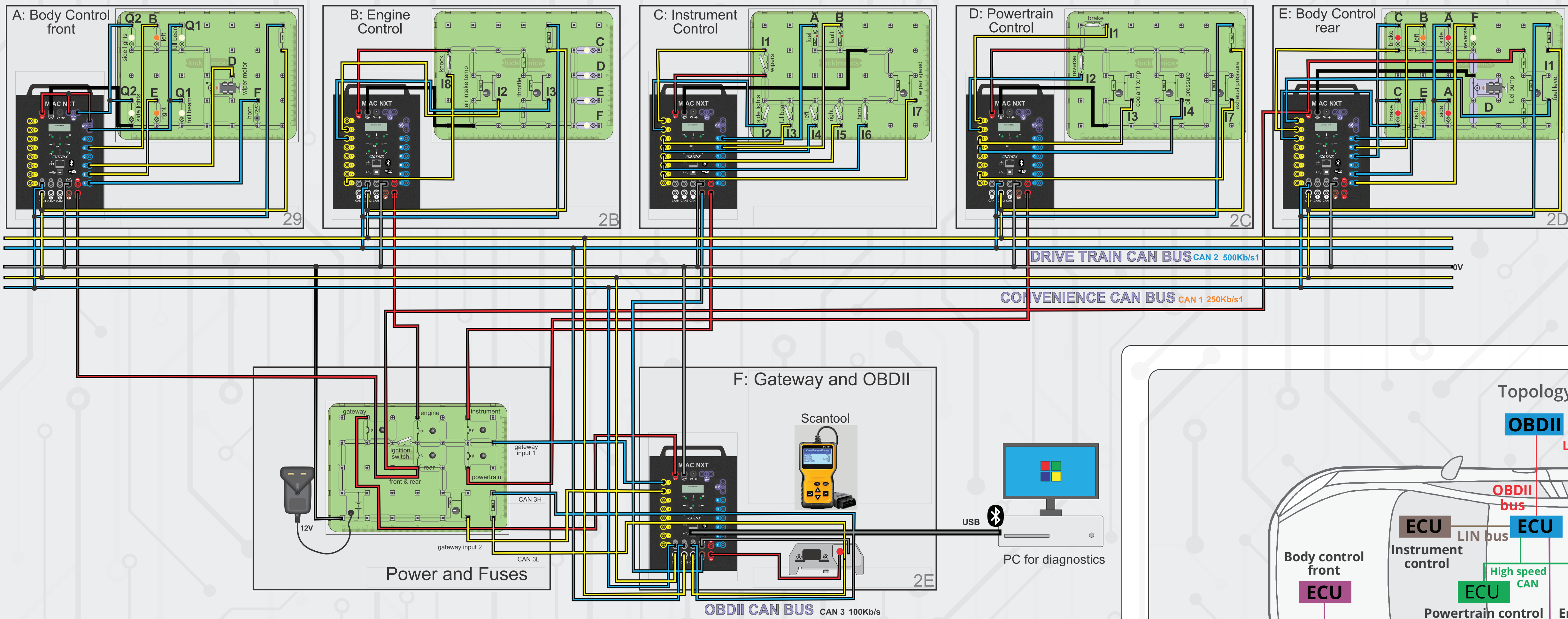
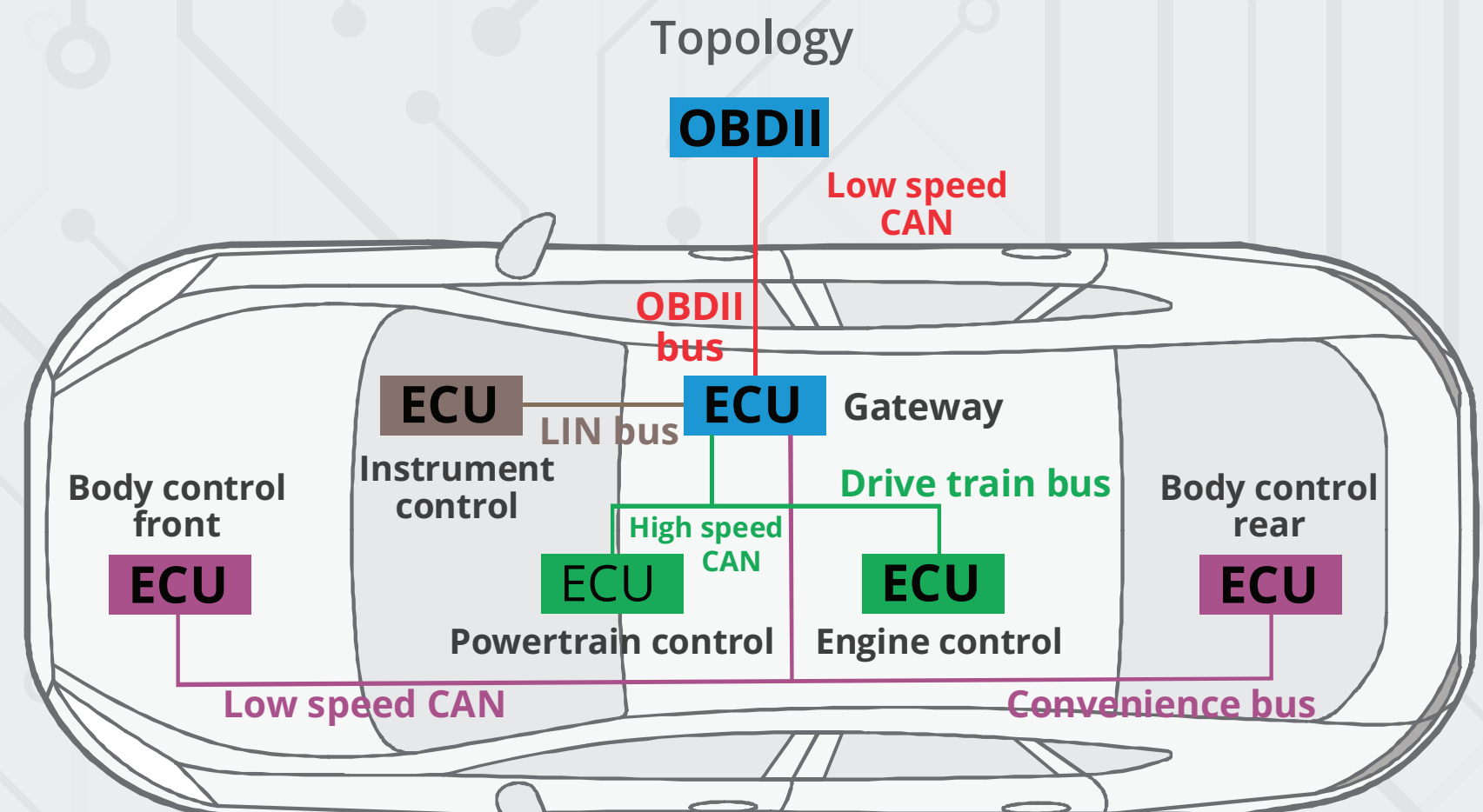


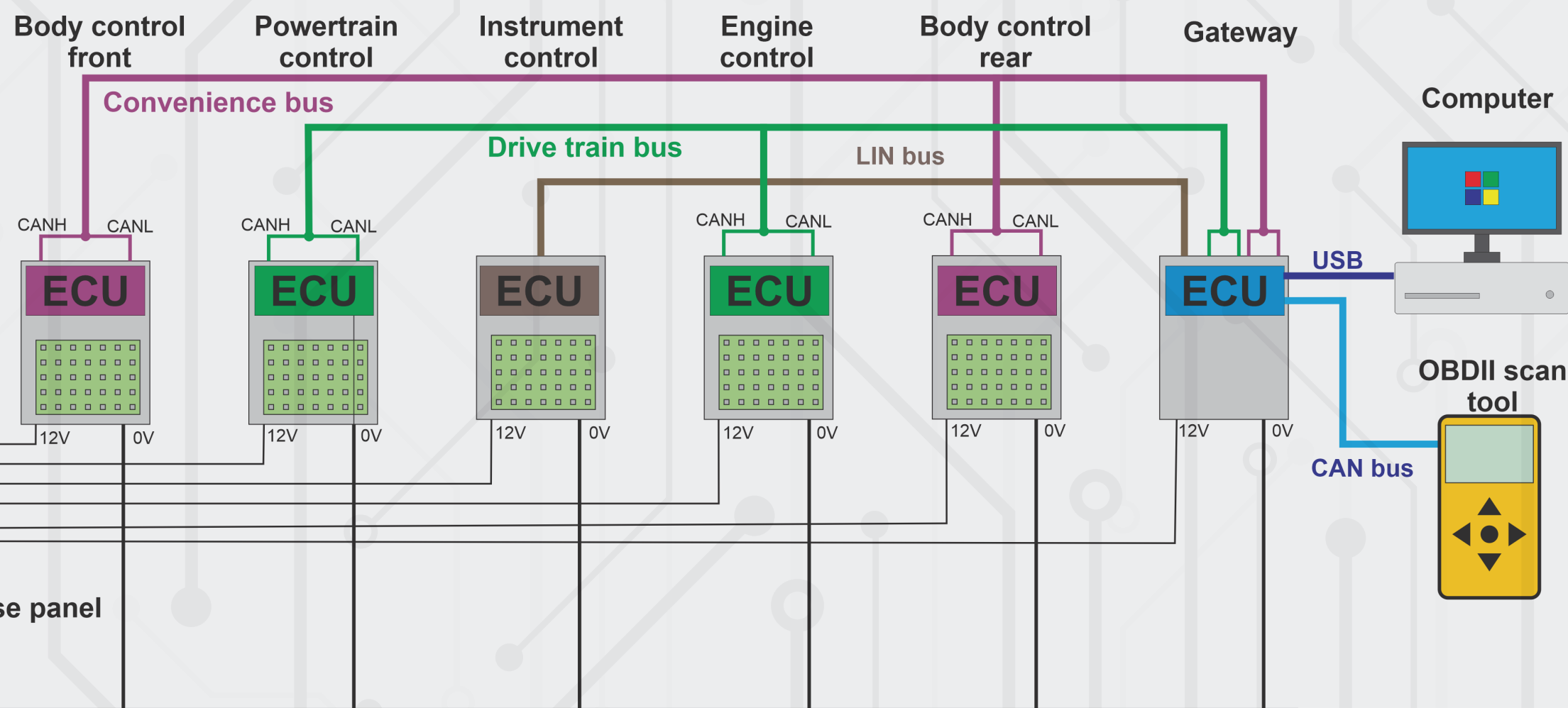
Full Wiring Diagram



MATRIX locktronics® CAN Bus System



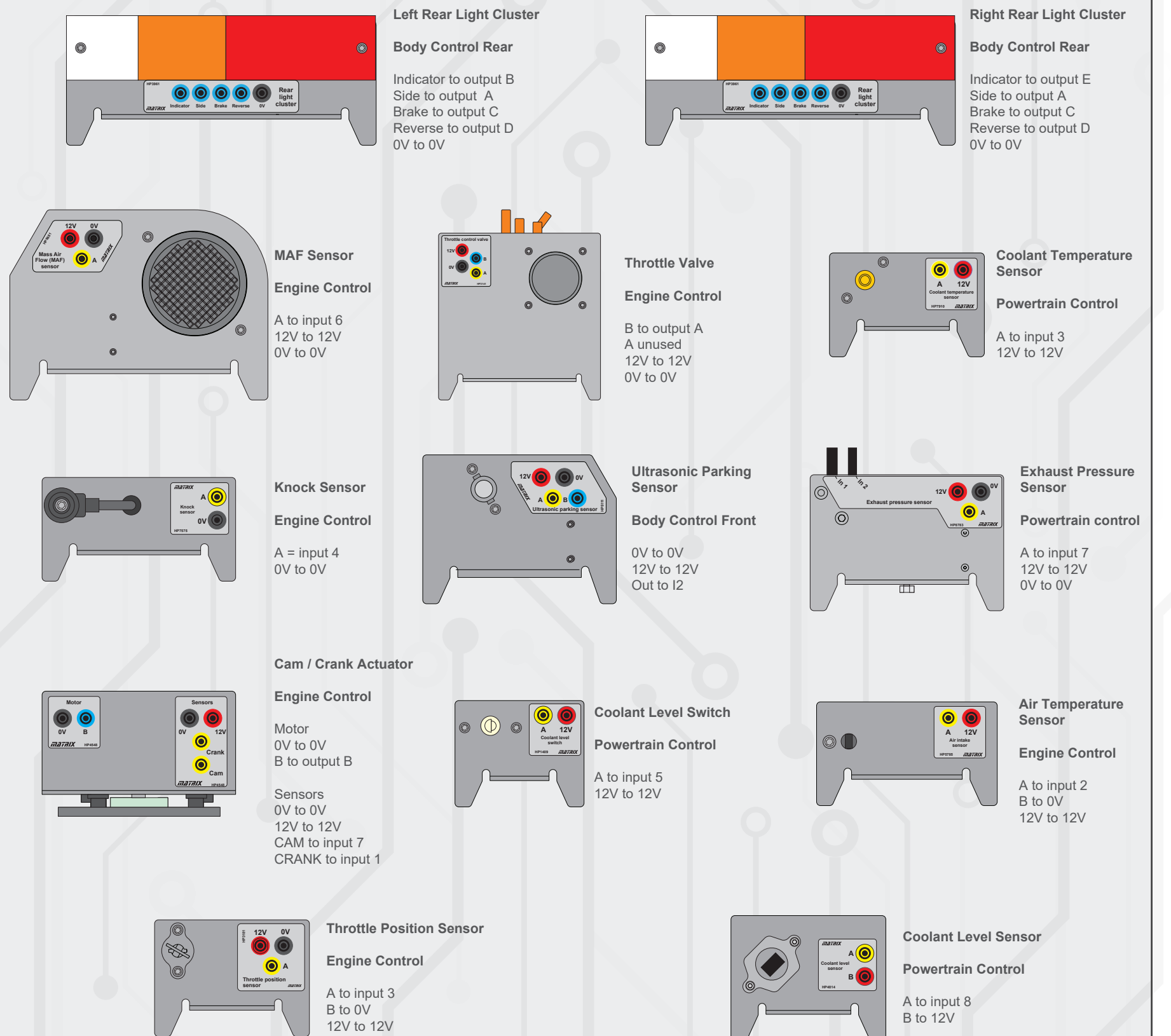
ECU Schematic



Diagnostic Screen



Optional Add-on Real Car Parts



Look Up Tables

J1939 CAN Bus Codes Look Up Table									
PGN	PGN	PG Label	Transmission Rate	SPN	SP Label	Bytes	Bit Length	Data Mask	Scaling or scheme
61448	6084	Electronic Engine Controller 1	45 ms	91	Accelerator Pedal Position 1	1	0	00 FF 00 00 00 00 00	0.4% per bit
61444	6084	Electronic Engine Controller 1	45 ms	190	Engine Speed	3	0	00 00 00 FF 00 00 00	0.125 rpm per bit - LSB MSB
61450	6084	Engine Gas Flow Rate	50 ms	132	Engine Intake Air Mass Flow Rate	2	0	00 00 FF 00 00 00 00	0.05 kg/h per bit
61463	6071	Engine Knock Level #1	5 s and on presence	1352	Engine Cylinder 1 Knock Level	0	0	FF 00 00 00 00 00 00	1 % per bit
61550	6066	Fuel Pump Actuator Control	200 ms	6719	Engine Fuel pump control	0	0	FF FF 00 00 00 00 00	0.002 5 % per bit - LSB MSB
64470	6086	Engine exhaust related parameters	500 ms	8619	Exhaust Manifold pressure	0	0	FF FF 00 00 00 00 00	0.1 kPa per bit - LSB MSB
64774	6086	Direct Lamp Control Command 2	500 ms and on change	5087	Command	0	0	03 00 00 00 00 00 00	0.000000x
64774	6086	Direct Lamp Control Command 2	500 ms and on change	5088	Vehicle Fuel Level Low Lamp Command	0	2	0C 00 00 00 00 00 00	4 states 0 = Off, 1 = On, 2/3 = No Change
64774	6086	Direct Lamp Control Command 2	500 ms and on change	13110	Vehicle Lamp Fail Command	2	2	0C 00 00 00 00 00 00	0.000000x
64775	6087	Direct Lamp Control Command 1	500 ms and on change	5092	Engine Oil Pressure Low Lamp Command	1	4	00 30 00 00 00 00 00	0.000000x
64775	6087	Direct Lamp Control Command 1	500 ms and on change	5083	Command	1	6	2 00 00 00 00 00 00	4 states 0 = Off, 1 = On, 2/3 = No Change
64842	6044	General Purpose Message #211	100 ms when active	1	Parking sensor	0	0	FF FF 00 00 00 00 00	1 mm per bit - LSB MSB
64842	6044	General Purpose Message #211	500 ms	9	Washer fluid level	3	0	00 00 00 00 00 00 00	0.000000x
64847	6049	General Purpose Message #216	500 ms	8	Indicator and Gauge Check	0	0	00 00 00 00 00 00 00	0.000000x
64848	6050	General Purpose Message #179	Click on Startup	3	Gateway White in There Ping	0	0	FF 00 00 00 00 00 00	xxxxxxx
64848	6050	General Purpose Message #179	Reply to Gateway	4	Body Front Reply	0	0	00 FF 00 00 00 00 00	xxxxxxx
64848	6050	General Purpose Message #179	Reply to Gateway	5	Engine Reply	0	0	00 00 FF 00 00 00 00	xxxxxxx
64848	6050	General Purpose Message #179	Reply to Gateway	6	Powertrain Reply	0	0	00 00 00 FF 00 00 00	xxxxxxx
64848	6050	General Purpose Message #179	Reply to Gateway	7	Body Rear Reply	0	0	00 00 00 00 FF 00 00	xxxxxxx
64973	6087	Wiper and Washer Controls	1000 ms and on change	2843	Front Operator Wiper Switch	0	4	FD 00 00 00 00 00 00	xxxxx000
64980	6084	Cab Message 3	10 s and on change	2841	Horn	2	2	00 00 00 0C 00 00 00	0.000000x
64992	6080	Ambient Conditions 2	1 s	5581	Ambient temperature	4	0	00 00 00 FF 00 00 00	0.031 25 °C per bit - LSB MSB
65089	FE41	Lighting Command	1 s and on change	2367	Left Turn Signal Lights Command	1	6	2 00 00 00 00 00 00 00	4 states 0 = Off, 1 = On, 2/3 = No Change
65089	FE41	Lighting Command	1 s and on change	2369	Right Turn Signal Lights Command	1	4	2 00 00 00 00 00 00 00	0.000000x
65089	FE41	Lighting Command	1 s and on change	2375	Center Stop Light Command	2	2	00 00 00 00 00 00 00	0.000000x
65089	FE41	Lighting Command	1 s and on change	2403	Burning Light Command	0	0	03 00 00 00 00 00 00	0.000000x
65089	FE41	Lighting Command	1 s and on change	2347	High Beam Head Light Command	0	6	2 00 00 00 00 00 00 00	xxxxx0000
65129	FE69	Engine Temperature 3	1 s	1636	Engine Intake Manifold 1 Temperature	0	0	FF FF 00 00 00 00 00	xxxxxxx xxxxxxx
65132	FE6C	Technograph	500 ms and on change	1619	Vehicle direction	3	6	2 00 00 00 00 00 00 00	xxxxxxx
65262	FE6E	Engine Temperature	200 ms	110	Engine Coolant Temperature	0	0	FF 00 00 00 00 00 00	xxxxxxx
65263	FE6F	Engine Fluid Level/Pressure 1	500 ms	111	Engine Coolant Level 1	0	8	00 00 00 00 00 00 FF	xxxxxxx
65276	FE6C	Dash Display 1	1 s	96	Fuel Level 1	2	0	00 FF 00 00 00 00 00	xxxxxxx

LIN Bus Look Up Table									
LIN ID	ID Label	Data Label	Transmission Rate	Bytes	Bit Length	Data Mask	Data Bytes/Bit	Scaling or scheme	
1	Switch Poll Request	Flag Wiper 1	80ms	1	0	FF 00 00 00 00 00 00	xxxxxxxx	On or Off	
1	Switch Poll Request	Lamp High	80ms	1	0	00 01 00 00 00 00 00	0.000000x	On or Off	
1	Switch Poll Request	Lamp Low	80ms	1	0	00 00 01 00 00 00 00	0.000000x	On or Off	
1	Switch Poll Request	Lamp Left	80ms	1	0	00 00 00 01 00 00 00	0.000000x	On or Off	
1	Switch Poll Request	Lamp Right	80ms	1	0	00 00 00 00 01 00 00	0.000000x	On or Off	
1	Switch Poll Request	Flag Horn	80ms	1	0	00 00 00 00 00 01 00	0.000000x	On or Off	
1	Switch Poll Request	Alive (AS)	80ms	1	0	00 00 00 00 00 00 FF	xxxxxxxx	On or Off	
1	Lamp Status Send	Lamp Fail	80ms	1	0	00 00 00 00 00 00 00	xxxxxxxx	On or Off	
2	Lamp Status Send	Fault Count	350ms	1	0	00 FF 00 00 00 00 00	xxxxxxxx	0 - 10 = Lamp On	

Diagnostic Codes Look Up Table									
Description	Actual fault	U080 2 80c	Description						
Faulty stop light (both)	No current or no feedback	C1223	Lamp Brake Warning Output Circuit Failure						
Fuel level sensor High	Short to 12V	P0463	Fuel Level Circuit High Error						
Fuel level sensor low	Short to 0V	P0462	Fuel Level Circuit Low Error						
Low battery voltage low	below a threshold (50% / 60%)	B1318	Battery Voltage Low						
CAN ECU error Front	Convenience CAN bus error	U0141	Lost Communication Body Control Front						
CAN ECU error Engine	Drive CAN bus error	U0142	Lost Communication Engine Control						
CAN ECU error Instrument	LIN bus error	U0143	Lost Communication Instrument Control						
CAN ECU error Powertrain	Drive CAN bus error	U0144	Lost Communication Powertrain Control						
CAN ECU error Rear	Convenience CAN bus error	U0145	Lost Communication Body Control Rear						

Gateway Look Up Table									
PGN	Origin	Destination	Function						
FE04	Drive	OBDII	Engine Speed Stat						
FE06	Drive	Convenience	Fuel Pump Control						
FE08	Convenience	OBDII	Brake Light Fault C1223						
FE41	Drive	Convenience	Lighting Command						
FE6C	Drive	Convenience	Technograph						
FE6E	Drive	OBDII	Engine Coolant Temp Stat						
FE6F	Convenience	OBDII	Fuel Level Circuit Error P0200						
FE6D	Convenience	Drive	Ambient Temperature						