**c) What is the function of the two diodes (1N4148) in the base‐emitter circuit of the “receiving”**

**transistor?**

The two diodes increase noise immunity. Each diode increases the base emitter forward voltage

From 0.6 to 0.7 V, using two of these makes sure that the HIGH value read is truly high, and is not caused by random noise.

**d) Why is “Mydelay(time)” used instead of the standard “delay(time)” function ?**

The delay(time) function pauses the complete program for a fixed amount of time. The function Mydelay(time) allows for interrupts to be called and executed in the meantime.

**e) Why are the IObyte(s) copied at the beginning and restored at the end of a complete pulse train cycle.**

This is to make sure that the entire pulse train has been received correctly and that any of the bits on the pulse train is not corrupted.

**f) What is the reason of using !LOW instead of HIGH and !HIGH instead of LOW in some**

**statements of the HIT(cm)‐bus software ?**

This is for a better understanding of the programs working with the circuit. In the circuit an inversion occurs which may be confusing. In order to be sure the right value is chosen the statements !HIGH and !LOW are used.

**g) Are the used programming techniques (real-time generation and state machine implementation) clear to you and do you think to use this way of programming in the future yourself?**

Yes they are. I am not sure what projects I will work on in the future, but I can see it being used in many applications.

**h. Do you have any suggestions for improvement?**

No

**i. Do you think these labs, experiments and assignments were useful for you?**

Yes very. The basic concept of sending information in a way like this was known, however when doing it yourself you find a lot of small pitfalls. This practice was very usefull.