and Create simple Animated gifs.

Finally, I should emphasize that kArmTI is mostly aimed at users that do not need (or want) to do developing work. Nevertheless, it can still be used to a moderate extent because it gives access to nspire_emu simple debugger via a separate console window.

2. Pre-Requisites

2.1. Nspire-emu basic understanding

Nspire_emu [nspire_emu v0.60@omnimaga](#) is an emulator for the ti-nspire calculators family. You should learn how to start it up and understand the meaning of (at least some) its various command-line arguments [nspire_emu \(v0.60\) command line args](#) (snapshot copied here from the forum for convenience)

Here's a quick guide to getting set up without it.

TI-Nspire or TI-Nspire CAS, starting at boot2: (this will work with boot2 version 1.4 only; boot2 version 3.0 requires that you start at boot1. The newest OSes require boot2 version 3.0 unless you TNOC them.)

First run (non-CAS): `nspire_emu /B=boot2.raw /PO=os.tno`

First run (CAS): `nspire_emu /B=boot2.raw /MC /PO=os.tnc`

After installation is complete, go to "File -> Save As..." to save flash image

Subsequent runs: `nspire_emu /B=boot2.raw /F=flashimage`

TI-Nspire or TI-Nspire CAS, starting at boot1: (note that you must use the *original* boot2.img; don't decompress it)

First run (non-CAS): `nspire_emu /1=boot1.raw /PB=boot2.img /PO=os.tno`

First run (CAS): `nspire_emu /1=boot1.raw /MC /PB=boot2.img /PO=os.tnc`

After installation is complete, go to "File -> Save As..." to save flash image

Subsequent runs: `nspire_emu /1=boot1.raw /F=flashimage`

TI-Nspire CX or TI-Nspire CX CAS, starting at boot1: (this is the *only* way to run a CX OS - all versions of the CX boot2 require that you start at boot1. Again, you must use the *original* boot2.img; don't decompress it)

First run (non-CAS): `nspire_emu /1=boot1cx.raw /MX /PB=boot2cx.img /PO=os.tco`

First run (CAS): `nspire_emu /1=boot1cx.raw /MXC /PB=boot2cx.img /PO=os.tcc`

After installation is complete, go to "File -> Save As..." to save flash image

Subsequent runs: `nspire_emu /1=boot1cx.raw /F=flashimage`

2.2. Files needed to startup kArmTI

Besides **kArmTI.exe**, which replaces nspire_emu.exe, you'll need the TI-OS installation file and the bootloaders.

a. The TI-OS installation file, e.g. 'TI-NspireCXCAS-3.1.0.392' you may download from here: http://tiplanet.org/forum/archives_voir.php?id=3718.

Rename 'TI-NspireCXCAS-3.1.0.392' to a shorter name '**TICXCAS-3.1.0.392.tcc**' (chop-off '-Nspire') and put it in the same directory as kArmTI.exe.

b. The OS bootloaders **Boot1cx.img** and **Boot2cx.img***. These can be extracted from your Ti-nspire (if you already have one) using Ndless and Polydumper.

Polydumper: http://tiplanet.org/forum/archives_voir.php?id=3829 and a compatible version of Ndless.

You can read more about Ndless and Polydumper here:

<http://tiplanet.org/forum/viewtopic.php?f=17&t=8689&p=119994#p119994> (in English)

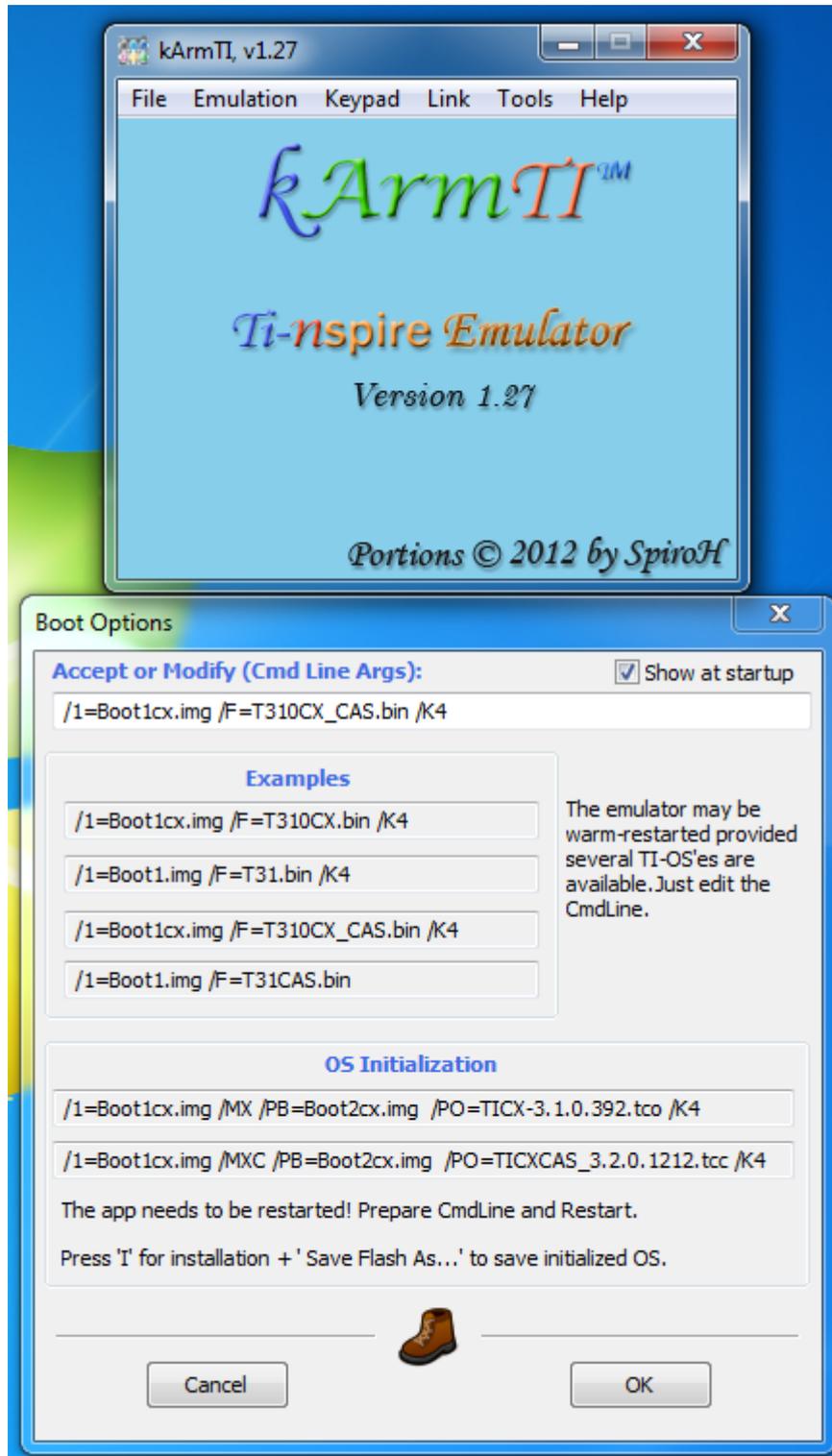
After you've gathered all the 4 required files you should have the following layout in your chosen install directory:

Name	Size	Date modified
 Boot1cx.img	512 KB	20/01/2012 18:58
 Boot2cx.img	855 KB	06/07/2011 16:54
 kArmTI_v27.exe	313 KB	17/07/2012 08:45
 TICXCAS-3.1.0.392.tcc	9,891 KB	29/02/2012 00:46

* There are alternative ways to find these Bootloaders using various forums and Google. Because they are copyright material we aren't allowed to distribute. So, please do not ask us for them.

3. Preparation of the TI-OS-ReadyToUseImage (Again, we'll focus our attention only on the above referred example: the colour (CX) CAS, vers 3.1)

3.1 Start kArmTI



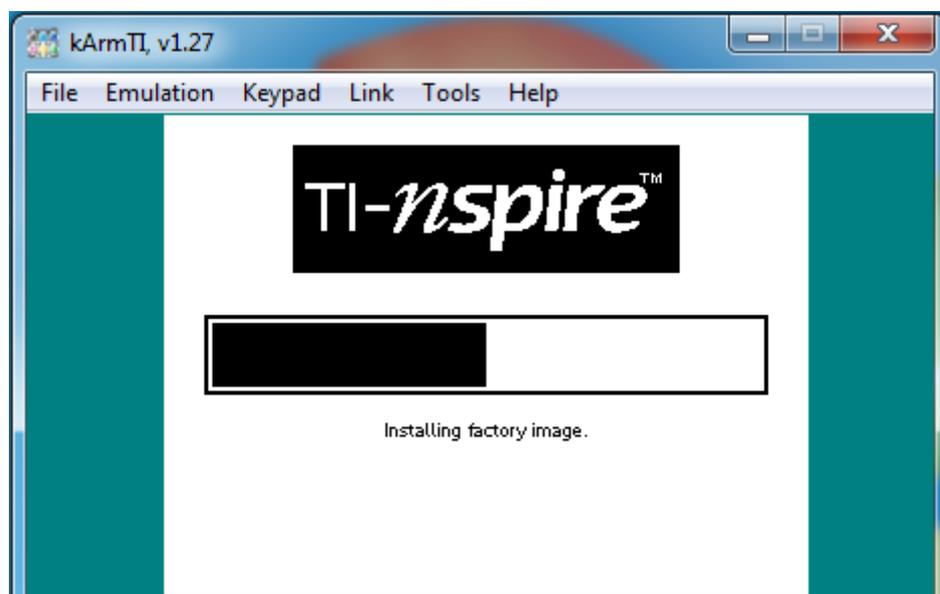
3.2 Modify BootOptions:

Replace the 'Cmd Line Args' `"/1=Boot1cx.img /F=T310CX_CAS.bin /K4"` with the following line `"/1=Boot1cx.img /MXC /PB=Boot2cx.img /PO=TICXCAS-3.1.0.392.tcc /K4"`

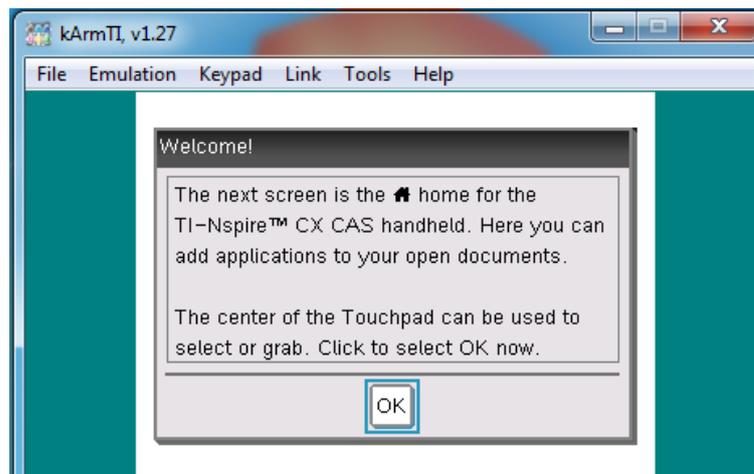
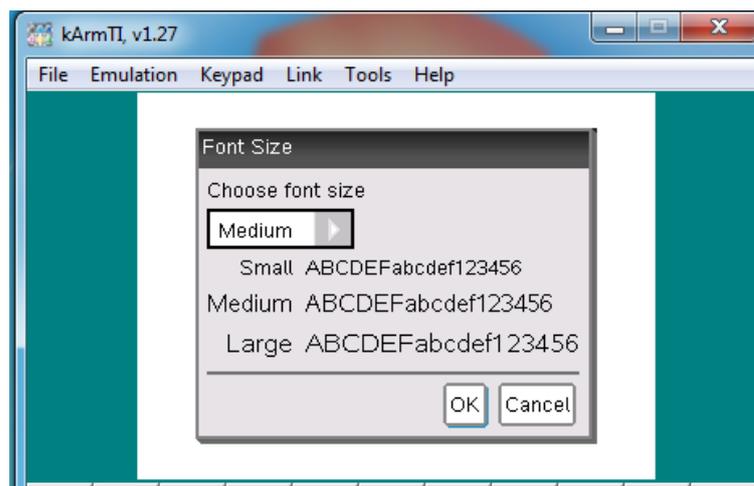
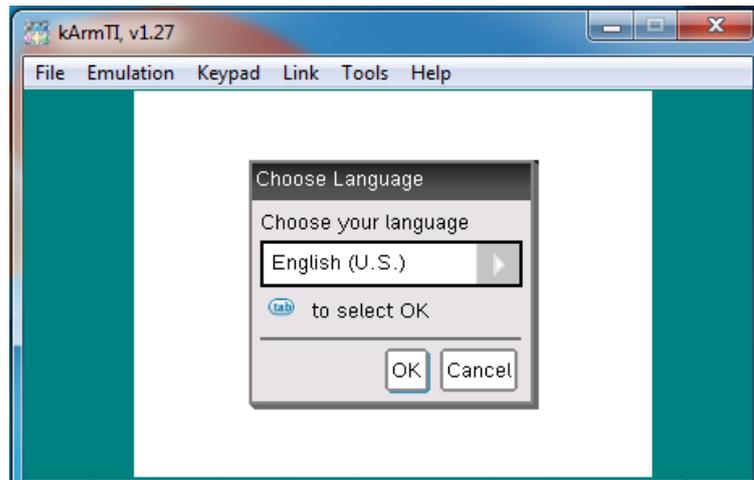
Actually, you may copy and paste from a few lines below in the dialog. Example, under 'OS Initialization', copy the 2nd line and paste it in 'CmdLine Args'. Then modify 'TICXCAS_3.2.0.1212.tcc' to the desired name, i.e: 'TICXCAS-3.1.0.392.tcc'.

3.3 Make sure the checkbox 'show at startup' is checked. Press 'OK'.

3.4 The system starts preparing the TI-OS-Image. At some point you are asked to press 'I' for OS Initialization. Do it! You should also see the OS factory image being installed:



3.5 The following dialogs will come up to allow you to choose Language and Font Size (accept defaults or change them). You can do that by single-clicking on the LCD. And finally you should be presented with a welcome message.

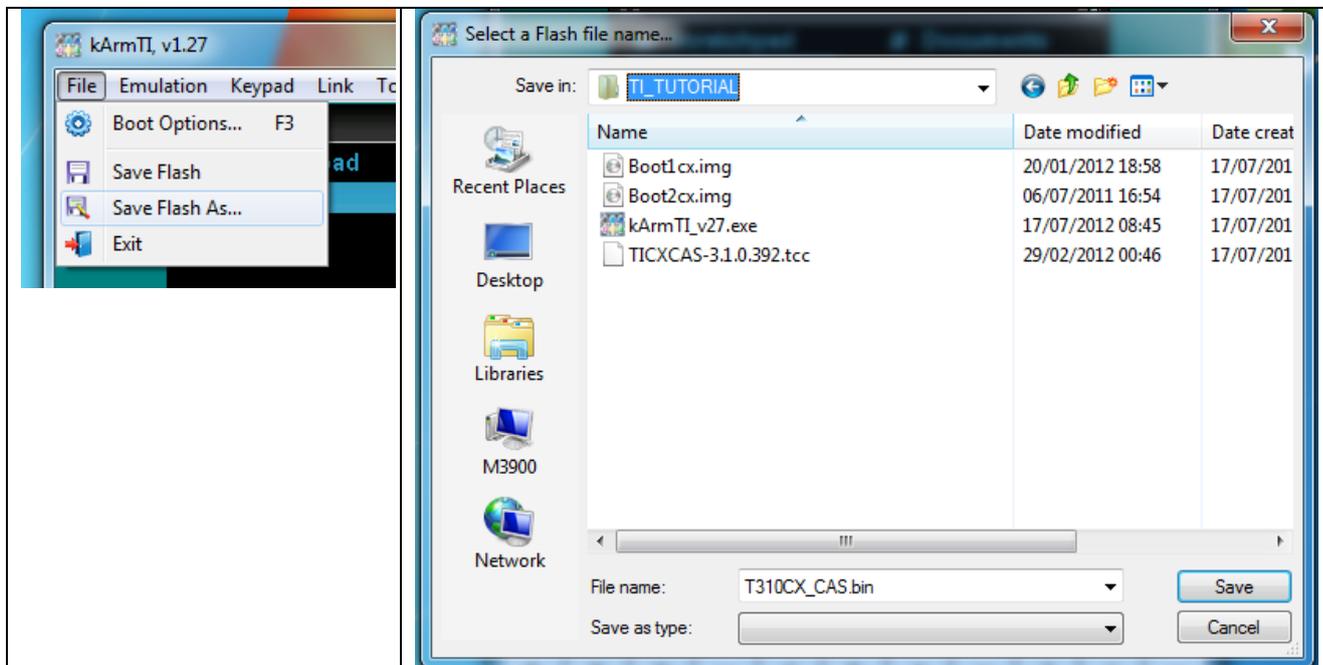


3.6 When the the calculator Home screen is shown, it means the OS-Flash-Image has been prepared and is ready to be saved, so that the next time around you don't need to go thru this hassle again.

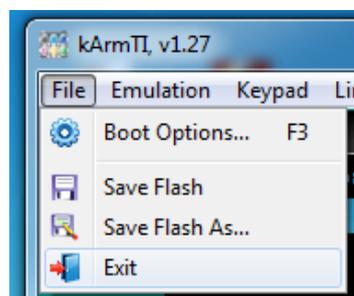


4. Save the OS-Initialized flash image

4.1 Open 'File->Save Flash As...' and select a name, let's call it 'T310CX_CAS.bin'. Make sure is saved in the same directory as kArmTI.exe:



4.2 Exit the application

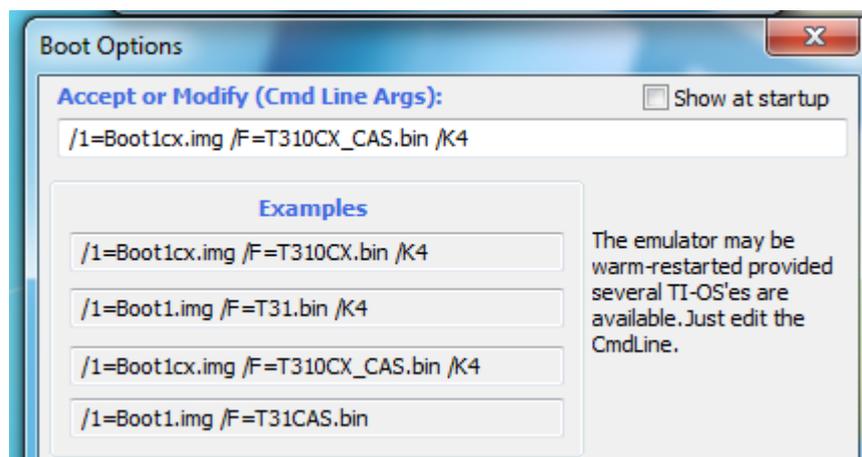
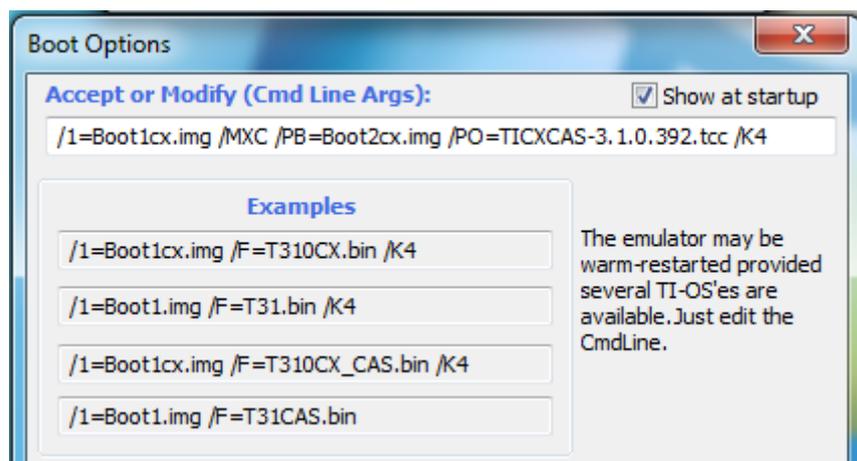


5. Reboot the OS-Initialized flash image

5.1 The new file layout

Name	Size	Date modified
Boot1cx.img	512 KB	20/01/2012 18:58
Boot2cx.img	855 KB	06/07/2011 16:54
kArmTI_v27.exe	313 KB	17/07/2012 08:45
T310CX_CAS.bin	33,792 KB	17/07/2012 19:11
TICXCAS-3.1.0.392.tcc	9,891 KB	29/02/2012 00:46

5.2 Restart kArmTI. Now we need to change again the 'CmdLine Args' in Boot Options dialog. Copy the 3rd line under Examples and paste it on the 'CmdLine Args' so that it looks like the second picture below:



Uncheck the checkbox 'show at startup' and Press OK. This time the booting up process should be much faster. Because we have selected the touchpad keypad (/K4), you should get something like what is shown in the following picture.

That's it! You've managed to successfully boot the ti-nspire emulator.



Up to this point, we haven't yet spoken about skins. Actually your GUI to the emulator is basically you pc-keyboard and the (somewhat difficult to use) onscreen keyboard that allows you to use the mouse to interact with the emulator. BTW, even without a skin, you can already take advantage of some of the kArmTI mouse clicking facilities. On LCD: left-click = 'Enter'; right-click='Esc'. On keypad buttons: left-click = 'normal-key'; right-click='ctrl-function' (blue label); middle-click= 'shift-function' (orange label).

As you may have already noticed, there's some difference with respect to the nspire_emu startup. You didn't use the command prompt console at all.

(TO BE CONTINUED...)