XL-MaxSonar-WRM MB7092

a. The sensor expects to see a target by 756 cm. @5V dc. This distance is scaled based on voltage and drops to ~600 @ 3.3V dc.

   727cm with a LiPoly battery 4.1-3.9V dc

b. In addition to the most-likely filtering, the MB7092 comes equipped with a three-reading filter and reading hold which requires three consecutive range readings within 1cm of the most recent reading to be considered a valid range reading. If readings are found to be outside 1cm, or no target can be found by the sensor, then the sensor will report the last valid range reading.

c. Each time before the XL-MaxSonar-WR takes a range reading it auto-calibrates.
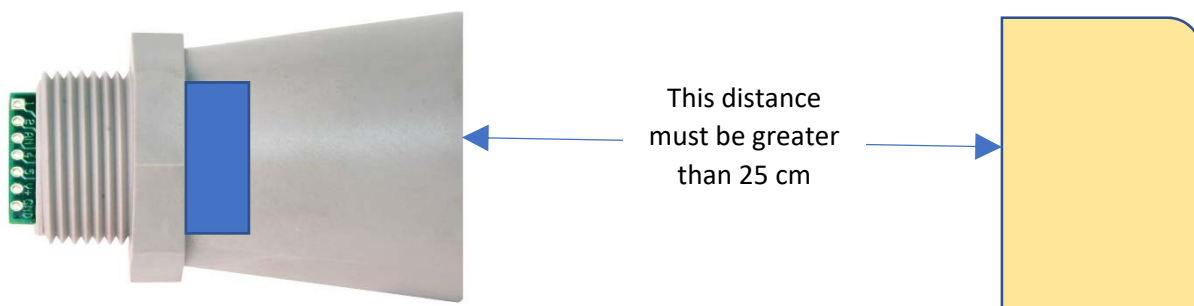
   Eliminate "Bounce"

   When ranging for an array that is then used to calculate a mode value, write the sensor high for 1000 milliseconds to allow the sensor to auto-calibrate (note c.) as well as to accommodate for the sensor three-reading filter and reading hold (note b.) Then read the sensor analog voltage. Next write the sensor low. Repeat this process for each of the array data values. See sample code below.

d. Applications requiring 100% reading-to-reading reliability should not use MaxSonar sensors at a distance closer than 25cm

   Referenced from keynote 1 which appears on the MaxBotix MB7092 data sheet page 1, as well as bench testing values. Any position less than 25cm will return a default value of ~19cm

Initial position of sensor to object

This distance must be greater than 25 cm

Range measurement >25cm

Distance measured between these two surfaces
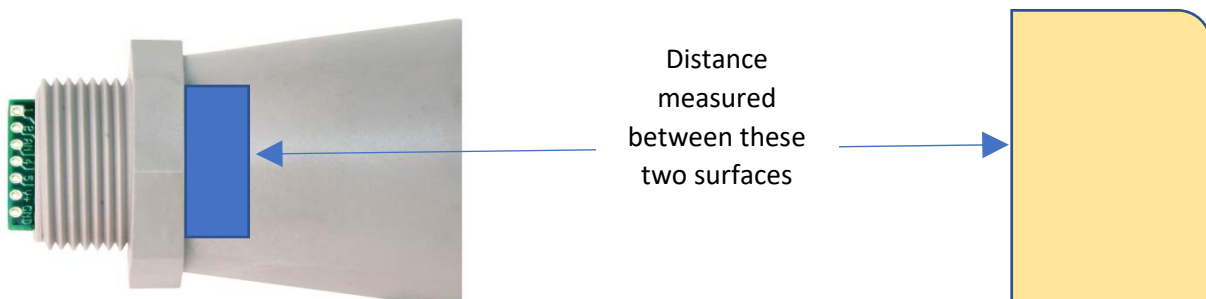
Eliminate "Bounce" Sample Code

```
void rangeFind(){
  int16_t pulse;  // number of pulses from sensor
  int i=0;
  while( i < arraysize ) {
  digitalWrite(RangeTrig, HIGH);
  delay(1000);
  pulse = analogRead(RangePin);  // read in time for pin to transition
  rangevalue[i]=pulse;        // pulse is set to the analog read value which is the distance in cm
  if( rangevalue[i] < 725 && rangevalue[i] >= 10 )
  i++;  // ensure no value out of range
  digitalWrite(RangeTrig, LOW);
  delay(1000); // delay between measurements
  }
```