

# PirX The Pilot

Version 2.0

Supports **Realacc RX5808** and **Eachine Pro58**

## How to install



[Buy Eachine Pro58 RX](#)

Around \$26.99



[Buy RealAcc RX5808](#)

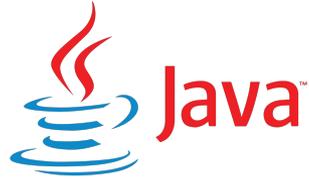
Around \$45.99



**Pirx**  
The Pilot

Firmware

[Get firmware](#)



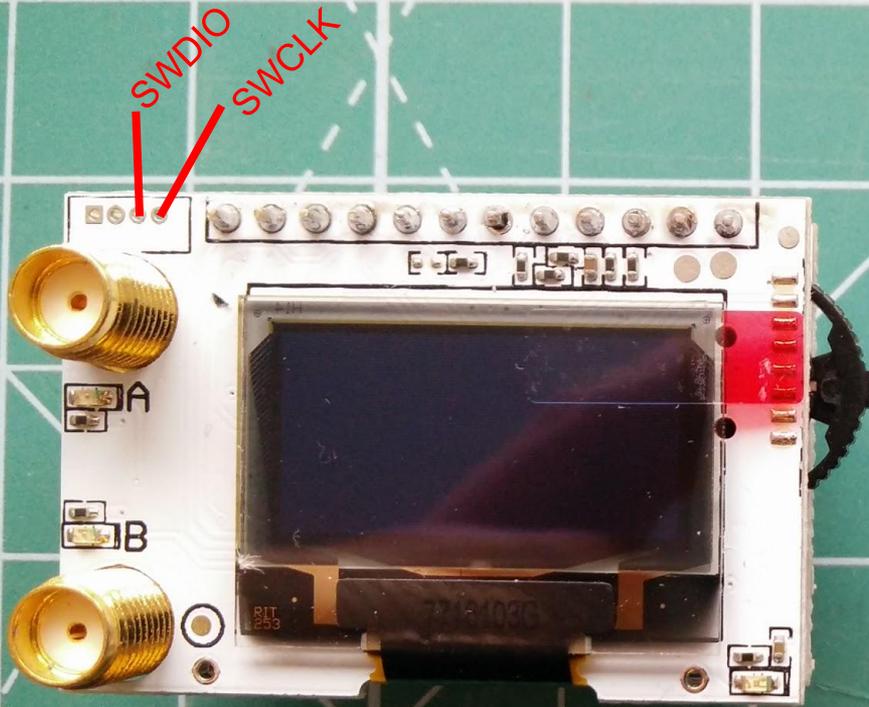
Java JDK

[Download and install](#)

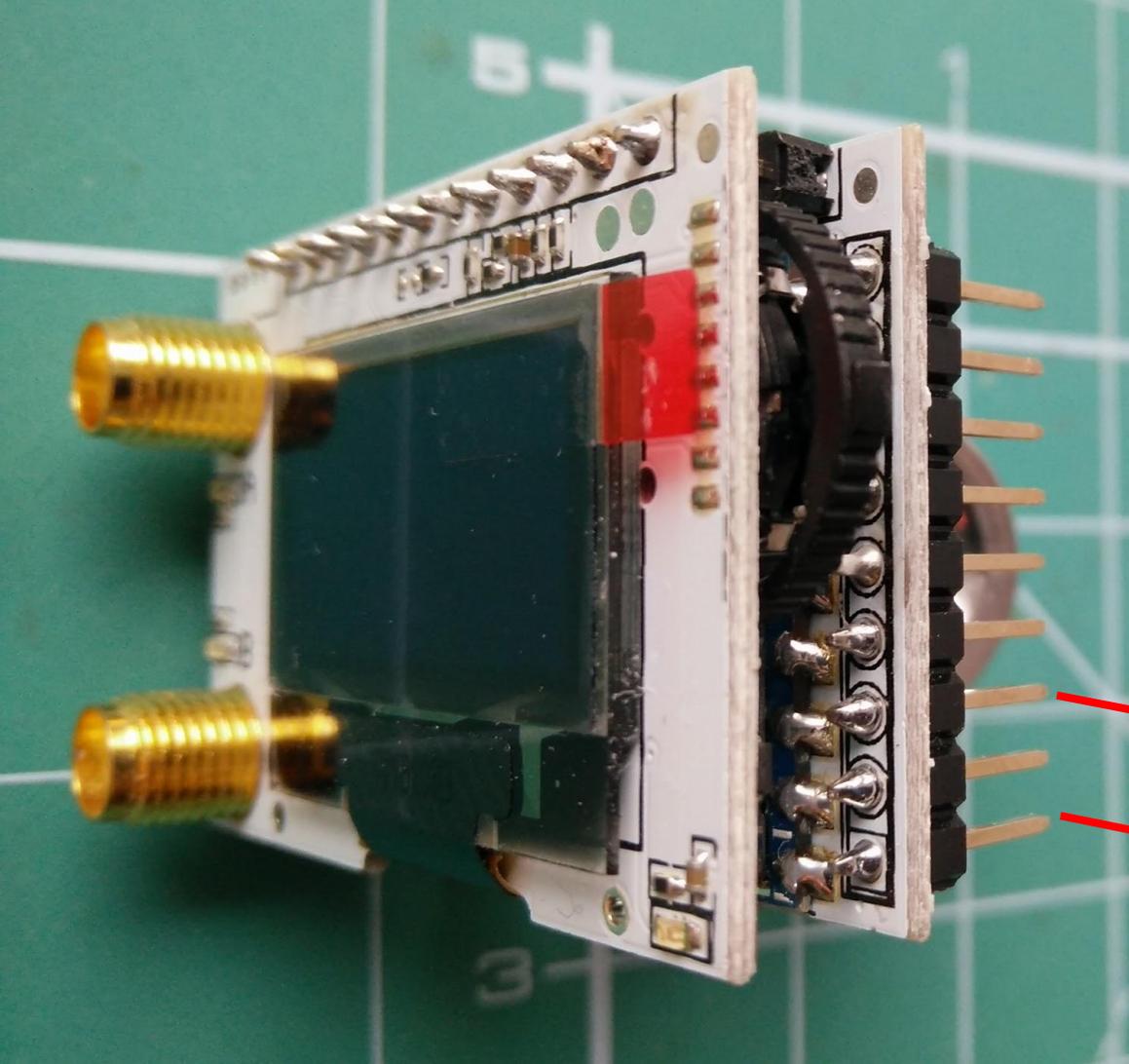


STM32CubeProgrammer

[Download and install](#)



ARM Microcontrollers use unified 2 wire debug port for the purpose of debugging and programming of microcontroller. We use this port to upload Pirx firmware.



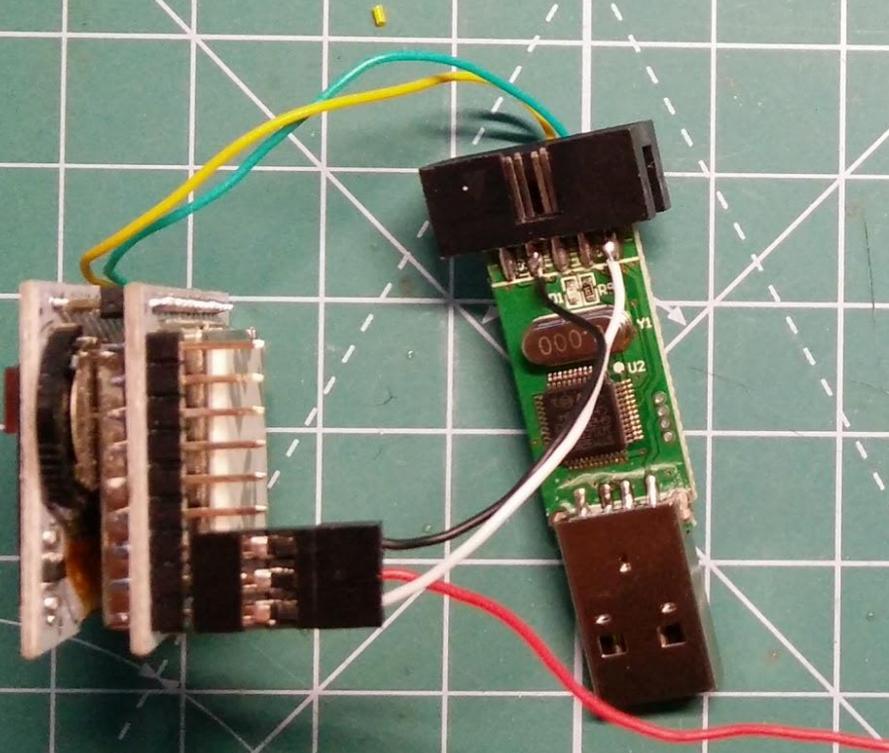
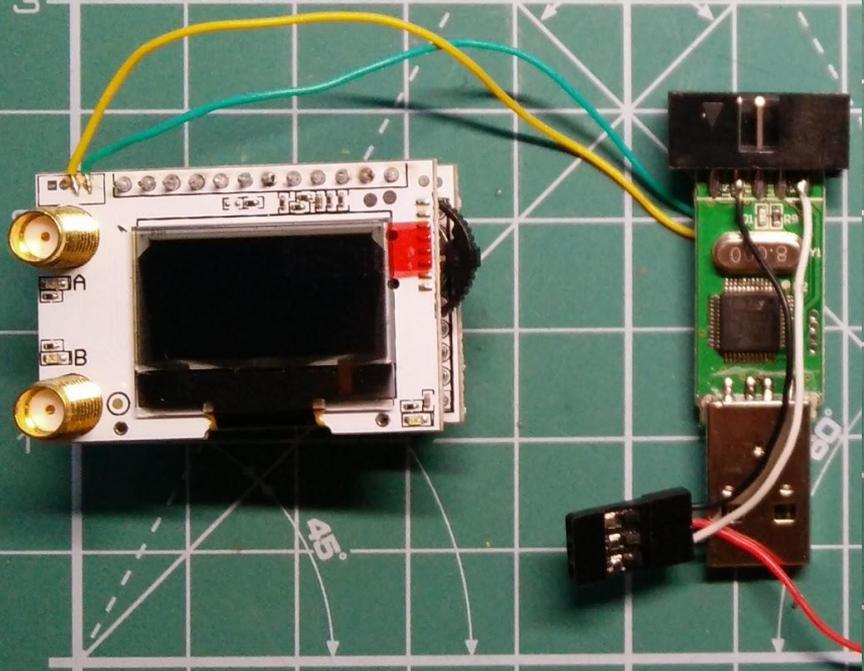
Connect those two pins to suitable power supply.

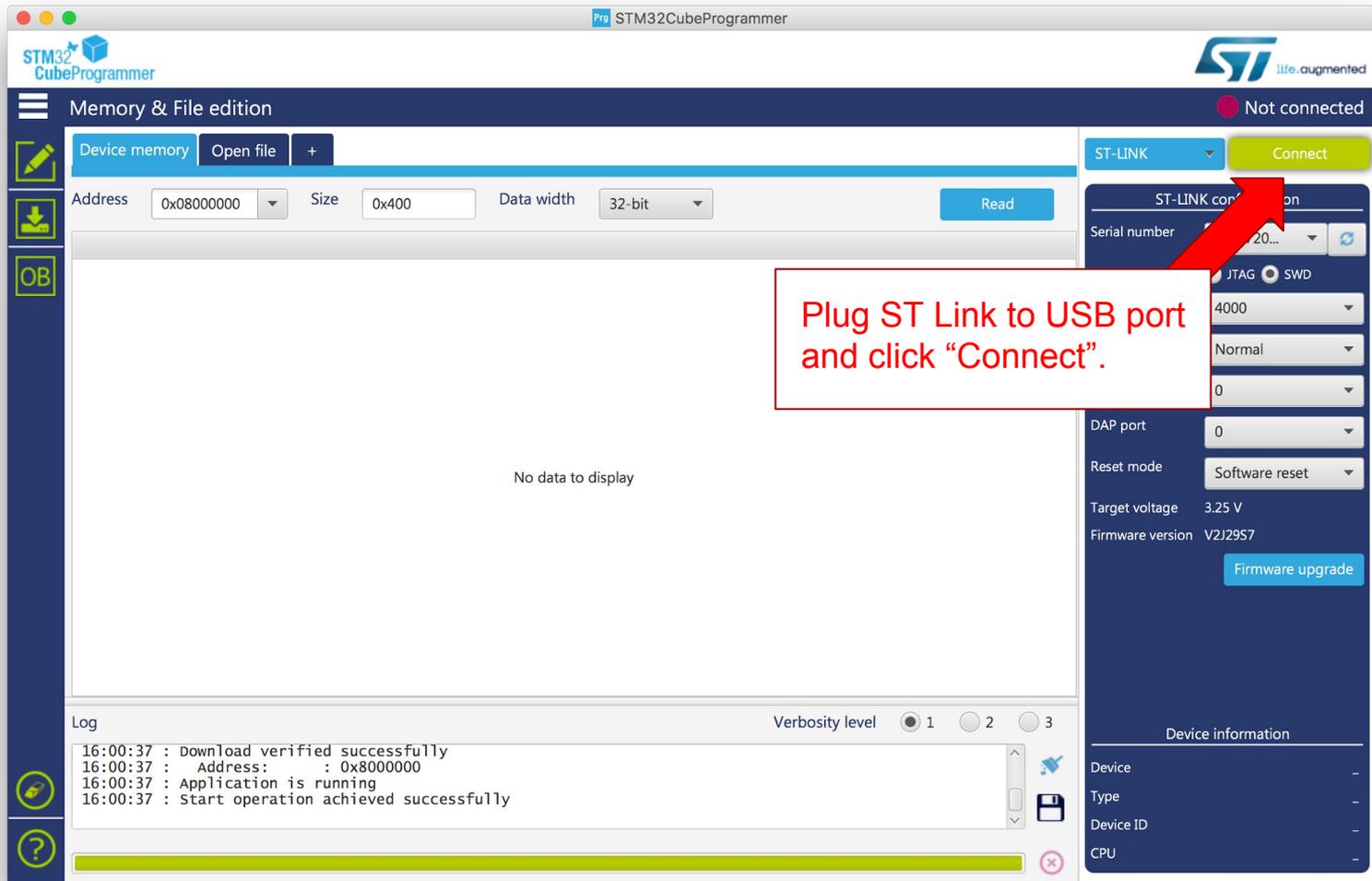
Remember to use thick wires on GND and 5V pins as the module consumes a lot of current.

GND

5V

We used ST Link to program our module but you can use any SWD compatible debugger.





STM32CubeProgrammer

STM32 life.augmented

Connected

### Option bytes

Name	Value	Description
RDP	<input type="checkbox"/>	Read protection option byte. The read protection is used to protect the software code stored in Flash memory. Unchecked : Flash memory is not read-protected. Checked : Flash memory is read-protected.

ST-LINK configuration

Serial number: 48FF720...  
Port: JTAG SWD  
Frequency (kHz): 4000  
Mode: Normal  
Access port: 0  
DAP port: 0  
Reset mode: Software reset  
Target voltage: 3.25 V  
Firmware version: V2J29S7  
Firmware upgrade

Device information

Device: STM32F101/102/103 Medium-d...  
Type: MCU  
Device ID: 0x410  
CPU: Cortex\_M3

Log

Verbosity level: 1 2 3

```
15:59:17 : UPLOADING ...
15:59:17 : Size      : 1024 Bytes
15:59:17 : Address   : 0x8000000
15:59:17 : Time elapsed during the read operation is: 00:00:00.034
```

Apply Read

1 - Go here

2 - Value should be "unchecked".  
If not, change it and remember to click "Apply".

Memory & File edition

Connected



1 - go here



OB

Address: 0x08000000 Data width: 32-bit

Address	0	4	8	C	ASCII
0x08000000	20005000	0800E95D	08008071	08008075	.P. ]é..q...u...
0x08000010	0800809D	080080A1	080080A5	00000000	...i...¥.....
0x08000020	00000000	00000000	00000000	08006A31	.....1j..
0x08000030	080080A9	00000000	08006AC1	080080AD	@.....Áj.....
0x08000040	0800E9FD	0800E9FD	0800E9FD	0800E9FD	úúúúúúúúúú
0x08000050	0800E9FD	0800E9FD	0800E9FD	0800E9FD	úúúúúúúúúú
0x08000060	0800E9FD	0800E9FD	0800E9FD	0800E9FD	úúúúúúúúúú
0x08000070	0800E9FD	0800E9FD	0800E9FD	0800E9FD	úúúúúúúúúú
0x08000080	080080D5	080080E1	080080E1	080080E1	úúúúúúúúúú
0x08000090	0800E9FD	0800E9FD	0800E9FD	0800E9FD	úúúúúúúúúú
0x080000A0	0800E9FD	08008101	0800E9FD	0800E9FD	ýé.....ýé..ýé..
0x080000B0	0800E9FD	0800810D	08008119	08008125	ýé.....%...
0x080000C0	08008131	0800813D	08008149	0800E9FD	1...=...I...ýé..
0x080000D0	0800E9FD	08008155	0800E9FD	0800E9FD	ýé..U...ýé..ýé..
0x080000E0	08008191	0800E9FD	0800E9FD	00000000	...ýé..ýé.....

Confirmation

Are you sure you want to erase full ship flash memory?

Cancel OK

3 - OK



2 - click "Erase"



Log

Verbosity level: 1

15:58:58 ... UPLDARTING ...

15:58:58 ... operation is: 00:00:00.034

ST-LINK Disconnect

ST-LINK configuration

Serial number: 48FF720...

Port: JTAG SWD

Frequency (kHz): 4000

Mode: Normal

Access port: 0

DAP port: 0

Reset mode: Software reset

Version: 3.25 V

Revision: V2J2957

Firmware upgrade

Device information

Device: STM32F101/102/103 Medium-d...

Type: MCU

Device ID: 0x410

CPU: Cortex\_M3



Memory & File edition

Connected



Device memory

Open file



Next, go here



Address: 00000000 Data width: 32-bit Read

Address	4	8	C	ASCII	
0x08000000	FFFFFFFF	FFFFFFFF	FFFFFFFF	FFFFFFFF	yyyyyyyyyyyyyyyy
0x08000010	FFFFFFFF	FFFFFFFF	FFFFFFFF	FFFFFFFF	yyyyyyyyyyyyyyyy
0x08000020	FFFFFFFF	FFFFFFFF	FFFFFFFF	FFFFFFFF	yyyyyyyyyyyyyyyy
0x08000030	FFFFFFFF	FFFFFFFF	FFFFFFFF	FFFFFFFF	yyyyyyyyyyyyyyyy
0x08000040	FFFFFFFF	FFFFFFFF	FFFFFFFF	FFFFFFFF	yyyyyyyyyyyyyyyy
0x08000050	FFFFFFFF	FFFFFFFF	FFFFFFFF	FFFFFFFF	yyyyyyyyyyyyyyyy
0x08000060	FFFFFFFF	FFFFFFFF	FFFFFFFF	FFFFFFFF	yyyyyyyyyyyyyyyy
0x08000070	FFFFFFFF	FFFFFFFF	FFFFFFFF	FFFFFFFF	yyyyyyyyyyyyyyyy
0x08000080	FFFFFFFF	FFFFFFFF	FFFFFFFF	FFFFFFFF	yyyyyyyyyyyyyyyy
0x08000090	FFFFFFFF	FFFFFFFF	FFFFFFFF	FFFFFFFF	yyyyyyyyyyyyyyyy
0x080000A0	FFFFFFFF	FFFFFFFF	FFFFFFFF	FFFFFFFF	yyyyyyyyyyyyyyyy
0x080000B0	FFFFFFFF	FFFFFFFF	FFFFFFFF	FFFFFFFF	yyyyyyyyyyyyyyyy
0x080000C0	FFFFFFFF	FFFFFFFF	FFFFFFFF	FFFFFFFF	yyyyyyyyyyyyyyyy
0x080000D0	FFFFFFFF	FFFFFFFF	FFFFFFFF	FFFFFFFF	yyyyyyyyyyyyyyyy
0x080000E0	FFFFFFFF	FFFFFFFF	FFFFFFFF	FFFFFFFF	yyyyyyyyyyyyyyyy

Message

Mass erase successfully achieved

OK

ST-LINK

Disconnect

ST-LINK configuration

- Serial number: 48FF720...
- Port:  JTAG  SWD
- Frequency (kHz): 4000
- Mode: Normal
- Access port: 0
- DAP port: 0
- Reset mode: Software reset
- Target voltage: 3.25 V
- Firmware version: V2J29S7

Firmware upgrade

Device information

- Device: STM32F101/102/103 Medium-d...
- Type: MCU
- Device ID: 0x410
- CPU: Cortex\_M3

Log

Verbosity level: 1 2 3

```
15:59:17 : UPLOADING ...
15:59:17 : Size      : 1024 Bytes
15:59:17 : Address   : 0x800000
15:59:17 : Time elapsed during the read operation is: 00:00:00.034
```



STM32CubeProgrammer

Erasing & Programming

File programming

File path: /Users/khockuba/STM32/PRO58 RX/Rele Browse

Start Address: 0x08000000

Programming options:

- Verify programming
- Skip flash erase before programming
- Run after programming

Available external loaders:

Select	Name	Board	Start Ad
<input type="checkbox"/>	512W3A_STM3210E-EVAL	STM3210E-EVAL	0x70C...
<input type="checkbox"/>	IS42532800G_STM32769I-EVAL	STM32769I-EVAL	0xC00...
<input type="checkbox"/>	IS61WV102416BLL_STM324x9I-EVAL	STM324x9I-EVAL	0x640...
<input type="checkbox"/>	IS61WV102416BLL_STM324xG-EVAL	STM324xG-EVAL	0x640...
<input type="checkbox"/>	IS61WV102416BLL_STM32769I-EVAL	STM32769I-EVAL	0x600...

Select	Index	Address	Size (Bytes)
<input type="checkbox"/>	0	0x08000000	1K
<input type="checkbox"/>	1	0x08000100	1K
<input type="checkbox"/>	2	0x08000200	1K
<input type="checkbox"/>	3	0x08000300	1K
<input type="checkbox"/>	4	0x08001000	1K
<input type="checkbox"/>	5	0x08001400	1K
<input type="checkbox"/>	6	0x08001800	1K
<input type="checkbox"/>	7	0x08001C00	1K
<input type="checkbox"/>	8	0x08002000	1K
<input type="checkbox"/>	9	0x08002400	1K
<input type="checkbox"/>	10	0x08002800	1K
<input type="checkbox"/>	11	0x08002C00	1K

1 - Choose Pirx ".bin" file.

2 - make sure two tick boxes are checked

3 - Click "Start Programming"

Start Programming

Log

15:59:17 : UPLOADING ...  
15:59:17 : Size : 1024 Bytes  
15:59:17 : Address : 0x8000000  
15:59:17 : Time elapsed during the read operation is: 00:00:00.034

Device information

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To calibrate, follow the instructions on the **screen**. Do NOT attach antennas to the module. Turned ON your quad (VTX).

You need to do the calibration only once, the first time you start.

**That's all. Enjoy :)**

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