# Programming ARM MCU on the Minimig 1.8

## What is required?
1. PC with the Windows or Linux (This example is with Windows)
2. USB - microUSB Cable
3. Minimig
4. Software - Sam-Ba 2.18 and ARM-Firmware for Minimig

## Lets start
1. **Download Sam-ba v2.18**: https://ww1.microchip.com/downloads/en/DeviceDoc/SAM-BA%20v2.18%20for%20Windows.exe
2. **I**nstall Sam-ba v2.18.
3. **Download Minimig ARM-Firmware:**
    1. https://www.minimig.ca/software/Minimig18-arm.bin
    2. Or backport version: https://www.minimig.ca/software/Minimig18-arm-backport.bin
        (Slightly different features)

## 4. Make sure you erase your current ARM MCU
Step one:

> Set the jumpers (one that is next to USB port connector)
> > 1 - OFF (TEST)
> > 2- ON (ERASE)
>
> Power on Minimig and wait for 10-15 sec.
> After 15 sec power off Minimig.
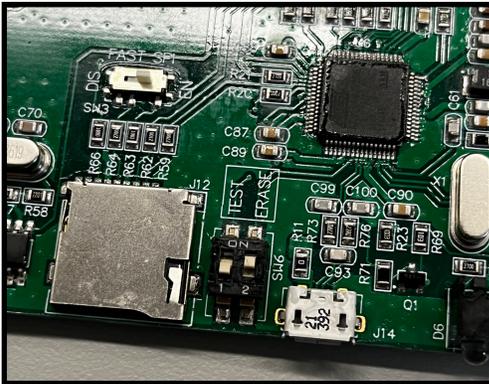


Step two:

> Set the jumpers (same place different configuration)
> > 1 - ON (TEST)
> > 2- OFF (ERASE)
>
> Power on Minimig and wait for 10-15 sec.
> After 15 sec power off Minimig.
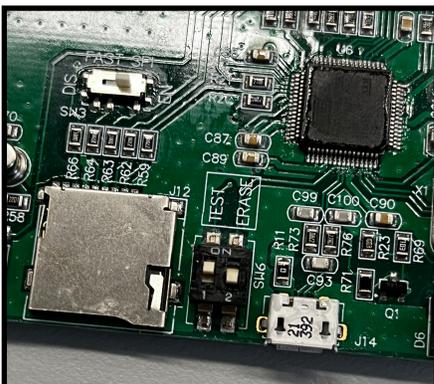
Step three:

        Set the jumpers (same place different configuration)

                1 - OFF (TEST)

                2- OFF (ERASE)

Now your Minimig is ready for ARM flashing! When you power on Minimig you will notice that drive LED is brighter and constantly on.

**5. Connect your Minimig with the PC using USB-microUSB cable**




**6. Start Sam-ba v2.18 on your Windows.**

If everything is ok, windows will detect your Minimig board, like this: (see the picture)
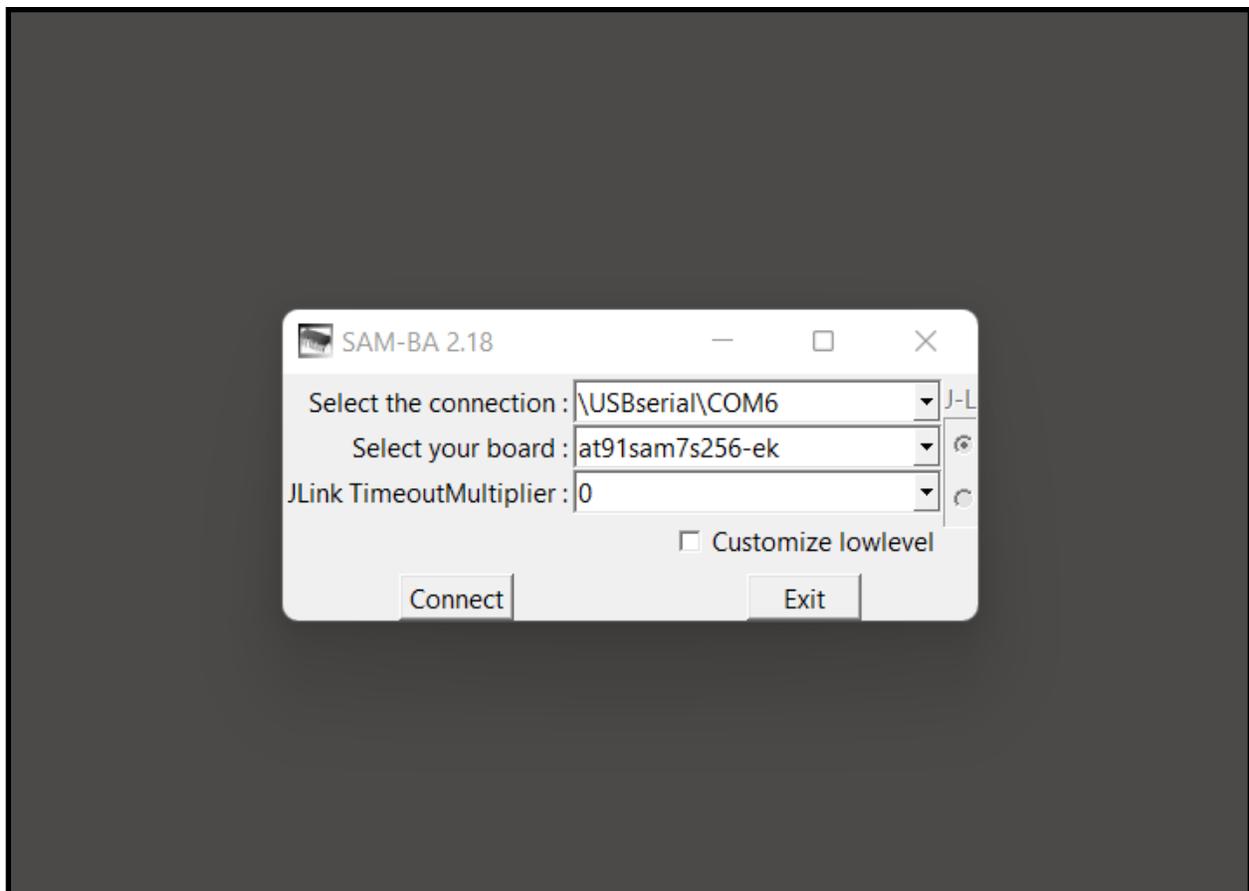
7. Connect, Erase and Flash
After you click on connect button you will see SAM-BA 2.18 user interface (see the picture)
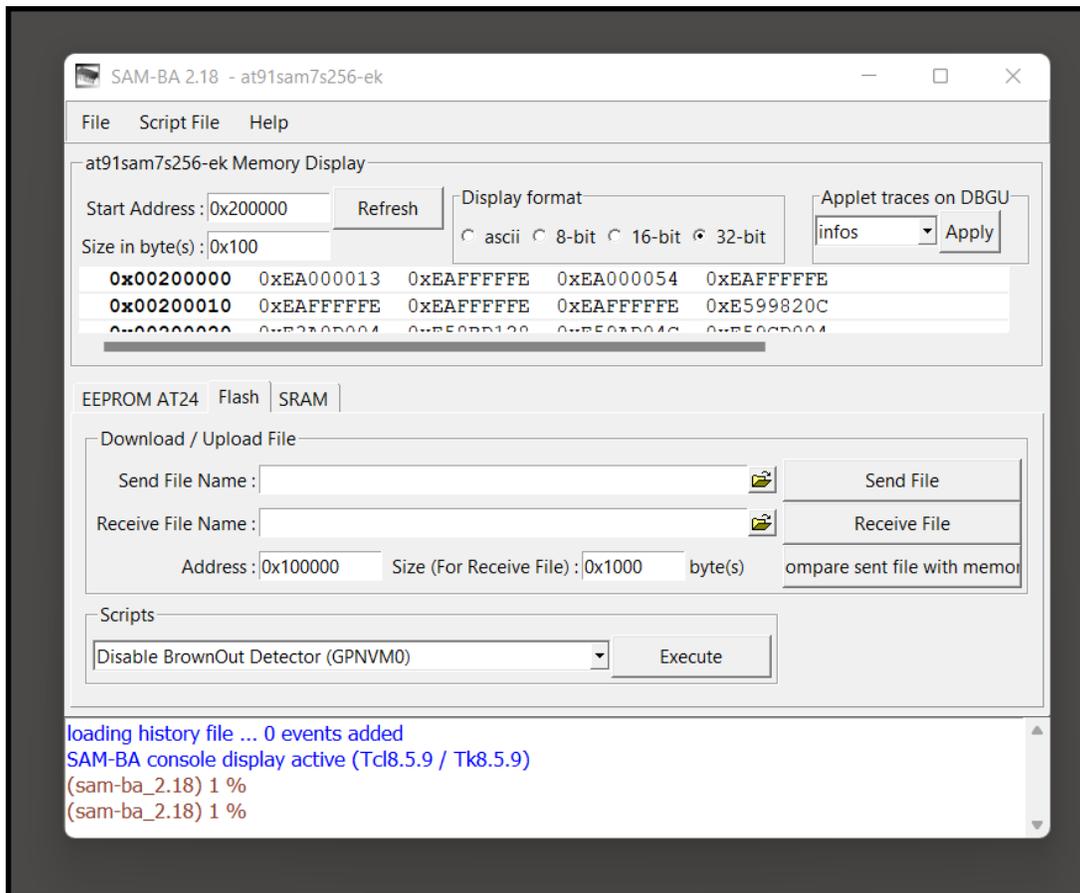


7.1
Locate Scripts section and choose "Erase All Flash" from the dropdown menu.
7.2 Then click on execute. (This will make sure your ARM is 100% clear) When asked "Do you want to unlock involved lock regions" answer with YES.
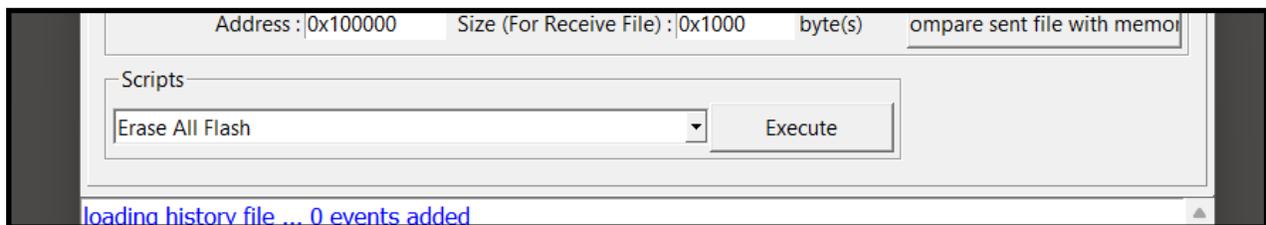


7.3 Next locate "Download/Upload file" section. We are interested in "Send File Name" field. Click on the small Open-Folder icon in the Send File Name section and select Minimig18-arm.bin file you previously acquired from Minimig.ca. After you select the file click on "Send File" button. When asked "Do you want to lock involved lock regions" you can answer with NO.  You are done. Power on you Minimig with the SD card. System will boot-up.