

## Troubleshooting Sataschakit

Directions: Use this documentation with reference #1. This explains how to bootload the kit using a redboard. If you know how to connect the wires skip the set up and go directly to the workflow.

### *Set up*

Step 1: Read through #1 reference.

Step 2: gather parts to troubleshoot

Redboard sparkfun Arduino (which I uploaded Blink and it worked)

Red cable

SK boards to troubleshoot

Fletch 06092016

Tom 06102016

Wires

Voltmeter

Step 3: Check wires for connectivity

Orange - good (11 - 11)

Red - good (VCC - 5V)

Green - good - RST - 10

Blue -good (12 - 12)

Yellow - ok (13 -13))

White - ok (white to GND)

Step 4: Connect the boards like shown in Getting Started 03 on #1

1. As I place the green cable from Fletch 0610 to the #1 Redboard I check to see the connection. Furthermore, I checked both boards after the green wire and there was connectivity. OK
2. Connected orange wire and check connectivity. OK
3. Connected blue wire and check connectivity. OK
4. Connected yellow wire and check connectivity. OK
5. Viewed Fletch 0610 modification by adding another ground pin to the SK. IT appears to be not changing anything.
6. Approach is to power the Fletch 06102016 from another power source.
7. Connected redboard 2 to my laptop through another USB cable.
8. Check if power was transmitting to the redboard 2 and I can get 5V out of it.
9. Went to power fletch 0610 by attaching GND first.
  - a. Noticed the the two LED's on the Fletch were blinking at the same frequency as redboard 1.
  - b. Q: Is this the correct behavior?
  - c. A: YEs traced back pin 13 and it is connected to the ground. Interesting
10. Attached the power side to the fletch and the green light is on.
11. Unplugged the USB cable from RB1

12. Receiving 5.11 V on the Fletch
13. Unplugged the USB connected redboard 2
14. At this time, close and then open arduino IDE

## WORKFLOW

Please follow the workflow after connections. (Below this line assumes you correct connections)

1. Open Arduino IDE
2. Go to (File->Examples->11. ArduinoISP-> ArduinoISP)
  - a. DUDES - This is a must
3. Upload the file onto the Redboard
  - a. Again, this is a must
4. Once uploaded set settings to bootloader
  - a. Tools-> Board: UNO
  - b. Port has to be correct
  - c. Programmer: "Arduino as an ISP"
5. Burn Bootloader

## *Burning the bootloader Troubleshooting*

1. Open Arduino IDE
2. Plug USB from RB1 into the computer
3. Check the USB setting is checked in the IDE Tools -> Port
4. So far so good.
5. Plug USB from RB2 into the computer
6. So far getting power
7. Checked the data sheet on the [ATmega 48](#) to make sure the data sheet coincided with the power pins. I noticed there is different packaging and at first I thought the GND and the V were switched, however closer look they were not.
8. I further investigated and found the flash is 32TQFP so the chipset needs to be the same.
9. Went to check power on the fleth and a note on the mac came up saying that too much power so I shut down the Arduino IDE/
10. Unplugged all.
11. Plugged RB1
12. Started IDE
13. Checked port
14. Plugged in RB2
15. Tools -> Programmer -> Arduino as ISP
16. Burn Bootloader (Unsuccessful)
  - a. avrdude: stk500\_recv(): programmer is not responding
  - b. avrdude: stk500\_getsync() attempt 1 of 10: not in sync: resp=0x00
  - c. avrdude: stk500\_recv(): programmer is not responding
  - d. avrdude: stk500\_getsync() attempt 2 of 10: not in sync: resp=0x00

- e. avrdude: stk500\_recv(): programmer is not responding
  - f. avrdude: stk500\_getsync() attempt 3 of 10: not in sync: resp=0x00
  - g. avrdude: stk500\_recv(): programmer is not responding
  - h. avrdude: stk500\_getsync() attempt 4 of 10: not in sync: resp=0x00
  - i. avrdude: stk500\_recv(): programmer is not responding
  - j. avrdude: stk500\_getsync() attempt 5 of 10: not in sync: resp=0x00
  - k. avrdude: stk500\_recv(): programmer is not responding
  - l. avrdude: stk500\_getsync() attempt 6 of 10: not in sync: resp=0x00
  - m. avrdude: stk500\_recv(): programmer is not responding
  - n. avrdude: stk500\_getsync() attempt 7 of 10: not in sync: resp=0x00
  - o. avrdude: stk500\_recv(): programmer is not responding
  - p. avrdude: stk500\_getsync() attempt 8 of 10: not in sync: resp=0x00
  - q. avrdude: stk500\_recv(): programmer is not responding
  - r. avrdude: stk500\_getsync() attempt 9 of 10: not in sync: resp=0x00
  - s. avrdude: stk500\_recv(): programmer is not responding
  - t. avrdude: stk500\_getsync() attempt 10 of 10: not in sync: resp=0x00
  - u. Problem uploading to board. See  
<http://www.arduino.cc/en/Guide/Troubleshooting#upload> for suggestions.
17. What to do?
- a. Looking at datasheet and RST and it is connected correctly
  - b. Check SCK and correct on the schematic
  - c. Checked all GND and the Vcc on the Fletch Correct
18. Attempt: Try to reset button on the RB1 while bootloading.
19. With IDE open plug in RB1
20. Plug in RB2
21. Check settings
22. DID NOT WORK,
23. Looked more closely at the error and it now makes more sense. Not finding programmer.
24. I am going to try to change the programmer
25. Set the programmer to USBTinyISP
- a. avrdude: Error: Could not find USBtiny device (0x1781/0xc9f)
  - b. Error while burning bootloader.
26. ArduinoISP
- a. avrdude: Error: Could not find USBtiny device (0x2341/0x49)
  - b. Error while burning bootloader.
27. Upload Using Programmer
- a. Same error as 16
28. Checking the RedBoard schematics
29. Grasping at straws
- a. Decided the change the MISO to the MOSI and vica versa
  - b. Same error as 18
  - c. Interesting
30. Onto Ian June10

- a. Same error as 18
- 31. Now try to bootload the chip using the same power as the arduino?
  - a. We will see.
  - b. Unplugged the power
  - c. Changed the power wires to male to male, black and red.
  - d. Plugged in black to ground checked continuity
  - e. Plugged in red to ground checked continuity
  - f. Did not need to do this.
  - g. Connected ground on the RB1 to the lan June 10
  - h. Connected 5V on the RB1 to the lan June 10
  - i. Connected the USB from RB1 to the computer
  - j. Arduino IDE was running already.
  - k. Same error as 18
- 32. Back to the fletcher
- 33. Found resource #2
  - a. Following directions

What voltage are you using? 5 or 3.3V

We used 5v

#### References:

1. <http://fabacademy.org/archives/2015/doc/projects/satshakit/satshakit.html>
2. <http://www.instructables.com/id/Rapid-programming-of-Atmega-328-TQFP-and-DIP-chips/step2/Arrange-all-components-on-breadboard/>
- 3.