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**: <u>https://ww1.microchip.com/downloads/en/DeviceDoc/SAM-BA%20v2.18%20for%20Windows.exe</u>
- 2. Install Sam-ba v2.18.
- 3. Download Minimig ARM-Firmware:
 - 1. https://www.minimig.ca/software/Minimig18-arm.bin
 - 2. Or backport version: <u>https://www.minimig.ca/software/Minimig18-arm-backport.bin</u> (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)

SAM-BA 2.18	– 🗆 X
Select the connection : \USBs	serial\COM6
Select your board : at91s	am7s256-ek 🗾 🕫
JLink TimeoutMultiplier : 0	• c
	Customize lowlevel
Connect	Exit

7. Connect, Erase and Flash

After you click on connect button you will see SAM-BA 2.18 user interface (see the picture)

-at91sam7s256-ek N	lemory Display-			
Start Address : 0x20 Size in byte(s) : 0x10	00000 Re	C ascii C 8-bit C	16-bit © 32-bit	Applet traces on DBGU
0x00200000 0x00200010	0xEA000013 0xEAFFFFF	3 0xEAFFFFFE 0xEA00 5 0xEAFFFFFE 0xEAFF 6 0xEE000120 0xEE000120	0054 0xEAFFF FFFE 0xE5998	FFE 20C
Receive File Name	s : 0x100000	Size (For Receive File) : 0x100)0 byte(s) o	Receive File
Addres				
Addres				
Addres Scripts Disable BrownOut	Detector (GPNV	/M0)	Execute	

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.

Address : 0x100000	Size (For Receive File) : 0x1000	byte(s)	ompare sent file with memor	
Scripts]	
Erase All Flash	•	Execute		
]	
oading history file 0 events add	ed			

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.

Download / Upload File	
Send File Name :	Send File