

# Andy's Project Blog

My informal portfolio

[ABOUT ME](#) [PORTFOLIO](#)

[« Senior Design Project](#)

[BMW Remote Part 2 »](#)

## BMW Remote

One of my longer term projects has been to develop a Remote tracking and control interface for my 2000 BMW 323Ci.

The main goals for this system are as follows:

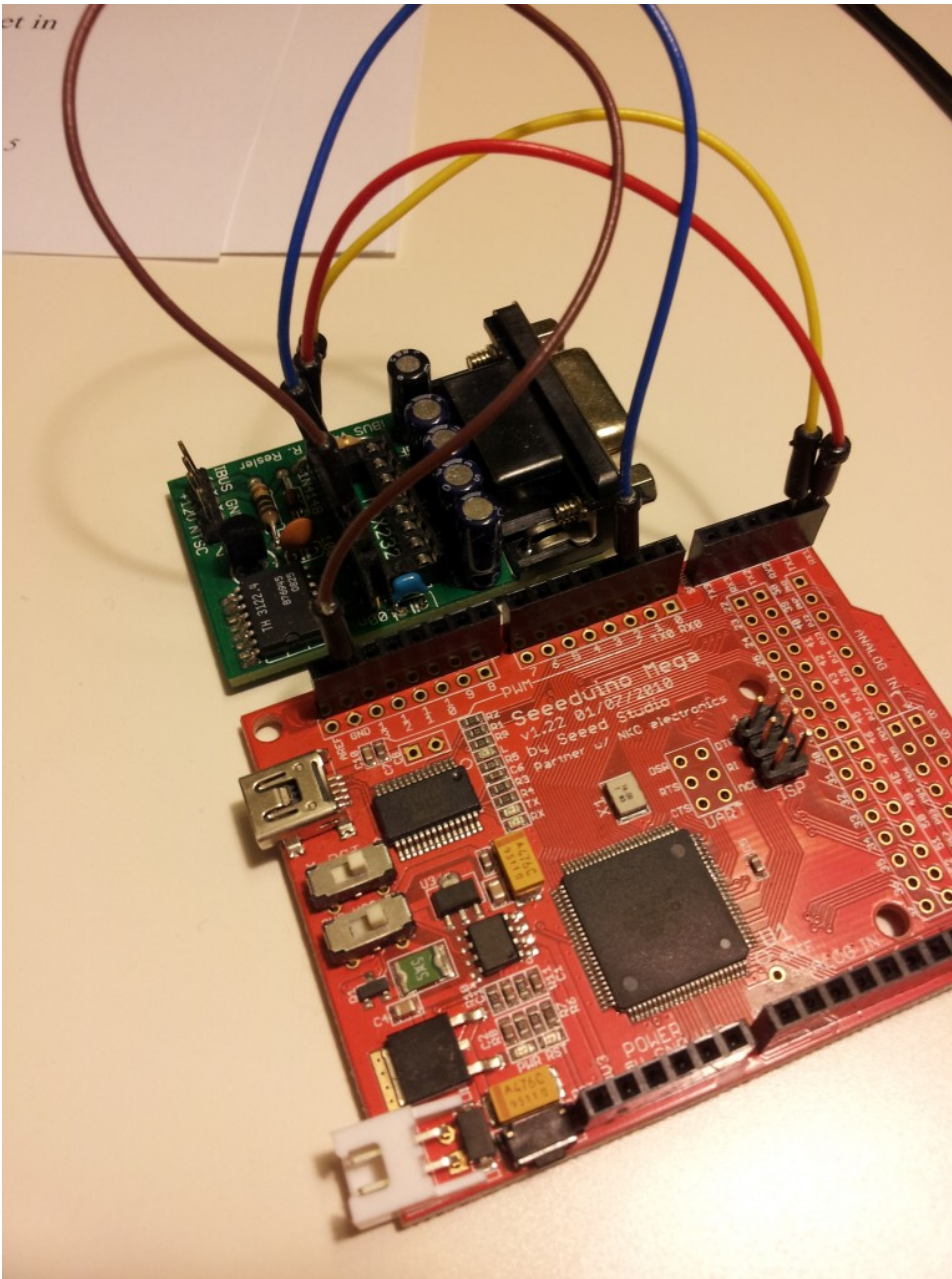
- Remote door locking and unlocking from a smartphone application or interface
- GPS location tracking
- Robust communication method with no range limitations

Due to the costs involved with data plans through wireless carriers, I chose to implement control through text messaging (SMS) rather than an HTTP based communication protocol. This also eliminates the issue of having to open and maintain a TCP socket from the car side, a requirement for robust and fast control from an android app.

To control the locks on the car, I'm interfacing one of its communication networks through the CD-changer connector in the trunk. The network is a LIN based protocol, and there are several chips available that facilitate communicating with devices on the bus. A long time ago I purchased an i-bus interface that is well known in the bmw community made by [Rolf Resler](#).

### Recent Posts

[BMW Remote Part 2](#)  
[BMW Remote](#)  
[Senior Design Project](#)  
[CRX Modding](#)



This RS232 interface board uses a Melexis TH 3122 LIN bus transceiver, and I've been able to isolate the pins of the chip so that I can issue commands directly from an Arduino Mega without any level conversion.

There are a variety of commands available to be sent to the car, and the list is hard to find, so here is the most inclusive list I've seen.

WaRFiELD on the [www.HackTheIbus.com](http://www.HackTheIbus.com) forum founds some interesting code for his E46!

```
3F 05 00 0C 01 01 turn off interior lights
3F 05 00 0C 02 01 open trunk
3F 05 00 0C 03 01 lock doors + fade out interior lights
3F 05 00 0C 05 01 open trunk (again??)
3F 05 00 0C 13 01 return some data, relating to light control?(unsure)
3F 05 00 0C 30 01 turn on key buzzer for 2 seconds + fade-in/out interior lights
3F 05 00 0C 34 01 lock/unlock doors
```

```
3F 05 00 0C 41 01 Open rear driver window
3F 05 00 0C 42 01 close rear driver window
```

```
3F 05 00 0C 43 01 close rear passenger window
3F 05 00 0C 44 01 open rear passenger window
```

```
3F 05 00 0C 45 01 trigger unknown relay (coming from rear doors?)
```

3F 05 00 0C 46 01 lock front passenger door only

3F 05 00 0C 47 01 lock front driver door only

3F 05 00 0C 49 01 trigger wipers

3F 05 00 0C 4A 01 trigger unknown relay (under cluster)

3F 05 00 0C 4B 01 trigger windshield washer pump for 3 seconds (no liquid sprayed)

3F 05 00 0C 4E 01 turn-on clown nose for 3 seconds

3F 05 00 0C 4F 01 lock all but driver door

3F 05 00 0C 52 01 Open front driver window

3F 05 00 0C 53 01 close front driver window

3F 05 00 0C 54 01 Open front passenger window

3F 05 00 0C 55 01 close front passenger window

3F 05 00 0C 60 01 turn on interior lights for 3 seconds

3F 05 00 0C 62 01 spray windshield washer fluid

3F 05 00 0C 63 01 trigger trunk relay for 3 seconds (use 95 01 or 02 01 instead for release only)

3F 05 00 0C 68 01 fade out interior lights

3F 05 00 0C 70 01 flash hazards + turn on interior lights

3F 05 00 0C 73 01 trigger many door relays, dont know what it does

3F 05 00 0C 75 01 flash hazards for 3 seconds (no blinker in-dash)

3F 05 00 0C 7E 01 open sunroof

3F 05 00 0C 7F 01 close sunroof

3F 05 00 0C 95 01 open trunk (yes, again!)

3F 05 00 0C 97 01 lock/unlock doors

- lock remote pressed:

00 04 BF 72 12 DB

00 05 BF 7A 70 00 B0 - interior light control

00 04 BF 72 02 CB

lights start to dim to off 8 seconds after press:

00 05 BF 7A 30 00 F0 - interior light control

unlock (quick press)

00 04 BF 02 00 B9

00 05 BF 7A 70 00 B0 - interior light control

See more in part 2.

Posted on May 11, 2012 by [admin](#). This entry was posted in [Automotive](#), [Electronics](#). Bookmark the [permalink](#).

Comments are closed.