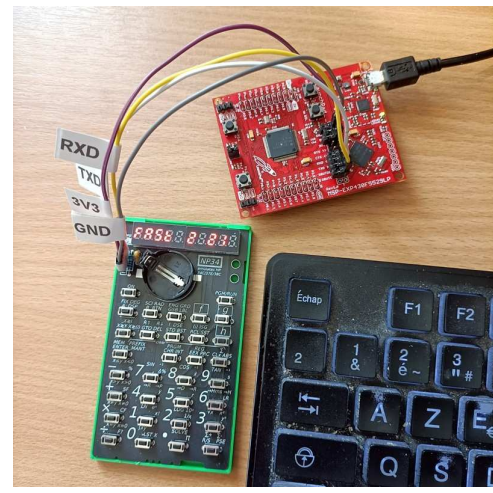
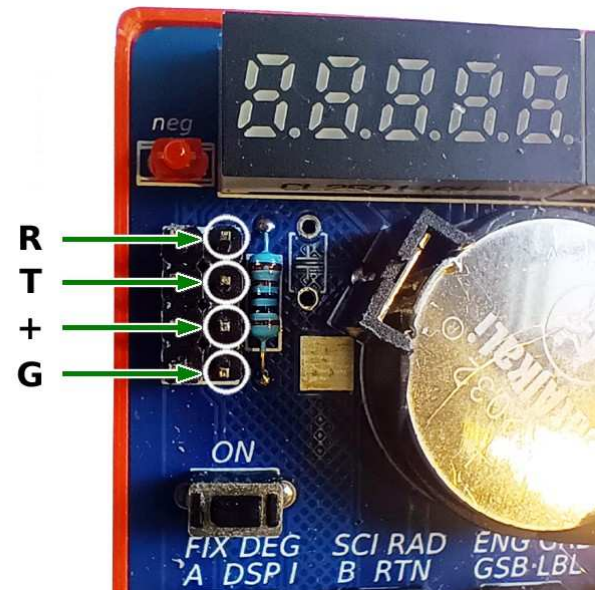


## Firmware flashing procedure using TI LaunchPad

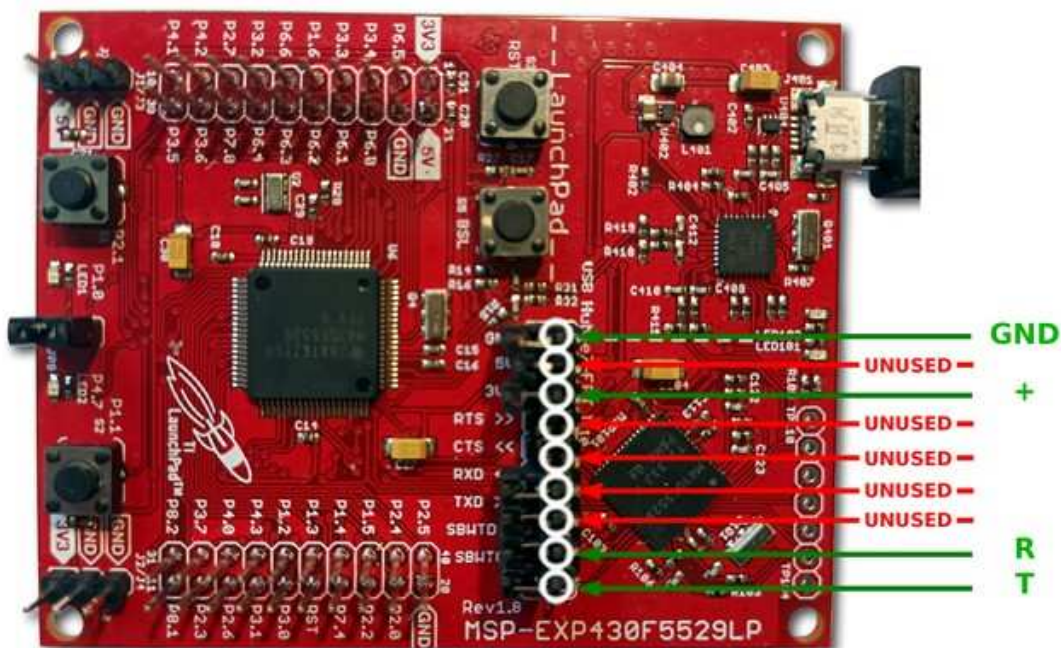
- you can use a **Texas Instruments LaunchPad** development board to flash firmware via the SBW (Spy-By-Wire) protocol
- most LaunchPads should be able to flash the **NP-34**, except for the low end MSP430G2ET, tested OK LaunchPads include **FR2433** and **FR5529**
- connection is done through 4 dupont wires with optional pin headers on the **NP-34**
- LaunchPads are development boards, for **NP-34** firmware flashing, we are using the programming side of the **LaunchPads**
- Disconnect the MCU side from the programming side of the **LaunchPad** by removing the connecting jumper caps



LaunchPad	NP-34		
RESET	to RESET (R)		o o R
TEST	to TEST (T)		o o T
VCC	to VCC (+)	Rx	o o +
GND	to GND (G)	Tx	o o G



- Locate the 4 connecting points (Ground, Vcc, Test, Reset) and run dupont wires between **LaunchPad** (programmer side) and **NP-34**
- LaunchPad RESET and TEST pins are also called SBWTDIO (RESET) and SBWCLK (TEST) pin



Download and install "MSPFLASHER", from <https://www.ti.com/tool/MSP430-FLASHER> after installation, it should reside in `C:\ti\MSPFlasher_1.3.20\MSP430Flasher.exe`

Example DOS batch file to :

- Update the **NP-34** (or restore a backup)

```
@echo off
cls
@echo +=====+
@echo !          NP-34 FIRMWARE UPDATE          !
@echo !          using MSP-EXP430F5529LP        !
@echo +=====+
DIR 34\*.hex /W /B
SET numv=
SET /P numv=Version (01, 02, nn, SVnn...) [or Q] ?
IF "%numv%"=="q" GOTO endupd
IF "%numv%"=="Q" GOTO endupd
if exist 34\np34-%numv%.hex (
    C:\ti\MSPFlasher_1.3.20\MSP430Flasher.exe -n MSP430G2X55 -w 34\np34-%numv%.hex -j fast -z [VCC]
) else (
    @echo file doesn't exist
)
pause
:endupd
```

- Back up the **NP-34** (complete: firmware + RAM)

```
@echo off
cls
@echo +=====+
@echo !          NP-34 MAIN SAVE          !
@echo !          using MSP-EXP430F5529LP  !
@echo +=====+
DIR 34\NP34-SV*.hex /W /B
SET numv=
SET /P num=Version (01, 02, 03,...) [or Q] ?
IF "%num%"=="q" GOTO endread
IF "%num%"=="Q" GOTO endread
:nextstep
if exist 34\NP34-SV%num%.hex (
    @echo file already exist
) else (
    C:\ti\MSPFlasher_1.3.20\MSP430Flasher.exe -n MSP430G2X55 -r [34\NP34-SV%num%.hex,MAIN]
)
pause
:endread
```