

# void setup()

pinMode

Power external

Onboard  
Sensors

Moon Board

FONA chip

FONA chip  
power

GPS

Open Serial  
Port

enableGPS

get network  
time

Start Hologram

Hologram.begin

SD Card

Initialize

Generate  
filename

Open file for  
write

ADC Configure

Start SPI

Configure  
MAX11254

# Configure ADC()

SEQ:MODE[1:0]

**0b01 for sequencer mode 2**

CHMAP0 and  
CHMAP1

**Set channel (will be toggled)**

CTRL1:PD[1:0]

**0b10 for exit to standby when conversion complete**

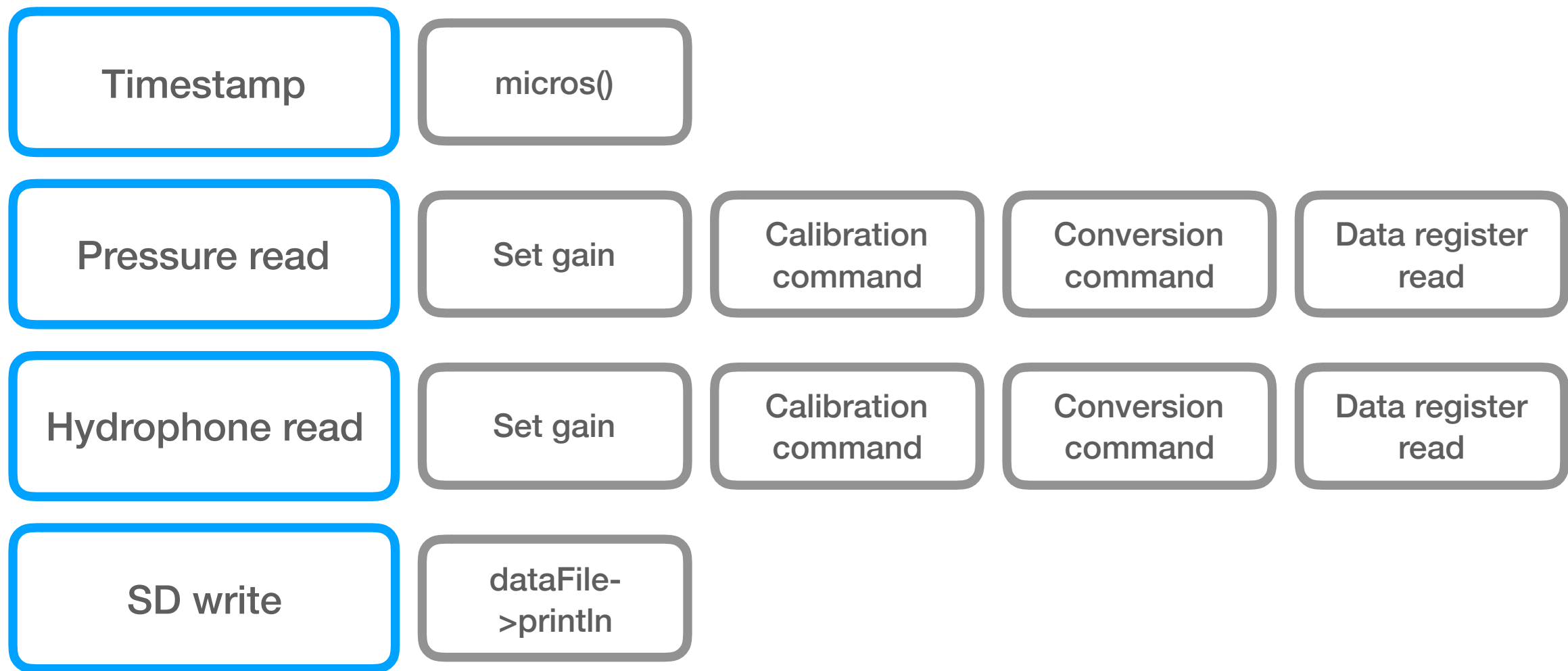
CTRL1:SCYCLE

**0b1 for single-cycle conversion**

CTRL1:CAL[1:0]

**0b10 for system-level full-scale calibration**

# void loop()



# Conversion Command

RATE[3:0]

**0b1111 for max speed**

MODE[1:0]

**0b11 for sequencer mode**

# Calibration Command

RATE[3:0]

**0b1111 for max speed**

MODE[1:0]

**0b10 for calibration mode**

Calibration type is set during the ADC configuration steps in `setup()`. Only self-calibration can be conducted in situ as system calibration requires the inputs to be set to zero scale and then full scale values.

System calibration could be performed prior to installation but its validity is questionable. The downside of no system calibration is that the PGA cannot be calibrated when its settings are changed.

# Set gain

CTRL2:PGA[2:0]

**0b111 -> G=128 (hydrophone),  
0b011 -> G=8 (pressure transducer)**

CTRL2:PGAEN

**0b1 to enable PGA**