RF 433 MHZ (Raspberry Pi)

By piddlerintheroot (/member/piddlerintheroot/) in Circuits (/circuits/) > Raspberry Pi (/circuits/raspberry-pi/projects/) 22,725 26 2

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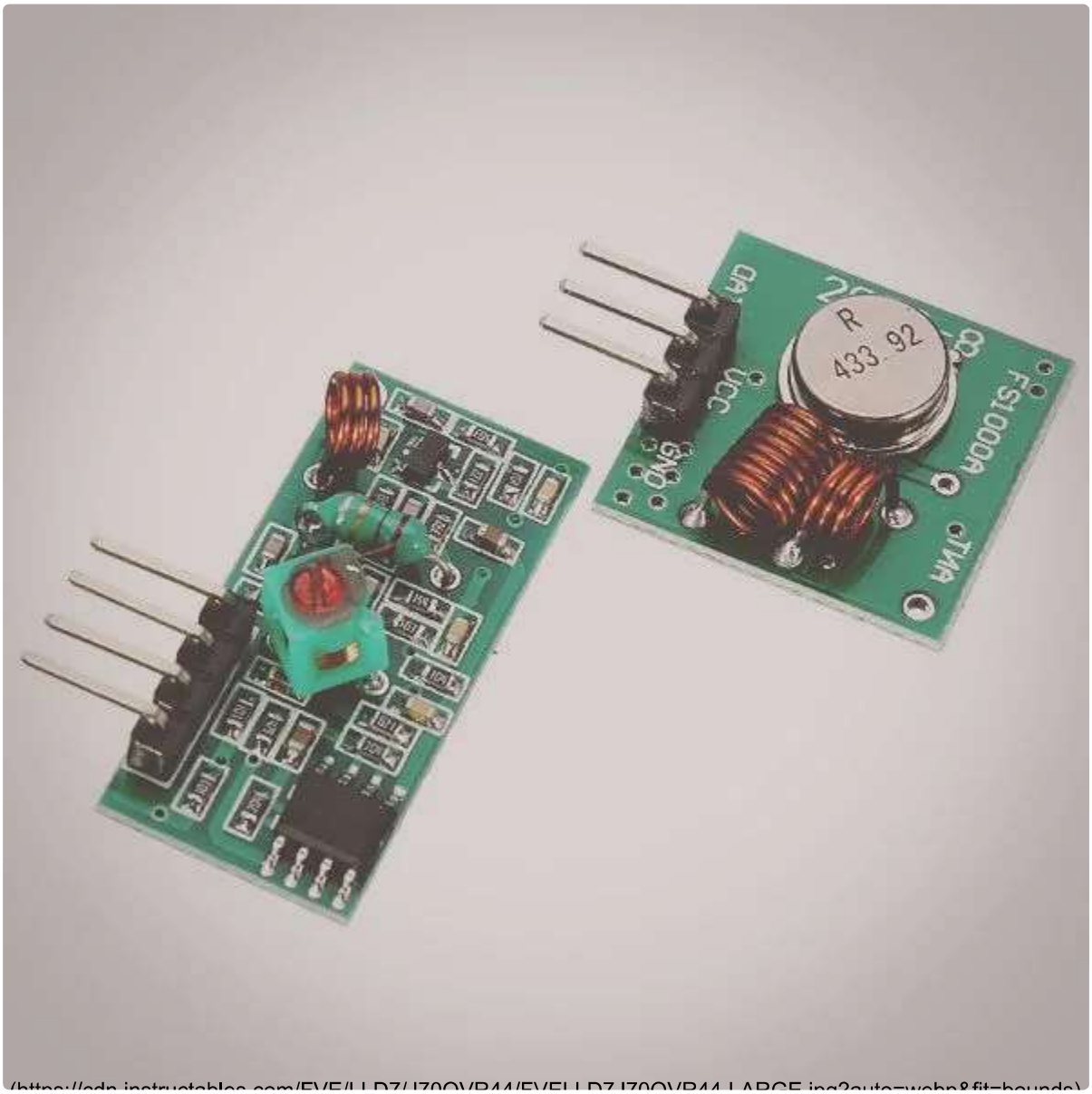

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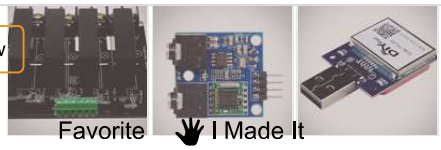

Basic tutorial of how to setup a generic 433 MHZ transmitter/reciever with the Raspberry Pi.

Teacher Notes

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Step 1: Parts

PARTS:

RPI 3 - https://amzn.to/2VA9pQY (https://amzn.to/2VA9pQY)

4 Amp Power Adapter - https://amzn.to/2CTptWu (https://amzn.to/2CTptWu)

16GB micro SD - https://amzn.to/2SFMwd3 (https://amzn.to/2SFMwd3)

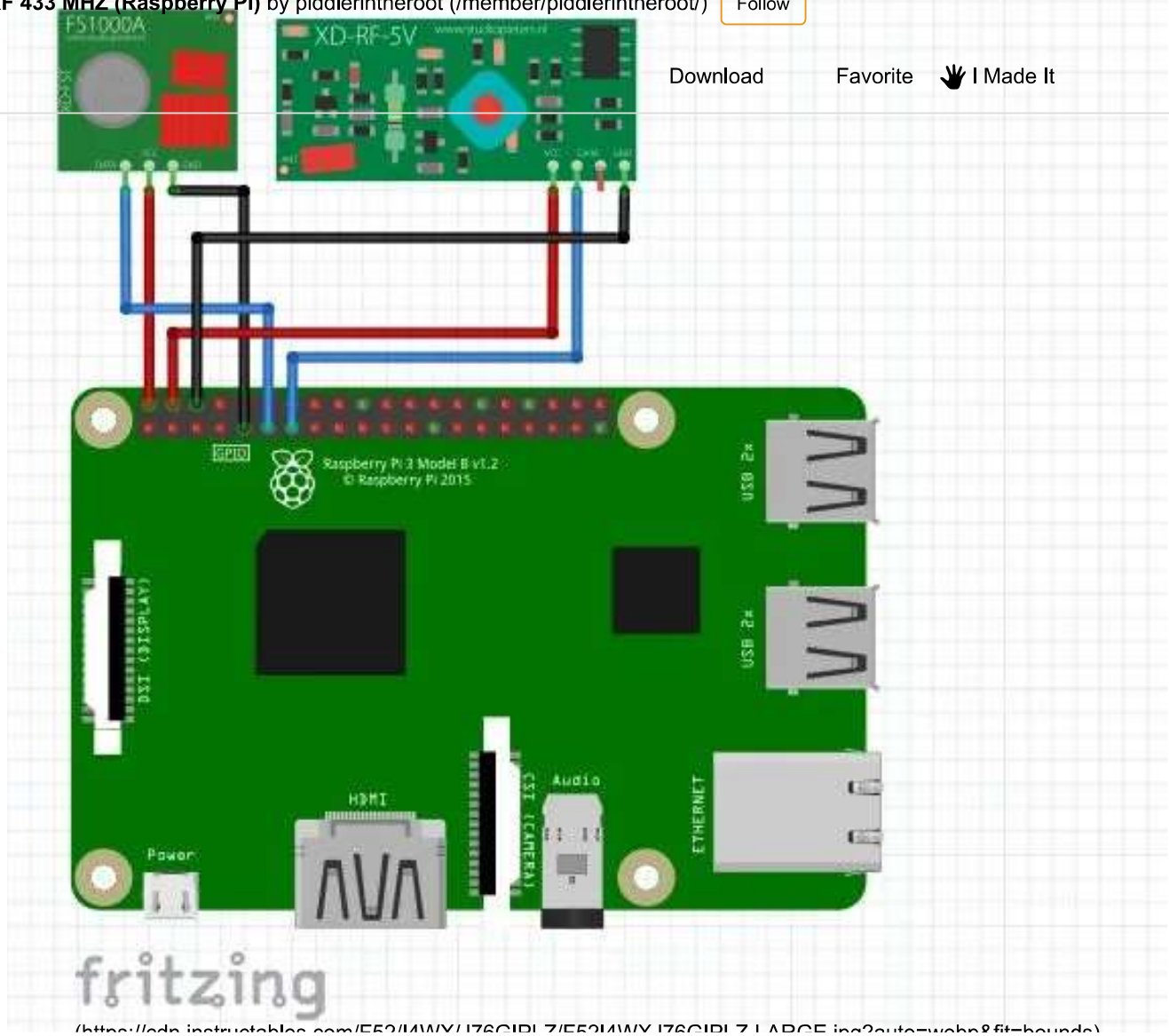
(https://amzn.to/2SFMwd3)120 pcs jumper cable: https://ebay.to/2VAb9cY (https://ebay.to/2VAb9cY)

433 MHZ TX/RX kit: https://amzn.to/2M9saGC (https://amzn.to/2M9saGC)

RF Outlet Set: https://amzn.to/2M91DJu (https://amzn.to/2M91DJu)

(https://goo.gl/PL4ryu)

Step 2: Setup



rpi-rf: https://pypi.python.org/pypi/rpi-rf (https://pypi.python.org/pypi/rpi-rf)

SSH into Raspberry Pi

1. "sudo apt-get install python3-pip"

2. "sudo pip3 install rpi-rf"

Step 3: Code

recieve.py

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```python
import argparse
import signal
import sys
import time
import logging

from rpi_rf import RFDevice

rfdevice = None

# pylint: disable=unused-argument
def exithandler(signal, frame):
    rfdevice.cleanup()
    sys.exit(0)

logging.basicConfig(level=logging.INFO, datefmt='%Y-%m-%d %H:%M:%S',
                    format='%(asctime)-15s - [%(levelname)s] %(module)s: %(message)s', )

parser = argparse.ArgumentParser(description='Receives a decimal code via a 433/315MHz GPI
parser.add_argument('-g', dest='gpio', type=int, default=27,
                    help="GPIO pin (Default: 27)")
args = parser.parse_args()

signal.signal(signal.SIGINT, exithandler)
rfdevice = RFDevice(args.gpio)
rfdevice.enable_rx()
timestamp = None
logging.info("Listening for codes on GPIO " + str(args.gpio))
while True:
    if rfdevice.rx_code_timestamp != timestamp:
        timestamp = rfdevice.rx_code_timestamp
        logging.info(str(rfdevice.rx_code) +
                     " [pulselength " + str(rfdevice.rx_pulselength) +
                     ", protocol " + str(rfdevice.rx_proto) + "]")
    time.sleep(0.01)
rfdevice.cleanup()
```

*Note use python3

1. Run recieve.py and note code, pulselength, protocol

2. Run send.py with code, pulselength, and protocol arguments

recieve.py Download (https://cdn.instructables.com/ORIG/F3N/KBEX/J76GIPWM/F3NKBEXJ76GIPWM.py)

send.py Download (https://cdn.instructables.com/ORIG/F27/XCD5/J76GIPWN/F27XCD5J76GIPWN.py)

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Step 4: Additional Info

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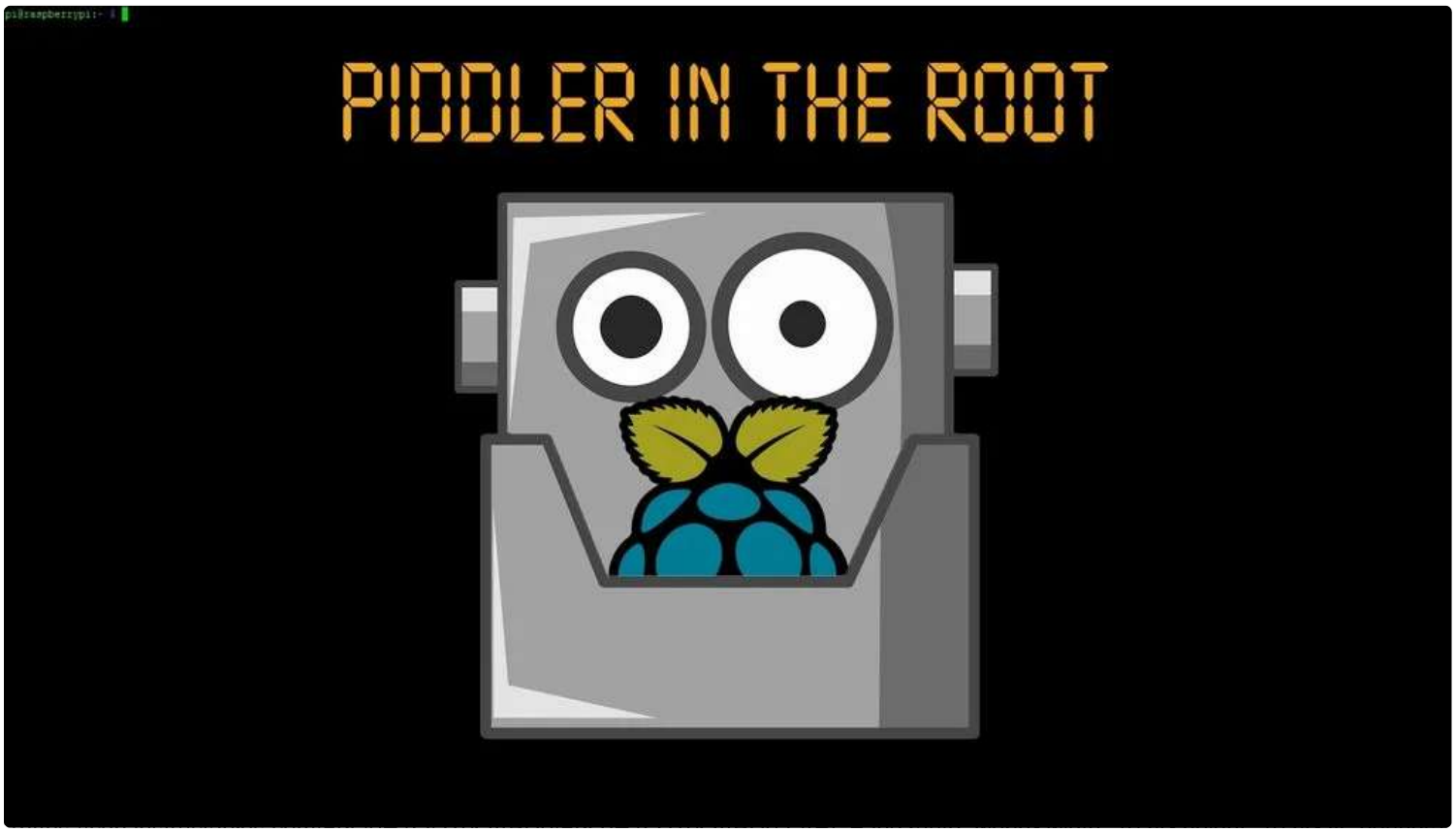

Online Guide: https://www.piddlerintheroot.com/rf-433-mhz/ (https://www.piddlerintheroot.com/rf-433-mhz/)

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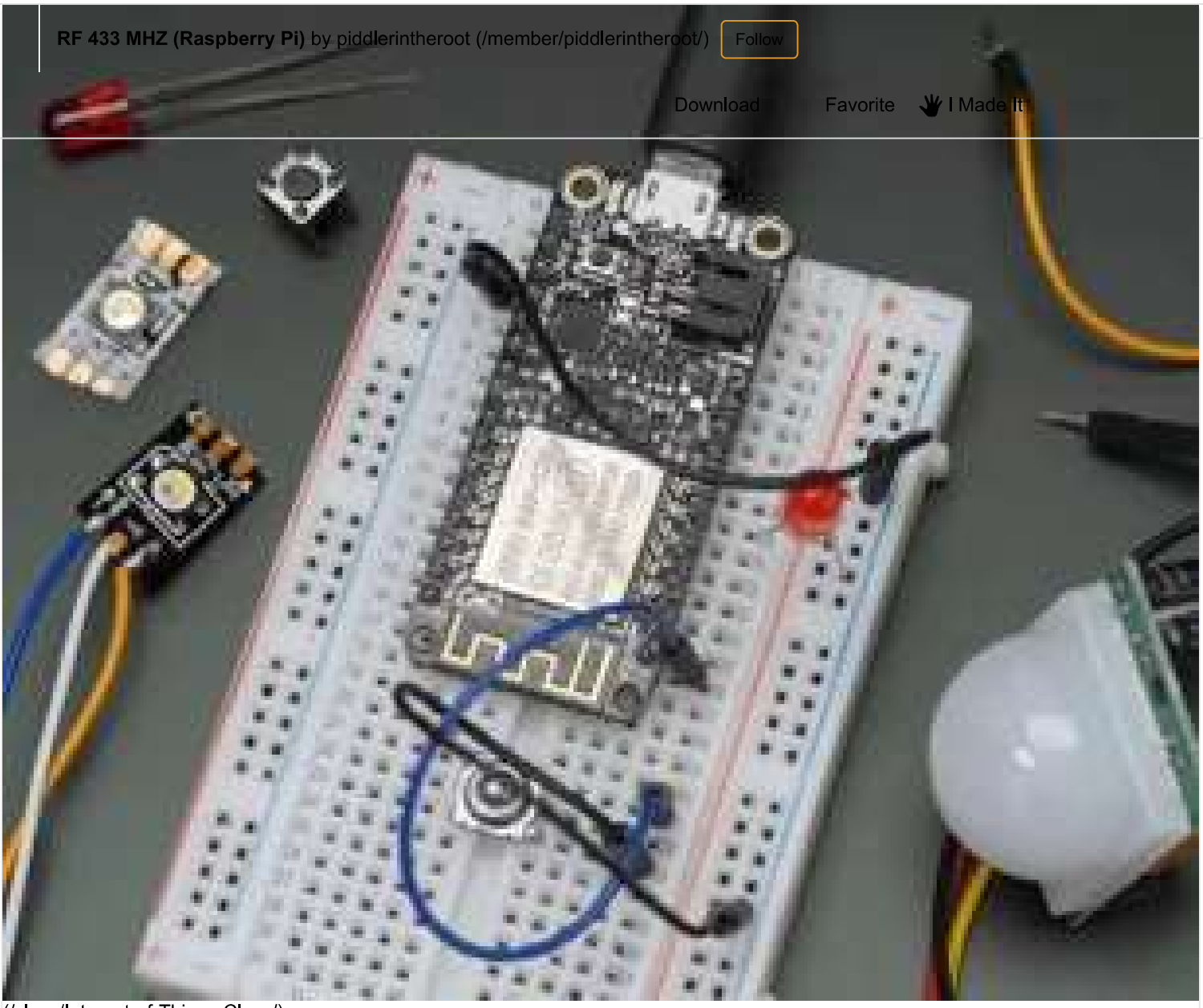

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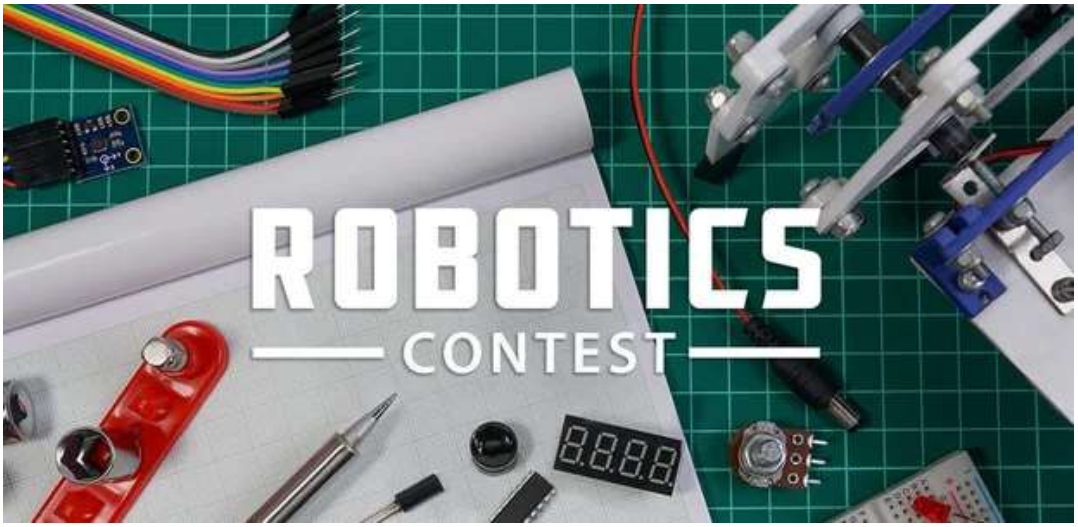

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2 Discussions

1 (/member/DiegoP140/) DiegoP140 (/member/DiegoP140/) 1 year ago

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Hi Guys

I'm wondering if you could give me a hand with the following issue:

After running Receive, there is a strange flow of unexpected data, what could it be?:

2018-07-24 13:18:29 - [INFO] receive: 4 [pulselength 1032, protocol 2]
2018-07-24 13:18:29 - [INFO] receive: 513 [pulselength 1383, protocol 4]
2018-07-24 13:18:29 - [INFO] receive: 24 [pulselength 1331, protocol 4]
2018-07-24 13:18:29 - [INFO] receive: 6152 [pulselength 2024, protocol 4]
2018-07-24 13:18:29 - [INFO] receive: 128 [pulselength 1363, protocol 2]
2018-07-24 13:18:30 - [INFO] receive: 512 [pulselength 1234, protocol 2]
2018-07-24 13:18:30 - [INFO] receive: 128 [pulselength 1754, protocol 4]
2018-07-24 13:18:30 - [INFO] receive: 32 [pulselength 1216, protocol 4]
2018-07-24 13:18:30 - [INFO] receive: 8 [pulselength 854, protocol 4]
2018-07-24 13:18:30 - [INFO] receive: 64 [pulselength 1303, protocol 4]
2018-07-24 13:18:31 - [INFO] receive: 1184 [pulselength 875, protocol 4]
2018-07-24 13:18:31 - [INFO] receive: 128 [pulselength 1384, protocol 2]
2018-07-24 13:18:31 - [INFO] receive: 4104 [pulselength 1417, protocol 2]
2018-07-24 13:18:31 - [INFO] receive: 80 [pulselength 1172, protocol 4]
2018-07-24 13:18:32 - [INFO] receive: 8 [pulselength 1491, protocol 4]
2018-07-24 13:18:32 - [INFO] receive: 516 [pulselength 1416, protocol 4]

(/member/Enricol/) Enricol (/member/Enricol/) 1 year ago on Step 4

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I have a problem:
`$ python3 rpi-rf_send -g 17 -t 3 -p 101 15194300` so:
`2018-04-01 14:31:47 - [INFO] rpi-rf_send: 15194300 [protocol: 3, pulselength: 101]` is the code I'm sending, BUT, this is what I receive:

`2018-04-01 14:31:47 - [INFO] rpi-rf_receive: 15063220 [pulselength 521, protocol 5]`

Playing around with pulselength I realised that any `pulselength < 140` with basically make me receive close-to-random stuff. If I use `pulselength > 140` things are fine.....but I need to send `pulselength == 101`.....do you have any hints on what could be wrong here?

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