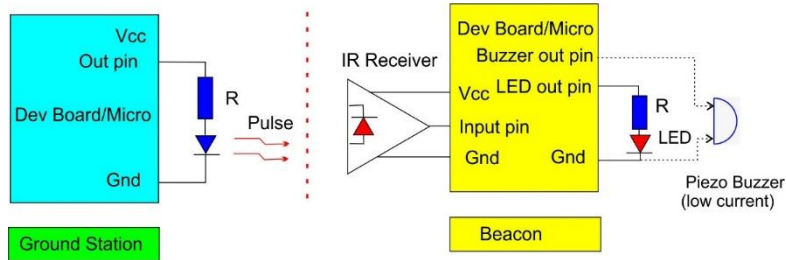## Challenge 7: Ground Station Beacon Communication (January 2021)
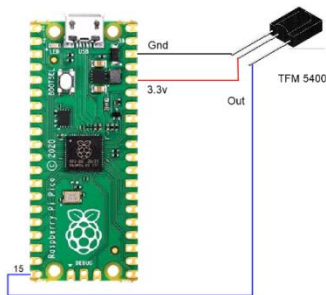
A Ground Station is required to transmit IR signals to a Beacon. On command the Beacon is to broadcasts audio distress SOS signals in Morse Code.

Single Pulse:

Hardware Required:

1. Two development boards running any language. If you only one borrow one or work with a partner.
2. External Components:
   a. Resistors
   b. Low current LED /piezo buzzer
   c. IR emitter TSAL1600 or equivalent with λp = 940 nm
   d. IR Receiver: For single Pulse TFM5400 or TSOP4156 IR Receiver

3. References
   a. Vishay, TSAL6100 tsal6100.pdf (vishay.com)
   b. Tsop4156 IR Receiver(s) tsop45.pdf (vishay.com)
   c. IR Communication Presentation (can be download from vicpimakers.ca)
   d. Morse Code Encoding Text File(C/Python) - can be download from vicpimakers.ca

4. I have large number of TFM5400 IR receiver to give away. Let me know if there are other components you require.

Jim Briante