# References as of 10/1/2015

This section of the Microchip MCU manual is helpful because it describes how to set up and use interrupts. It details the registers used and their usage, and provides a few code examples.

[1] Microchip, Section 8: Interrupts, 1 ed. , http://ww1.microchip.com/downloads/en/DeviceDoc/31008a.pdf: Microchip, 1997.

A post on microchips forums provides helpful information on modifying a variable in both an interrupt service routine and a main program. As our research indicates that interrupts are the best option for handling received IR packets, knowing the causes of variable corruption.

[2] zardoz1, Global variable modified both by an ISR and mainline C program, 1 ed. , http://www.microchip.com/forums/m321698.aspx: Microchip, March 12, 2008.

A seminar from TI indicates helpful practices when laying out PCBs with high frequency applications, which ours will have to account for when handling the 56kHz infrared signals that represent data packets.

[3] Texas Instruments, High Speed PCB Layout Techniques, 1 ed. , http://www.ti.com/lit/ml/slyp173/slyp173.pdf: Texas Instruments

This article from Printed Circuit Design & Fab explains trace width requirements in terms of the current they will have to carry when laying out a PCB. Certain components of our layout, such as IR LED’s, will require thicker traces to accommodate their higher current pulls.

[4] Jack Olson, "Determining Current Carrying Capacity," Printed Circuit Design & Fab, December 14 2009.

A page on embedded.com illustrates a few methods to help eliminate corruption in global variables when modifying them in ISR’s. This works very well with [2].

[5] Priyadeep Kaur, Internals Short & Simple: Part 2 – Variables, Buffers, & Latencies, 1 ed. , http://www.embedded.com/design/programming-languages-and-tools/4398340/Interrupts-short---simple--Variables--buffers---latencies: Cypress Semiconductor, October 11, 2012.

A research document that discusses the benefits and drawbacks of various programming languages and their applications towards embedded system programming.

[6] Mouaaz Nahas and Adi Maaita, Choosing Appropriate Programming Language to Implement Software for Real-Time Resource-Constrained Embedded Systems, http://cdn.intechopen.com/pdfs-wm/29215.pdf: Umm Al-Qura University, October 1, 2015.

An article from Optimum Design on the differences between through-hole and surface-mount joints, and their impact on a project’s design.

[7] JR Reed, Through hole vs surface mount; pros and cons, http://blog.optimumdesign.com/through-hole-vs-surface-mount: Optimum Design, October 1, 2015.

An article that details when hot glue is and is not appropriate for securing printed circuit board components.

[8] J.T. Barett, Is Hot Glue OK for Electronics?, http://science.opposingviews.com/hot-glue-ok-electronics-19354.html: Opposing Views, October 1, 2015.