Schematic: DvG Arduino Lock-in Amplifier

A) Useful pins of Adafruit M4 Feather microprocessor board

GND : ground
A0 : analog out , single ended , 0.0 to 3.3 V : `ref_X`
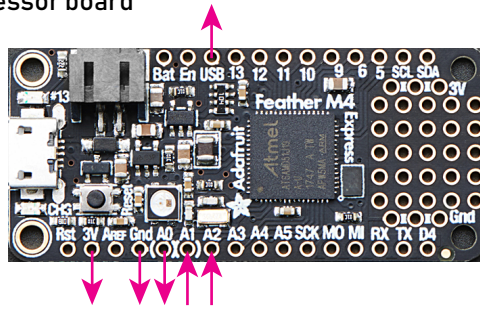A1 : analog in , differential , –3.3 to 3.3 V : `sig_I(+)`
A2 : analog in , differential , –3.3 to 3.3 V : `sig_I(-)`
3V : regulated 3.3 V out, max. 500 mA
USB : 5.0 V out as powered by the USB

For testing connect A0 **to** A1 **and connect** GND **to** A2,
i.e. directly feed `ref_X` into `sig_I`.

B) Signal processing