Interface Control Document

ECE 492 - Spring 2016

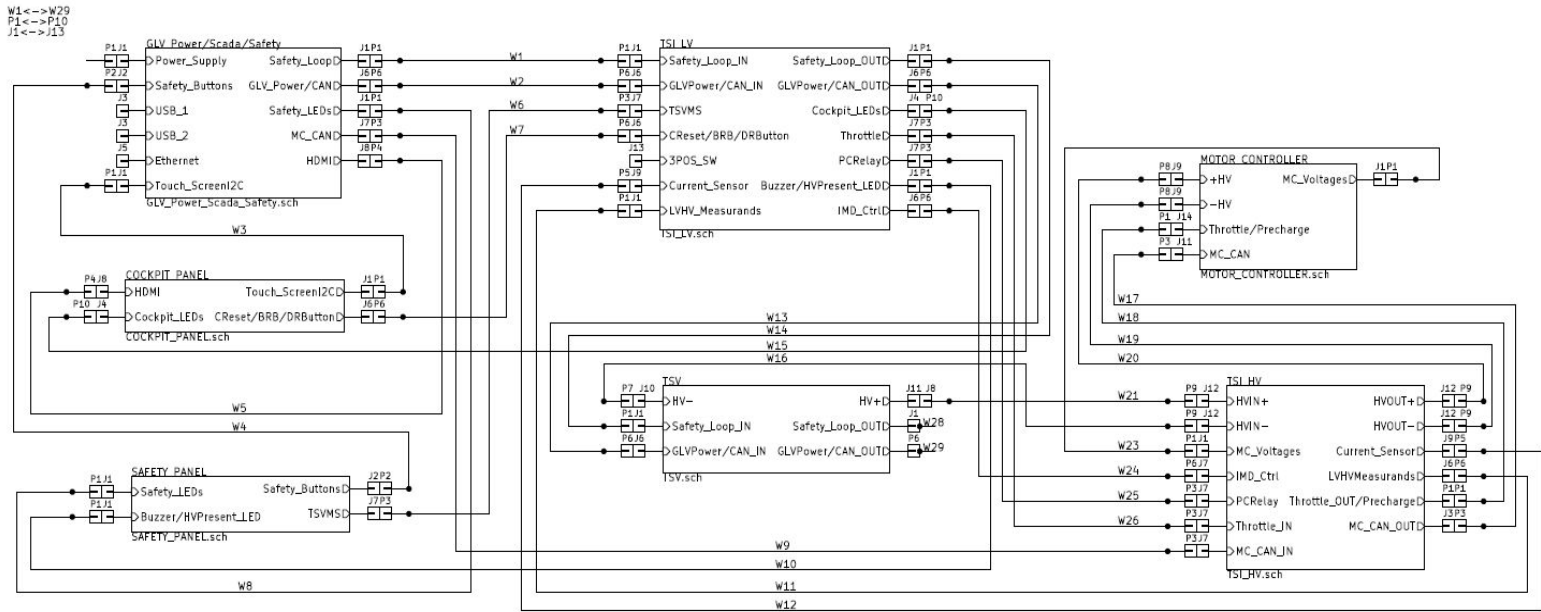## Table of Contents

Introduction

This document is intended to be a detailed account of the car systems and how they interconnect. Starting which the highest level system down to a bill of materials and a signal level software description. The intended purpose of such a document is to produce a record of the system in such detail that an expert user could reproduce the entire system, including the subsystem interfaces and the software.

What this document includes is the start of an Interface Control Document but does in no way shape or form provide a full system description that is necessary. But we believe the document is headed in the right direction. One of the problems with this current draft is that it is not consistent with wire designators or port and jack labels. This issues extends throughout the hierarchy but this problem can and will be addressed once every jack and port designator exists, currently they do not. One of the issues with the ports and jacks is cables adhering to a professional standard. For example HDMI, the two ports on an HDMI cable should not be labeled, it should simply be designated as a wire and referenced in the BOM. Whereas the jack it connects two should be called out because this is an individual component where an HDMI cable is a single component.

The other significant issue with this document is completeness. Although perhaps less important to the system as a whole the panel wiring schematics are essential to the completeness of the document. The Safety Panel, Cockpit Panel and daisy-chained pack drawing are omitted from this document entirely.

Full System Layout

Preliminary Wiring Example

Shown here is how going forward the cable callout would be represented. Here the interfacing wires are shown with their corresponding connectors. It should be noted that the pin number convention is referenced based on the DT connectors pin labels (When DT connectors are used). When DT connectors are not used an appropriate pinout diagram should be provided. Also for each cable there should be a description pre-wire on gauge.

W1

W2

W3

P1 (J1)		P1 (J1)
1		1
2		2
3		3
4		4

W4

P2 (J2)		P2 (J2)
1		1
2		2
3		3
4		4
5		5
6		6
7		7
8		8

W6

P3 (J7)		P3 (J7)
1		1
2		2

W7

P6 (J6)		P6 (J6)
1		1
2		2
3		3
4		4
5		5
6		6

W8

P1 (J1)		P1 (J1)
1		1
2		2
3		3
4		4

W9

P3 (J7)		P3 (J7)
1		1
2		2

W10

J1	P1					P1	J1
		1			1		
		2			2		
		3			3		
		4			4		

W11

J1	P1					P1	J1
		1			1		
		2			2		
		3			3		
		4			4		
		5			5		

W12

J9	P5					P5	J9
		1			1		
		2			2		
		3			3		
		4			4		

W13

J6	P6					P6	J6
		1			1		
		2			2		
		3			3		
		4			4		
		5			5		
		6			6		

W14

J1	P1					P1	J1
		1			1		
		2			2		
		3			3		
		4			4		

W15

J4	P10			P10	J4
		1		1	
		2		2	
		3		3	
		4		4	
		5		5	
		6		6	
		7		7	
		8		8	
		9		9	
		10		10	

W16

J10	P7	1		1	P6	J12

W17

J11	P3	1		1	P3	J7
		2		2		

W18

J11	P3	1		1	P3	J7
		2		2		
		3		3		

W19

J6	P8	1		1	P6	J12

W20

J6	P8	1		1	P6	J12

W21

J11	J8	1		1	P6	J12

W23

J1	P1			P1	J1
		1	1		
		2	2		
		3	3		

W24

J6	P6			P6	J7
		1	1		
		2	2		
		3	3		
		4	4		
		5	5		

W25

J11	P3			P3	J7
		1	1		
		2	2		

W26

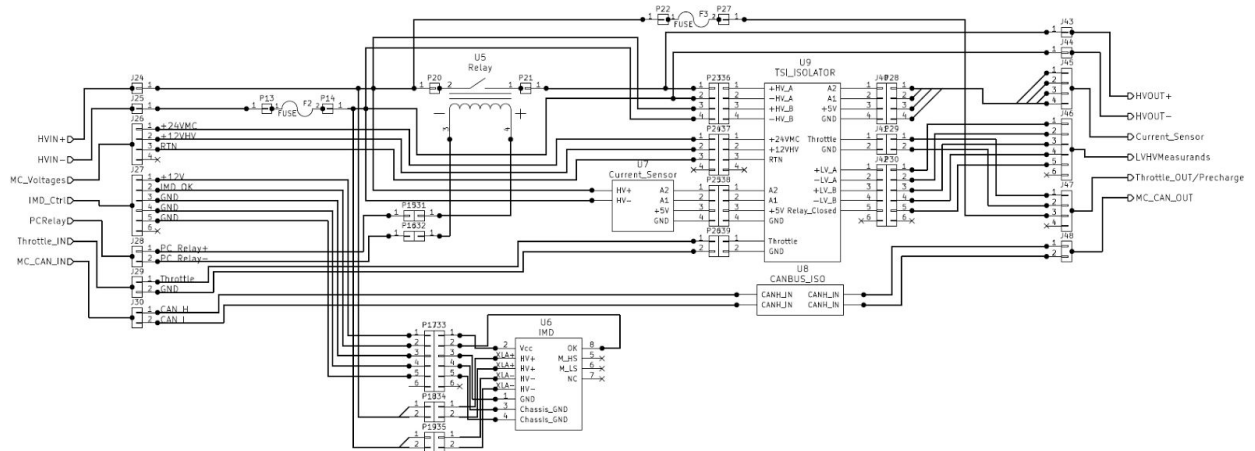| J11	P3			P3	J7
		1	1		
		2	2		

GLV Power/Scada Interface/Safety Loop System Box
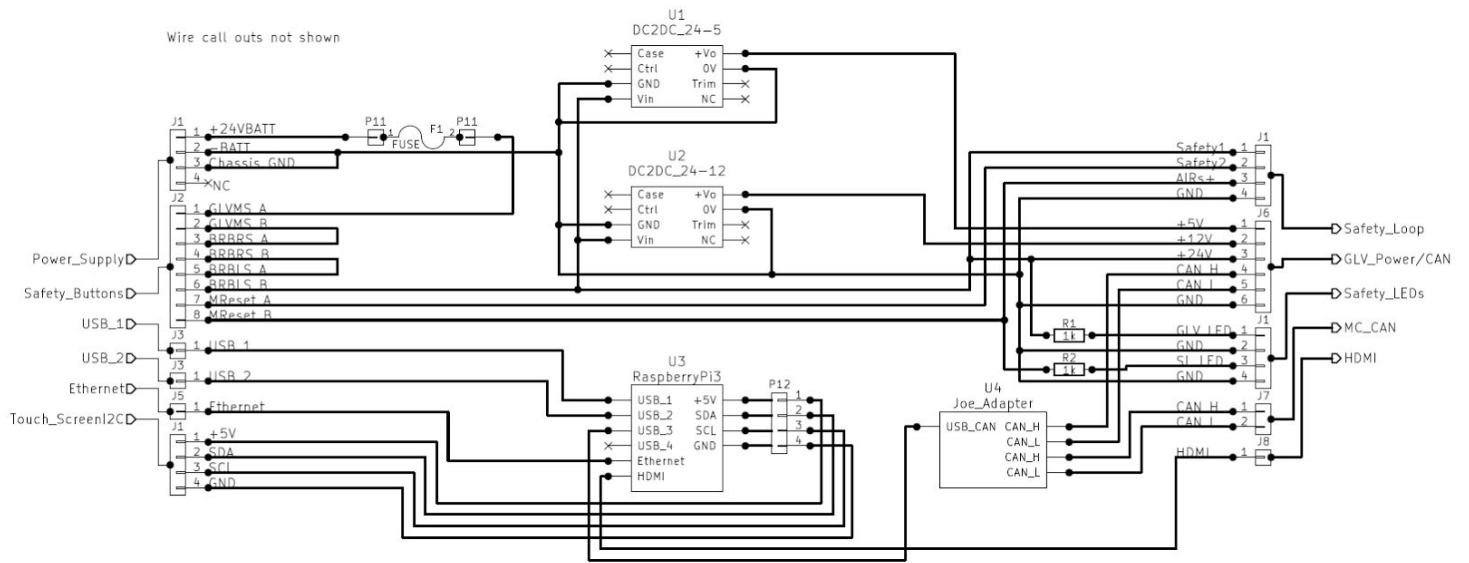
Low Voltage Tractive System Interface
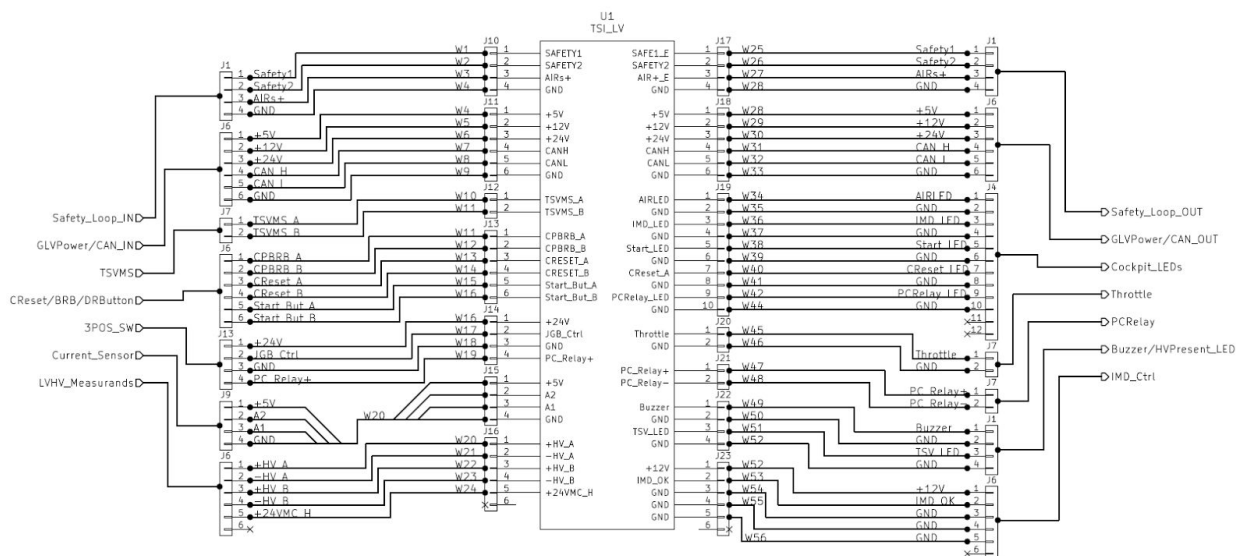
High Voltage Tractive System Interface

TSV (Single Accumulator)