Next instead of reading the files and writing the results in dwt.bin The goal is use as serial tx & rx to send the data to the program. Then transmit the result over the serial tx.

The folder testfiles/2048/ has the files to perform a 2048 lifting step.
The folder testfiles/256/ has the files to perform a 256 lifting step.

The following command compiles the code ./buildpi_lift.sh

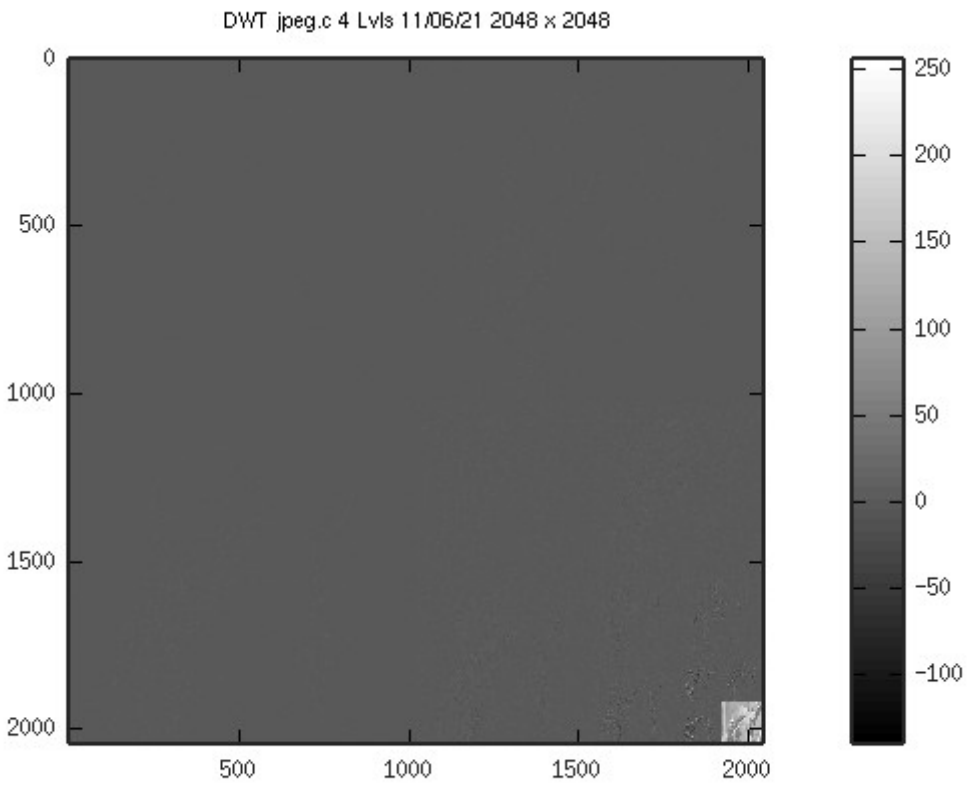
There is a define in pi_jpeg.c that turns off the debug

```
rm -f dwt.bin ; ./pi_jpeg 0 1
0x0 0x22048 0x1022048
ptrs.fwd_inv = 0x2022060
reading r.bin
fwd lifting step only
w = 0x800 ptrs.inp_buf wptr = 0x22048 alt =  0x1022048 ptrs.fwd_inverse =  0x2022060
ptrs.fwd_inverse =  0x1
starting red dwt
finished ted dwt
octave
GNU Octave, version 4.4.1
Copyright (C) 2018 John W. Eaton and others.
This is free software; see the source code for copying conditions.
There is ABSOLUTELY NO WARRANTY; not even for MERCHANTABILITY or
FITNESS FOR A PARTICULAR PURPOSE.  For details, type 'warranty'.

Octave was configured for "arm-unknown-linux-gnueabihf".

Additional information about Octave is available at https://www.octave.org.

Please contribute if you find this software useful.
For more information, visit https://www.octave.org/get-involved.html

Read https://www.octave.org/bugs.html to learn how to submit bug reports.
For information about changes from previous versions, type 'news'.

octave:1> rgb
```

The input was a pgm file 2048 x 2048

y2=-4.11346

4 lvs 2048 x 2048 lifting step.

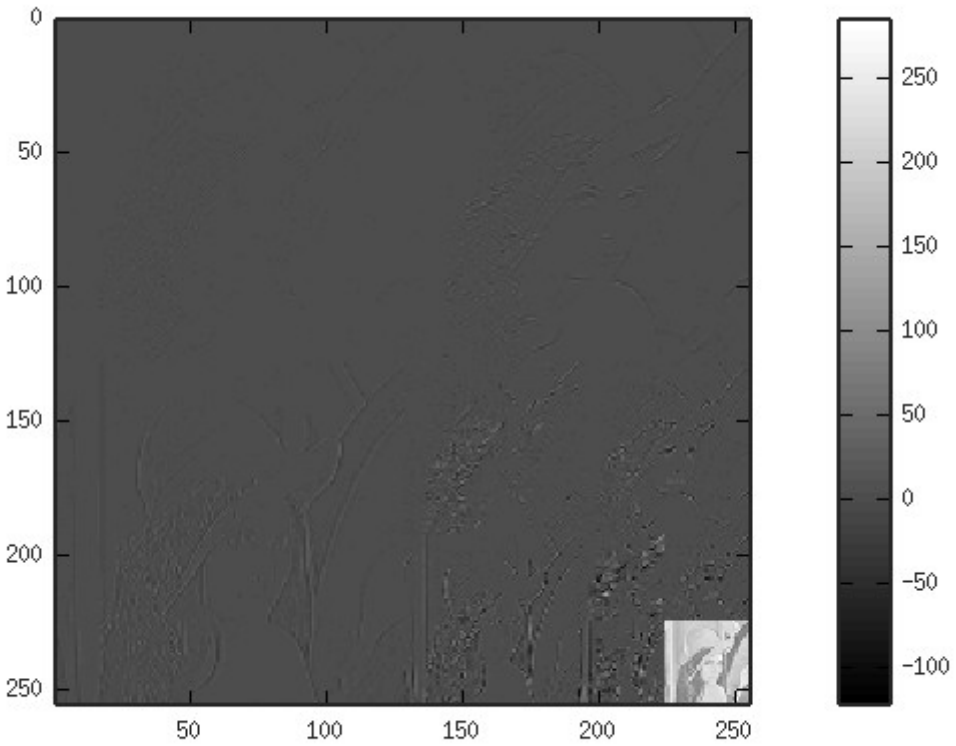


y2=-194.610

```
cp testfiles/256/* .
 ./buildpi_lift.sh
devel@mypi3-20:~/pico-lifting $ rm -f dwt.bin ; ./pi_jpeg 0 1
0x0 0x22048 0x62048
ptrs.fwd_inv = 0xa2060
reading r.bin
fwd lifting step only
w = 0x100 ptrs.inp_buf wptr = 0x22048 alt =  0x62048 ptrs.fwd_inverse =  0xa2060
ptrs.fwd_inverse =  0x1
starting red dwt
finished ted dwt

octave
GNU Octave, version 4.4.1
Copyright (C) 2018 John W. Eaton and others.
This is free software; see the source code for copying conditions.
There is ABSOLUTELY NO WARRANTY; not even for MERCHANTABILITY or
FITNESS FOR A PARTICULAR PURPOSE.  For details, type 'warranty'.

Octave was configured for "arm-unknown-linux-gnueabihf".

Additional information about Octave is available at https://www.octave.org.

Please contribute if you find this software useful.
For more information, visit https://www.octave.org/get-involved.html

Read https://www.octave.org/bugs.html to learn how to submit bug reports.
For information about changes from previous versions, type 'news'.

octave:1> rgb

The input was a pgm file 256 x 256
```

y2= 174.001

3 lvs 256 x 256 lifting step.



y2=-178.095

Rpi	Pico
SWDIO----18 red--------black-------black------	blue----swclk
grd----------20 yellow-----red---------blue-------	green---grd
SWCLK---22 orange-----orange------green------	black---swdio

How to Program and D... | Raspberry PI Pico C/C+ | Getting started with Raspb...

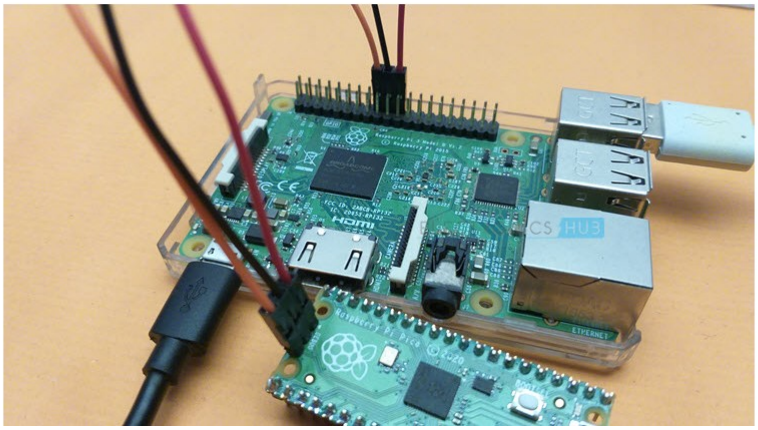
https://www.electronicshub.org/programming-raspberry-pi-pico-with-swd/

Electronics Hub

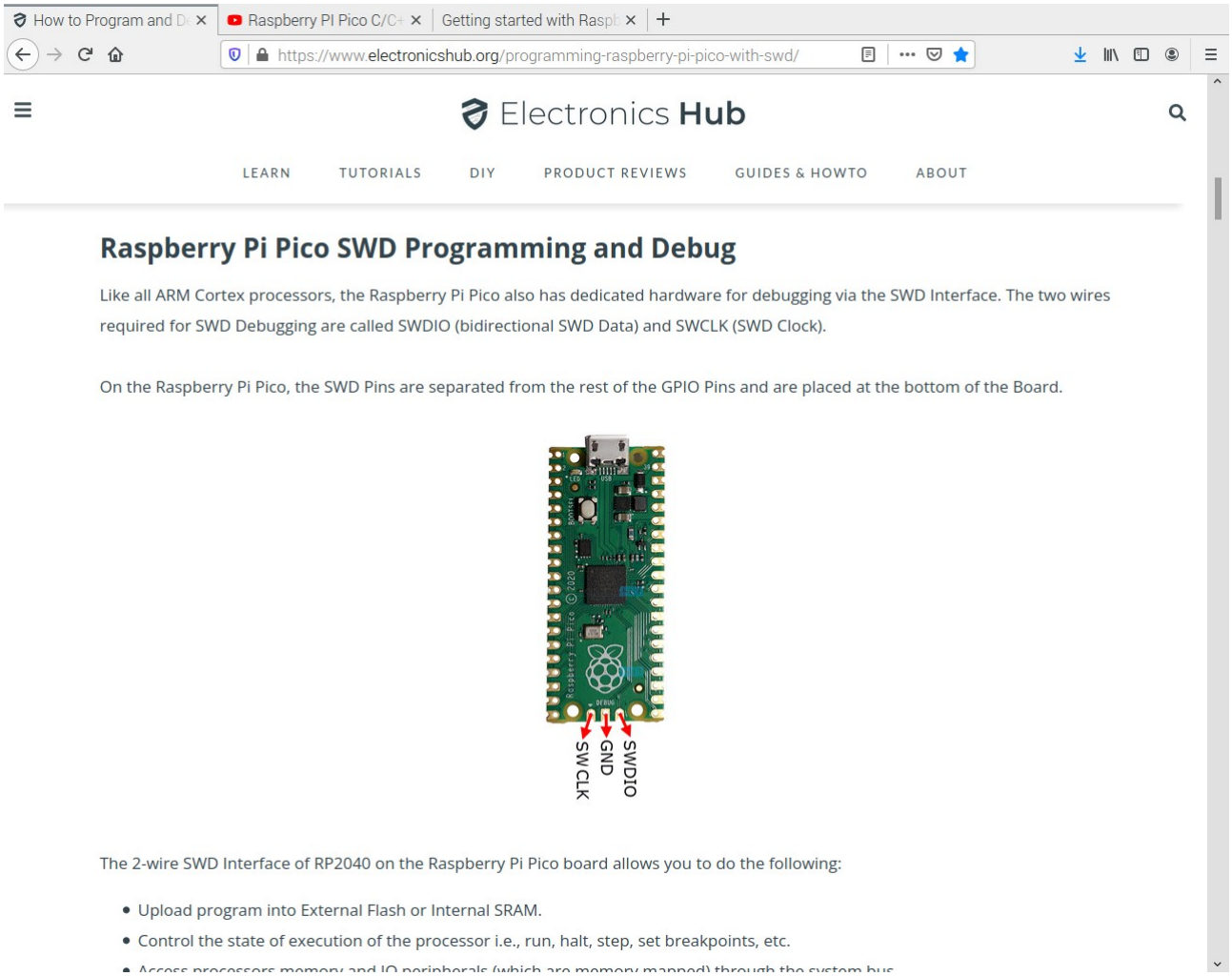
LEARN TUTORIALS DIY PRODUCT REVIEWS GUIDES & HOWTO ABOUT

The following table shows all the necessary connections between Raspberry Pi and Raspberry Pi Pico that you need to make.

Raspberry Pi Pico	Raspberry Pi
SWDIO	GPIO 24 (PIN 18)
SWD GND	GND (PIN 20)
SWCLK	GPIO 25 (PIN 22)



Pico The labels swclk grd swdio are only on the bottom side.



pico-pi-sdk-build.txt has the instruction from the video below.

Revist the video below
https://www.youtube.com/watch?v=UZwq3eb5My0

Downloaded the getting-started

https://datasheets.raspberrypi.com/pico/getting-started-with-pico.pdf