1. Downloaded sketch from website, modified to run with parallel LCD.

Sketch called OBD.

Shows one reading on LCD (~850rpm) then nothing changes.

2. Hooked up via Arduino as FTDI… used tera term. Worked fine. Compiled a list of possible PIDS and sample responses (OBD Tera Term Results.doc)

Also saw that sometimes returned characters were with spaces, other times without.

3. Made up a Software Serial sketch for Arduino so can see responses via hardware serial with computer. Sent code to read RPMs (010C), printed out the stored received buffer (rxcode) and decoded results.

Got lots of “-1’s” for the RPMs, saw that there was a lot of extraneous characters in the received buffer (RPMtest.txt, rpms.png).

Modified

4. Tried Software serial “flush” command at beginning of loop but didn’t change anything.

5. Wrote a sync function to find the location of the response for RPMs (410C). Tested away from car with sample strings from RPMtest.txt file. Worked.

6. Added in the sync function to main file. Simultaneously added a timeout for software serial responses. Tested and worked great sometimes, but others froze. Takes about 10 seconds each time displaying RPMS 0, then starts getting responses.

7. Take out timeout or at least see if we’re timing out (increment counter on timeout).

Think the sync function was ok but was passing the wrong location (add 4 to location for end of 410C).

Check buffer overrun (is rxindex getting over 19 ever? Also why is it a char type?)

Results:

>010C 0E Index: -1 RPM: 0

10C1408 Index: -1 RPM: 0

410C1401 Index: 4 RPM: 1280

>01410C1411 Index: 7 RPM: 1284

>010C410C1410C13C3 Index: 9 RPM: -1

410C13BA 1410C13C3 Index: 4 RPM: 1262

>010C410C13BA 13C3 Index: 9 RPM: 1262

>01410C138B A 13C3 Index: 7 RPM: 1250

>010C C138B A 13C3 Index: -1 RPM: 0

10C1391 8B A 13C3 Index: -1 RPM: 0

410C13B0 8B A 13C3 Index: 4 RPM: 1260

>010C410C139A 13C3 Index: 9 RPM: 1254

>01410C1410C138E 3 Index: 7 RPM: -1

410C138B 10C138E 3 Index: 4 RPM: 1250

>010C410C1394 8E 3 Index: 9 RPM: 1253

>010C410C1391 8E 3 Index: 9 RPM: 1252

>010C 10C1391 8E 3 Index: -1 RPM: 0

10C1381 1391 8E 3 Index: -1 RPM: 0

So if arrayindex is -1, we get RPM zero and should screen that out. Why are we getting this line:

>01410C1410C138E 3 Index: 7 RPM: -1

It’s finding the right index!

8. Checking in working version. NOTE: FREEZES IF DELAY IS 100ms! Output below:

410C1C8A 1C80 1C8A Index: 4 RPM: 1826

010410C1C64 1C8A Index: 8 RPM: 1817

010C410C1C64 1C8A Index: 9 RPM: 1817

010C410C1410C1C42 Index: 9

10C19ED 1410C1C42 Index: 14 RPM: 1808

010410C176C C1C42 Index: 8 RPM: 1499

010C410C1575 1C42 Index: 9 RPM: 1373

410C13F5 1575 1C42 Index: 4 RPM: 1277

010410C129D 1C42 Index: 8 RPM: 1191

010C410C126B 1C42 Index: 9 RPM: 1178

010C410C1410C1287 Index: 9

10C12A3 1410C1287 Index: 14 RPM: 1185

010410C12A7 C1287 Index: 8 RPM: 1193

010C410C12AA 1287 Index: 9 RPM: 1194

410C129D 12AA 1287 Index: 4 RPM: 1191

010410C129D 1287 Index: 8 RPM: 1191

010C410C12A3 1287 Index: 9 RPM: 1192

010C410C1410C127E Index: 9

10C127B 1410C127E Index: 14 RPM: 1183

010410C1268 C127E Index: 8 RPM: 1178

010C410C1258 127E Index: 9 RPM: 1174

410C1246 1258 127E Index: 4 RPM: 1169

010410C122A 127E Index: 8 RPM: 1162

010C410C122A 127E Index: 9 RPM: 1162

010C410C1410C1243 Index: 9