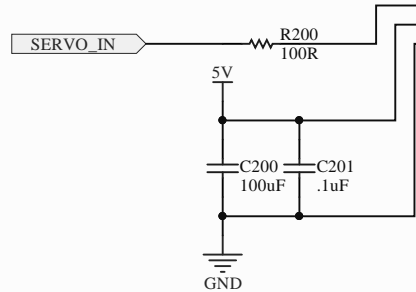
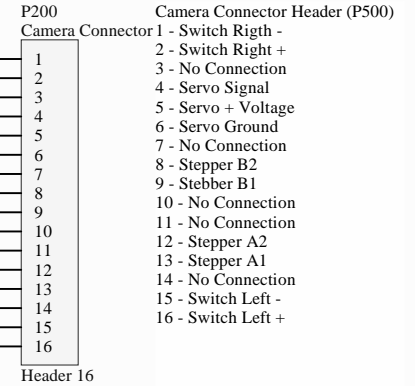
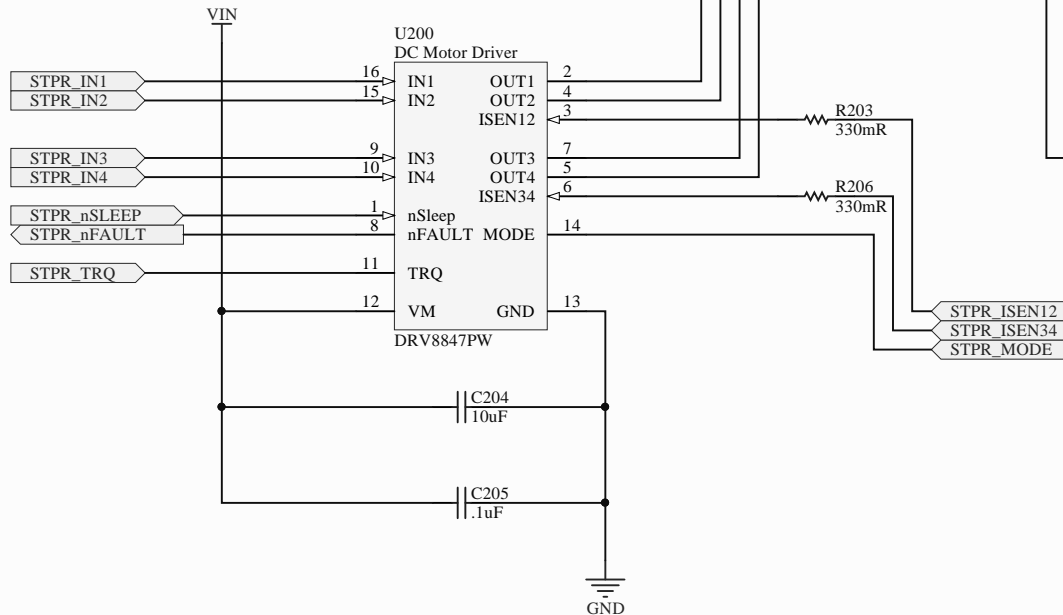


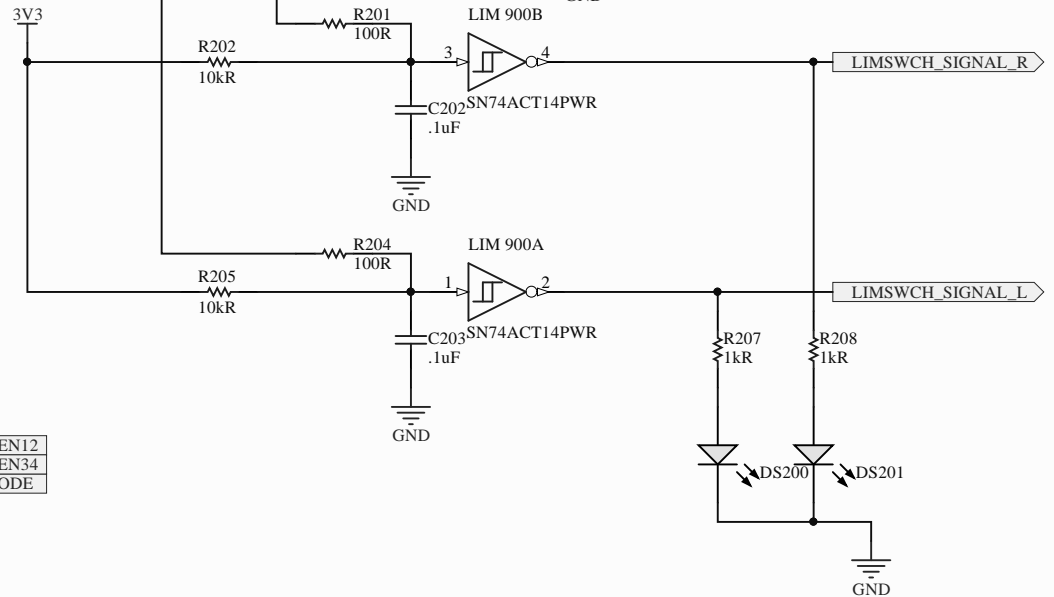
Servo



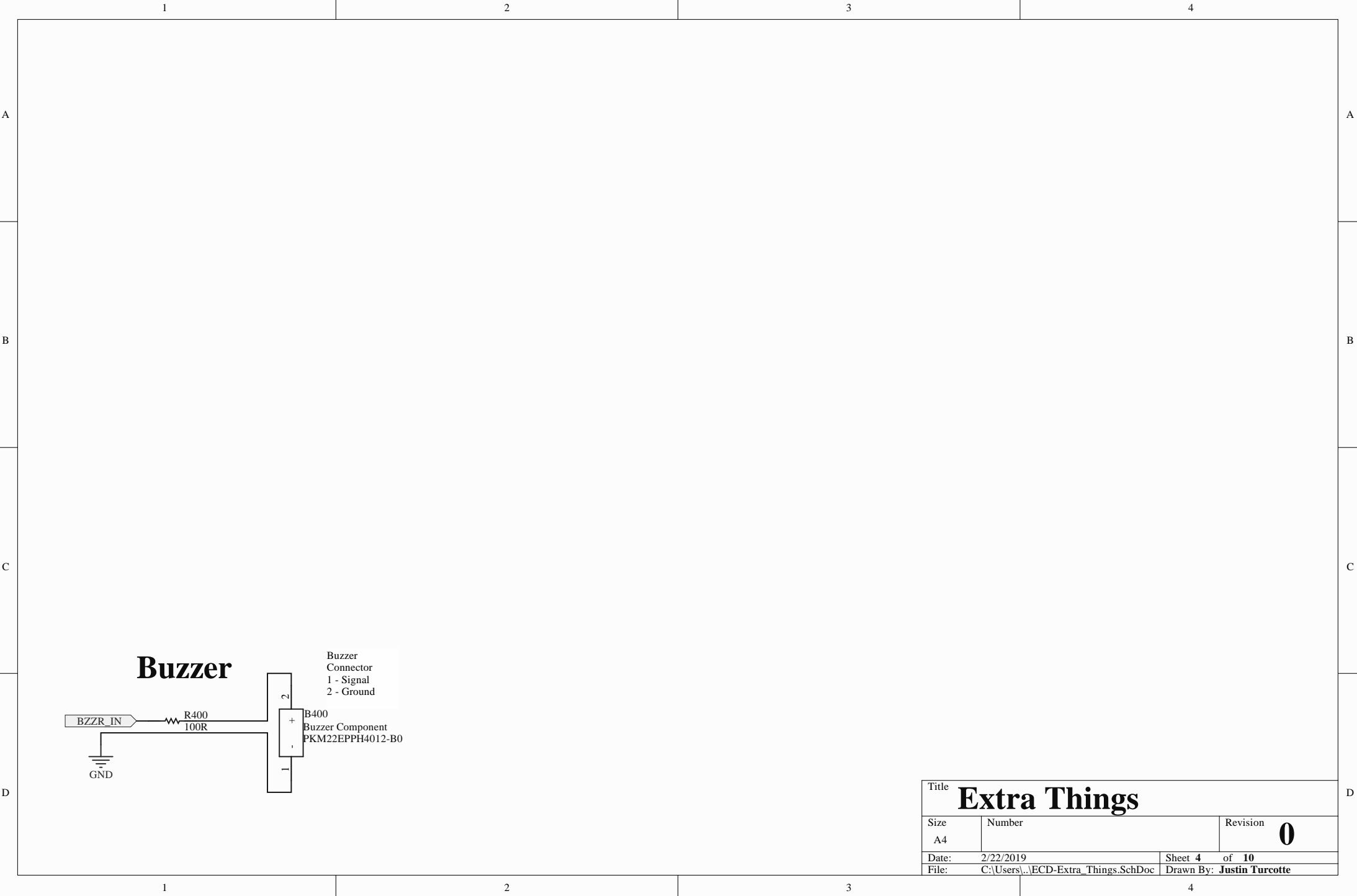
Stepper Motor

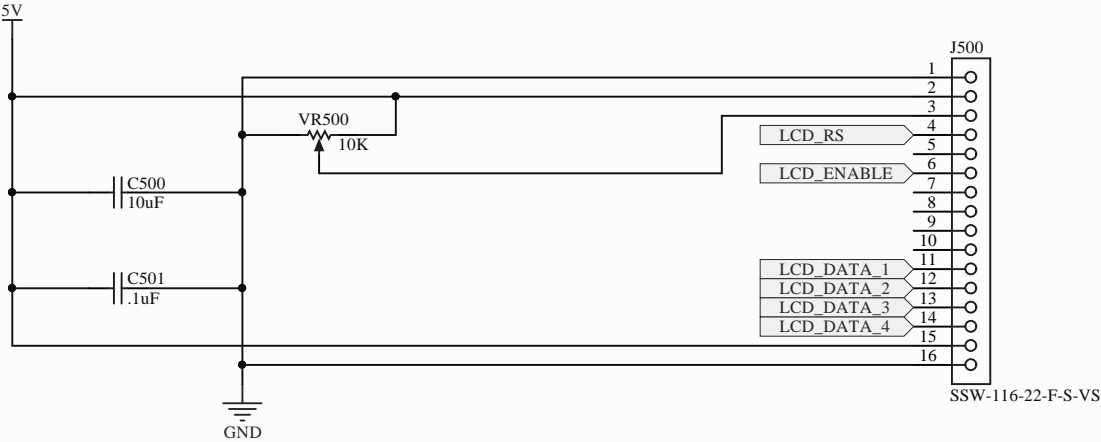


Limit Switches



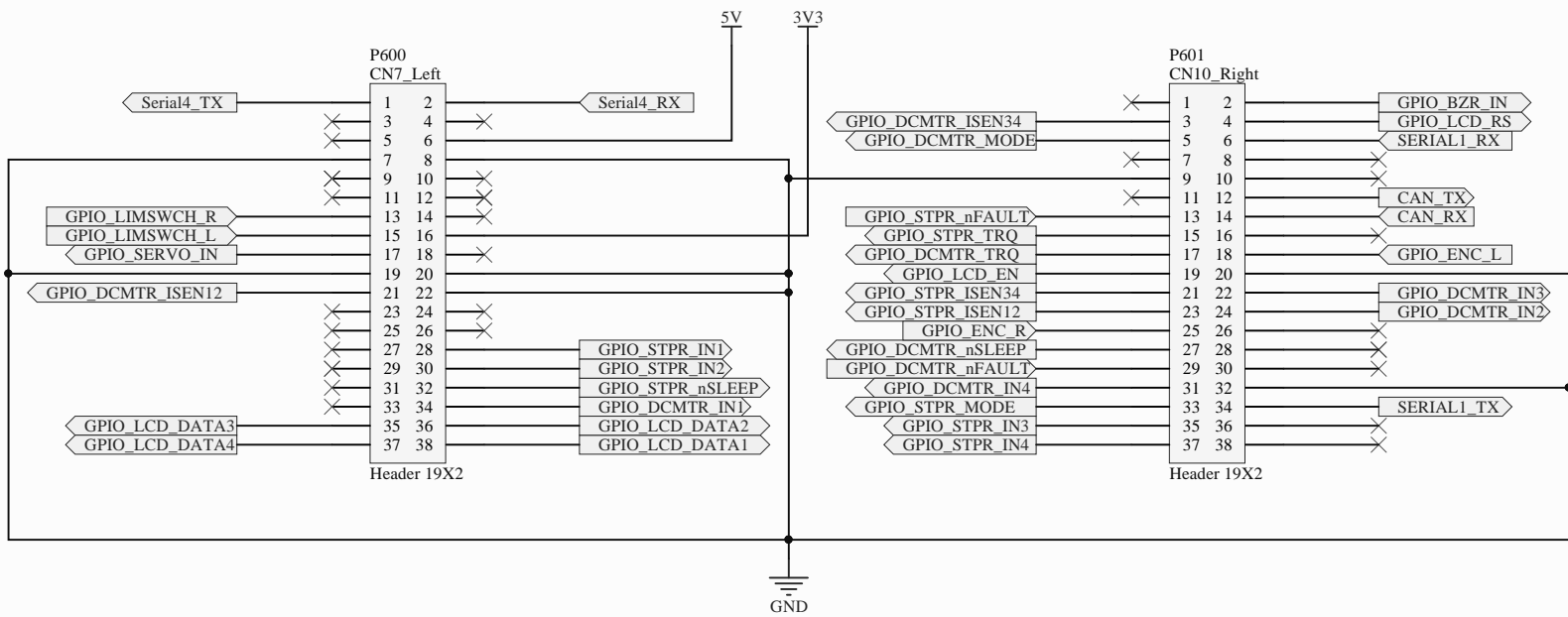
Title		
Camera Module		
Size	Number	Revision
A4		0
Date:	2/22/2019	Sheet 2 of 10
File:	C:\Users\j\Documents\ECD-Camera_Module.SchDoc	Drawn By: Justin Turcotte





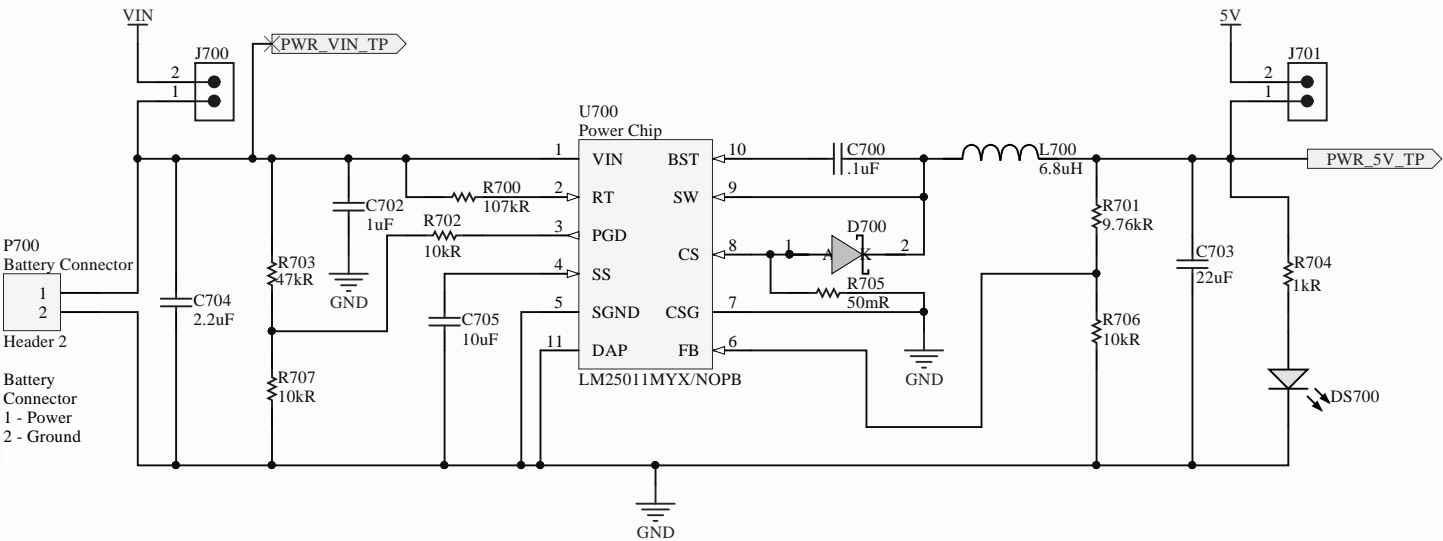
Title			LCD Driver	
Size	Number		Revision	
A4			0	
Date:	2/22/2019		Sheet 5	of 10
File:	C:\Users\...\ECD-LCD_Driver.SchDoc		Drawn By: Justin Turcotte	

CN7 Left	CN10 Right
1 - PC10	1 - PC9
2 - PC11	2 - PC8
3 - PC12	3 - PB8
4 - PD2	4 - PC6
5 - NC	5 - PB9
6 - E5V	6 - PC5
7 - BOOT0	7 - NC
8 - GND	8 - NC
9 - NC	9 - GND
10 - NC	10 - NC
11 - NC	11 - PA5
12 - NC	12 - PA12
13 - PA13	13 - PA6
14 - NC	14 - PA11
15 - PA14	15 - PA7
16 - 3V3	16 - PB12
17 - PA15	17 - PB6
18 - NC	18 - PB11
19 - GND	19 - PC7
20 - GND	20 - GND
21 - PB7	21 - PA9
22 - GND	22 - PB2
23 - PC13	23 - PA8
24 - NC	24 - PB1
25 - PC14	25 - PB10
26 - NC	26 - PB15
27 - PC15	27 - PB4
28 - PA0	28 - PB14
29 - PF0	29 - PB5
30 - PA1	30 - PB13
31 - PF1	31 - PB3
32 - PA4	32 - GND
33 - NC	33 - PA10
34 - PB0	34 - PC4
35 - PC2	35 - PA2
36 - PC1	36 - NC
37 - PC3	37 - PA3
38 - PC0	38 - NC

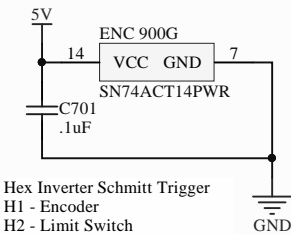


Title		
Nucleo MCU		
Size	Number	Revision
A4		0
Date:	2/22/2019	Sheet 6 of 10
File:	C:\Users\...\ECD-Nucleo_MCU.SchDoc	Drawn By: Justin Turcotte

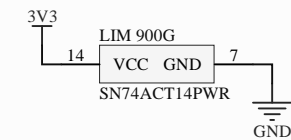
Power Circuit



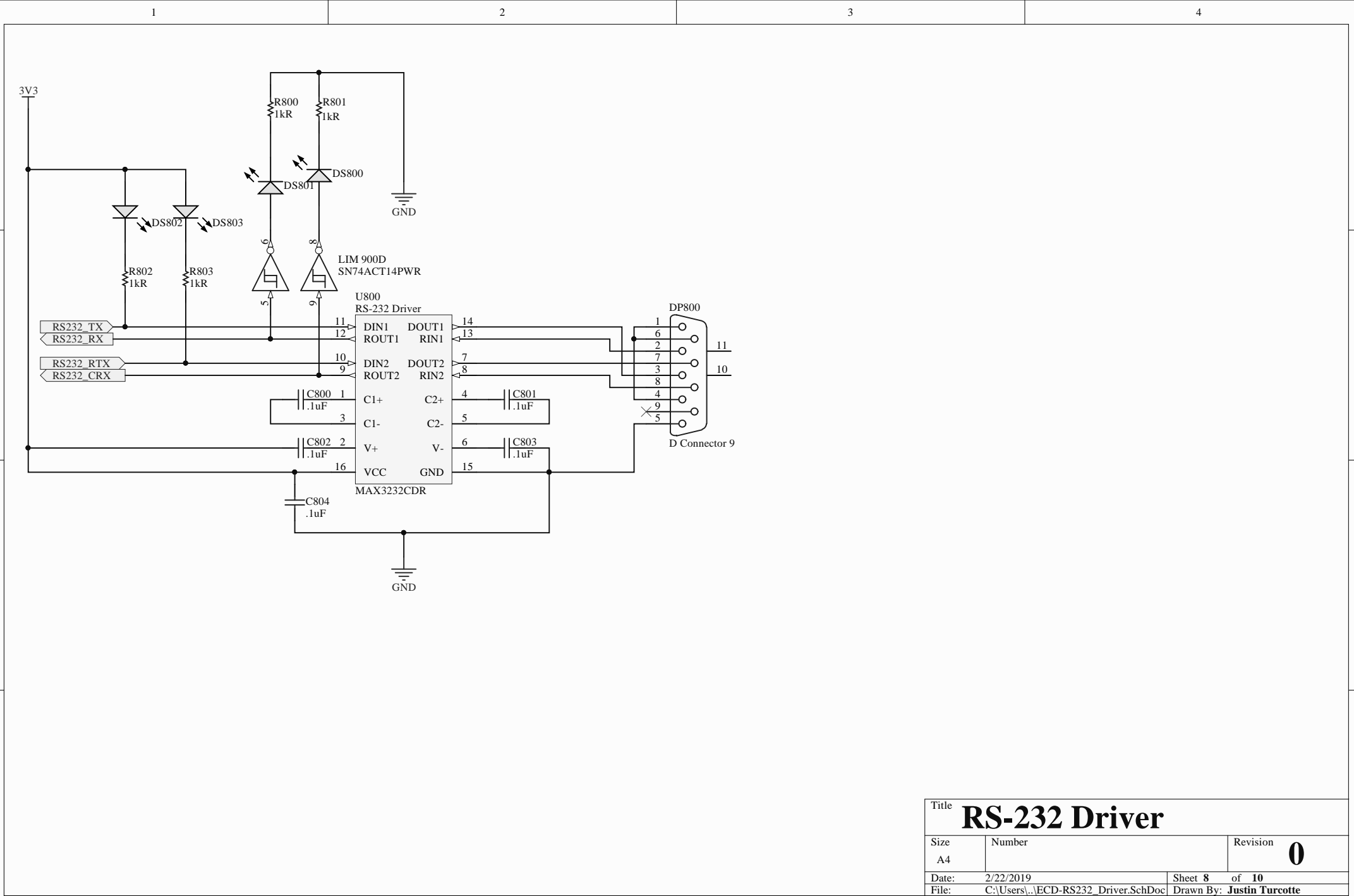
DC Motor Encoder



Limit Switches



Title Power Diagnostics		
Size A4	Number	Revision 0
Date:	2/22/2019	Sheet 7 of 10
File:	C:\Users\...\ECD-Power_Diagnostic.SchDoc	Drawn By: Justin Turcotte



Title RS-232 Driver		
Size A4	Number	Revision 0
Date:	2/22/2019	Sheet 8 of 10
File:	C:\Users\...\ECD-RS232_Driver.SchDoc	Drawn By: Justin Turcotte

A

B

C

D

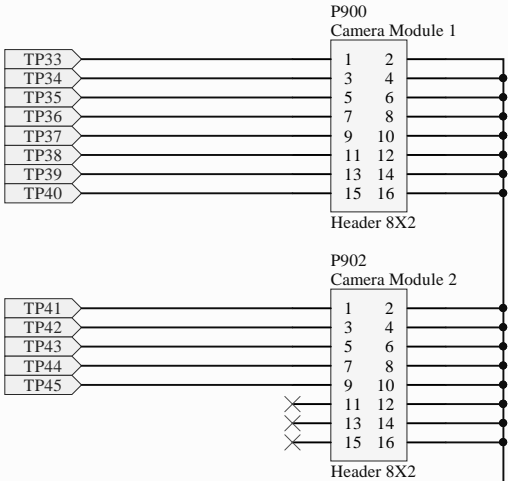
A

B

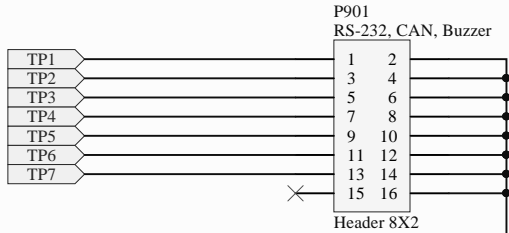
C

D

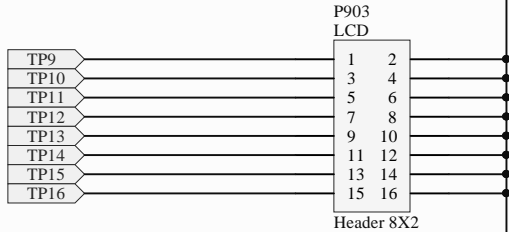
Camera Module Header
TP33 - SERVO IN
TP34 - LIMIT SWITCH L
TP35 - LIMIT SWITCH R
TP36 - STPR IN 1
TP37 - STPR IN 2
TP38 - STPR IN 3
TP39 - STPR IN 4
TP40 - STPR ISEN 12
TP41 - STPR ISEN 34
TP42 - STPR MODE
TP43 - STPR TRQ
TP44 - STPR nSLEEP



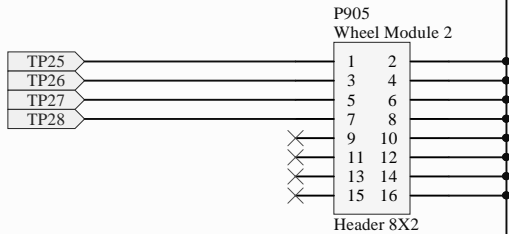
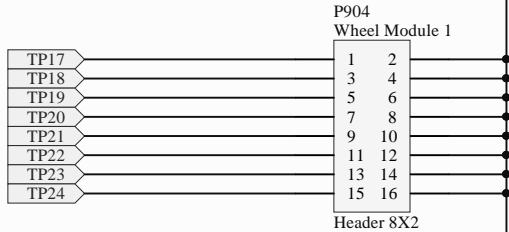
RS-232, CAN, Buzzer Header
TP1 - RS-232 TX
TP2 - RS-232 RX
TP3 - RS-232 RTX
TP4 - RS232 CRX
TP5 - CAN TX
TP6 - CAN RX
TP7 - Buzzer



LCD Header
TP9 - LCD Data 1
TP10 - LCD Data 2
TP11 - LCD Data 3
TP12 - LCD Data 4
TP13 - LCD EN
TP14 - LCD RS
TP15 - VIN
TP16 - 5V

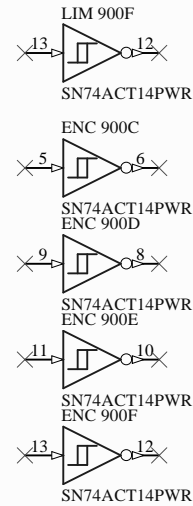


Wheel Module Header
TP17 - ENCODER 1
TP18 - ENCODER 2
TP19 - DCMTR IN 1
TP20 - DCMTR IN 2
TP21 - DCMTR IN 3
TP22 - DCMTR IN 4
TP23 - DCMTR ISEN 12
TP24 - DCMTR ISEN34
TP25 - DCMTR MODE
TP26 - DCMTR TRQ
TP27 - DCMTR nSLEEP
TP28 - DCMTR nFAULT



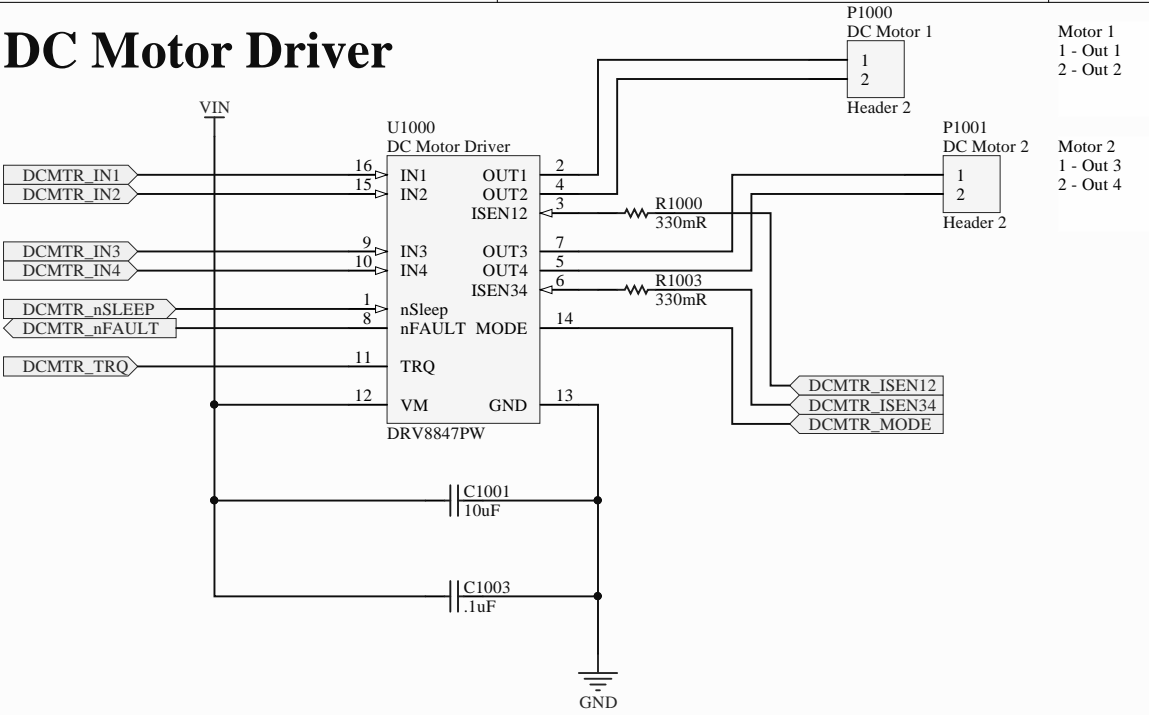
GND

GND

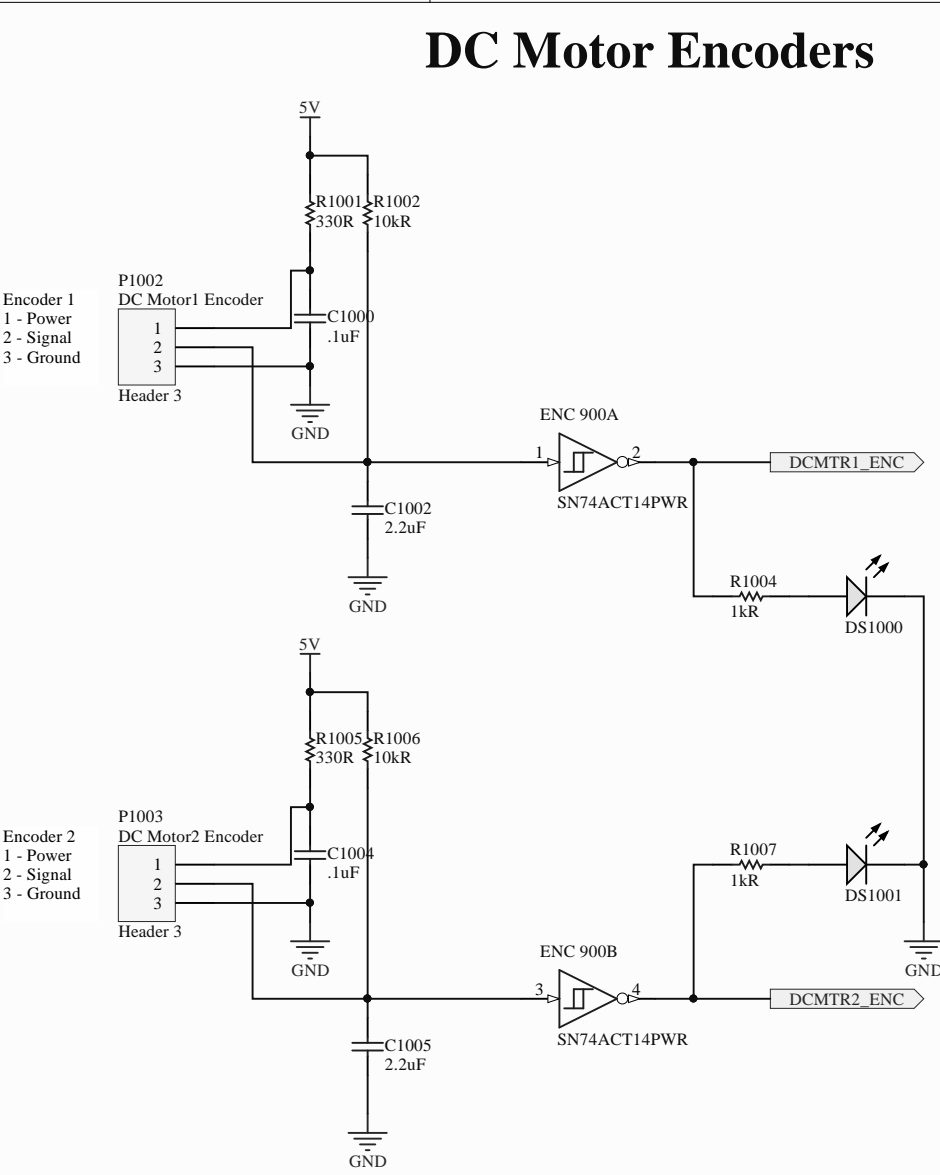


Title			Test Diagnostics		
Size	Number			Revision	0
A4					
Date:	2/22/2019		Sheet 9	of 10	
File:	C:\Users\...\ECD-Test_Diagnostics.SchDoc		Drawn By: Justin Turcotte		

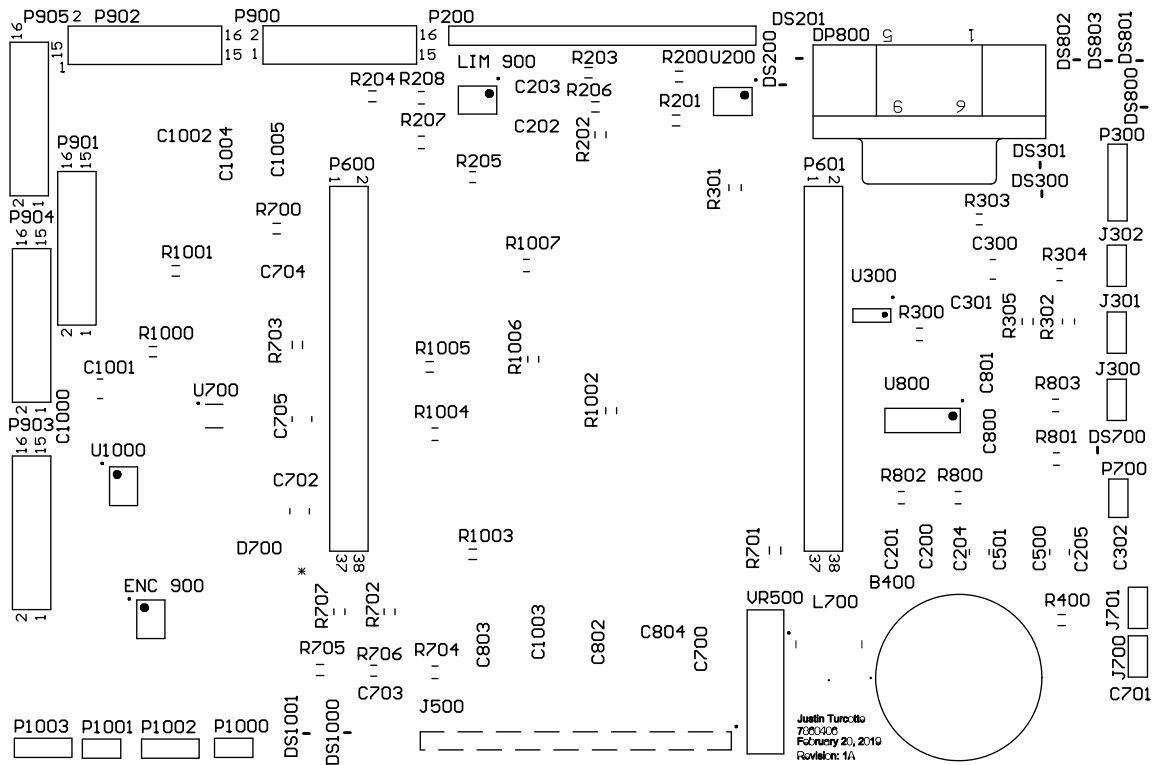
DC Motor Driver

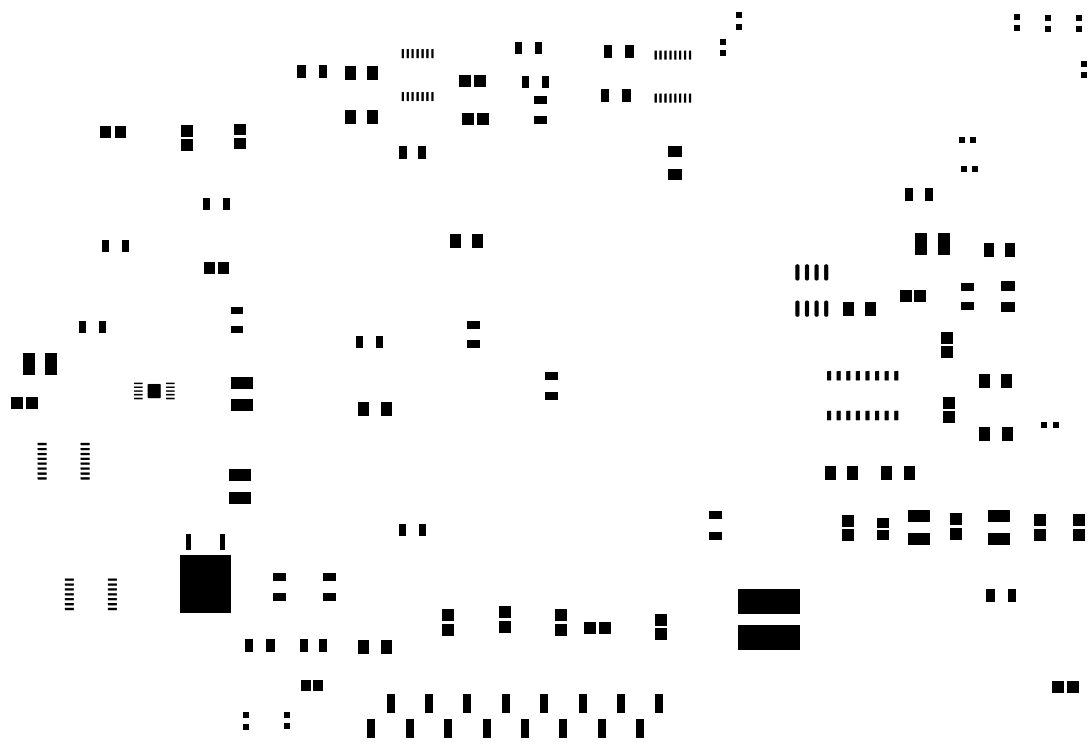


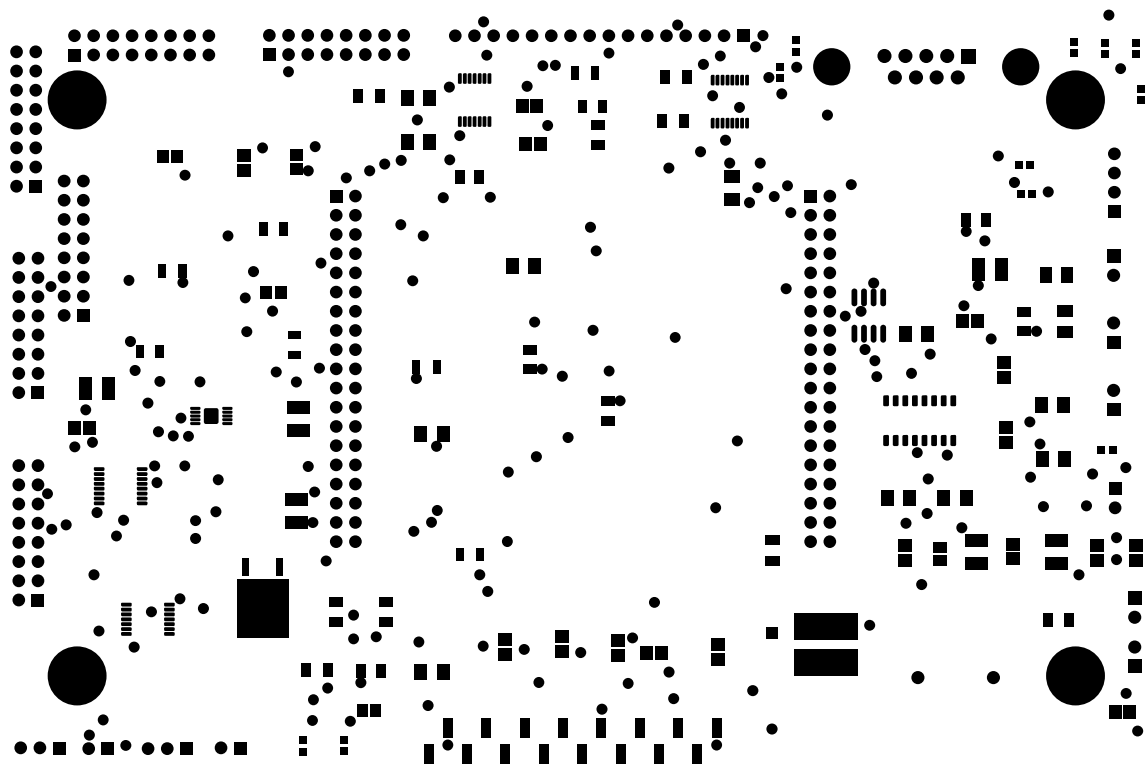
DC Motor Encoders

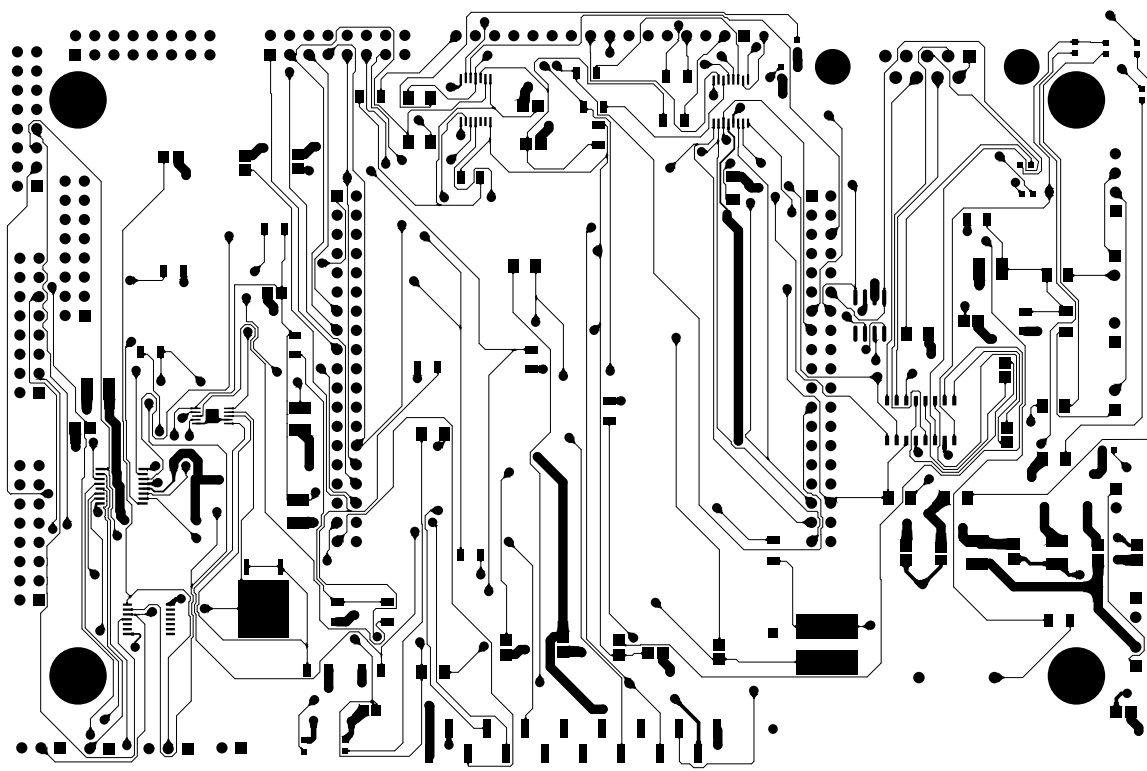


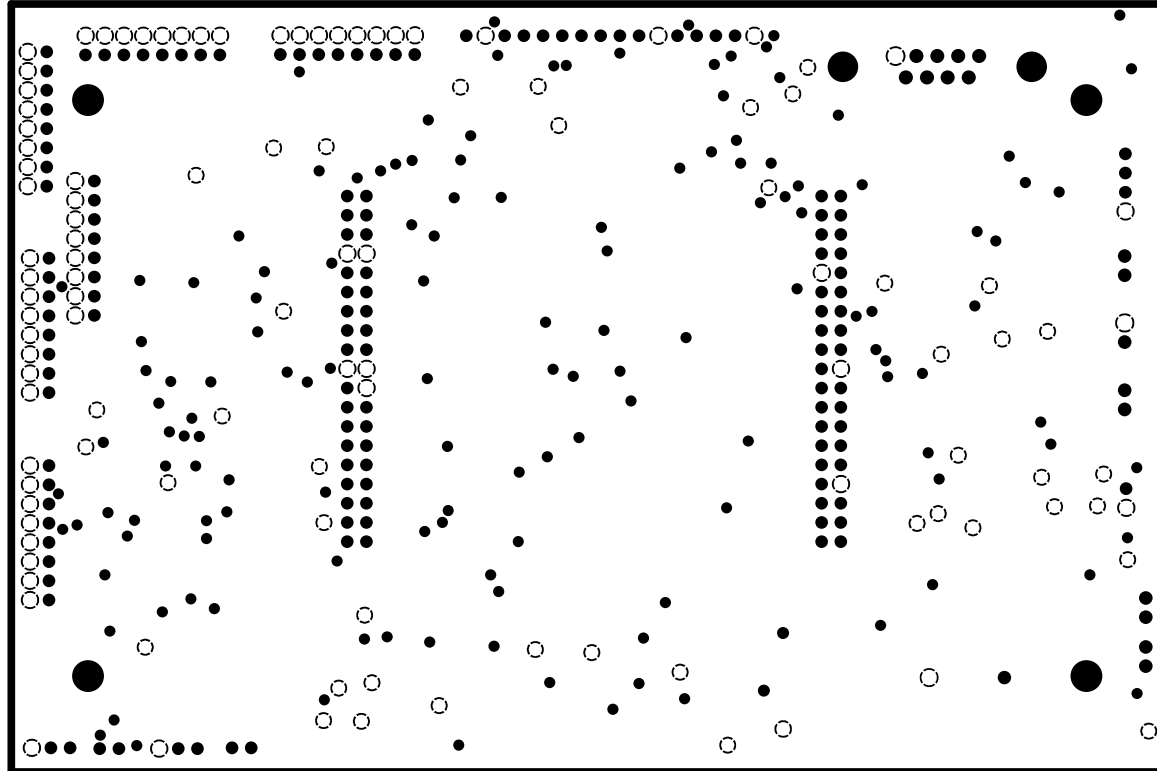
Title			Wheel Module	
Size	Number		Revision	
A4			0	
Date:	2/22/2019		Sheet 10	of 10
File:	C:\Users\...\ECD-Wheel_Module.SchDoc		Drawn By: Justin Turcotte	

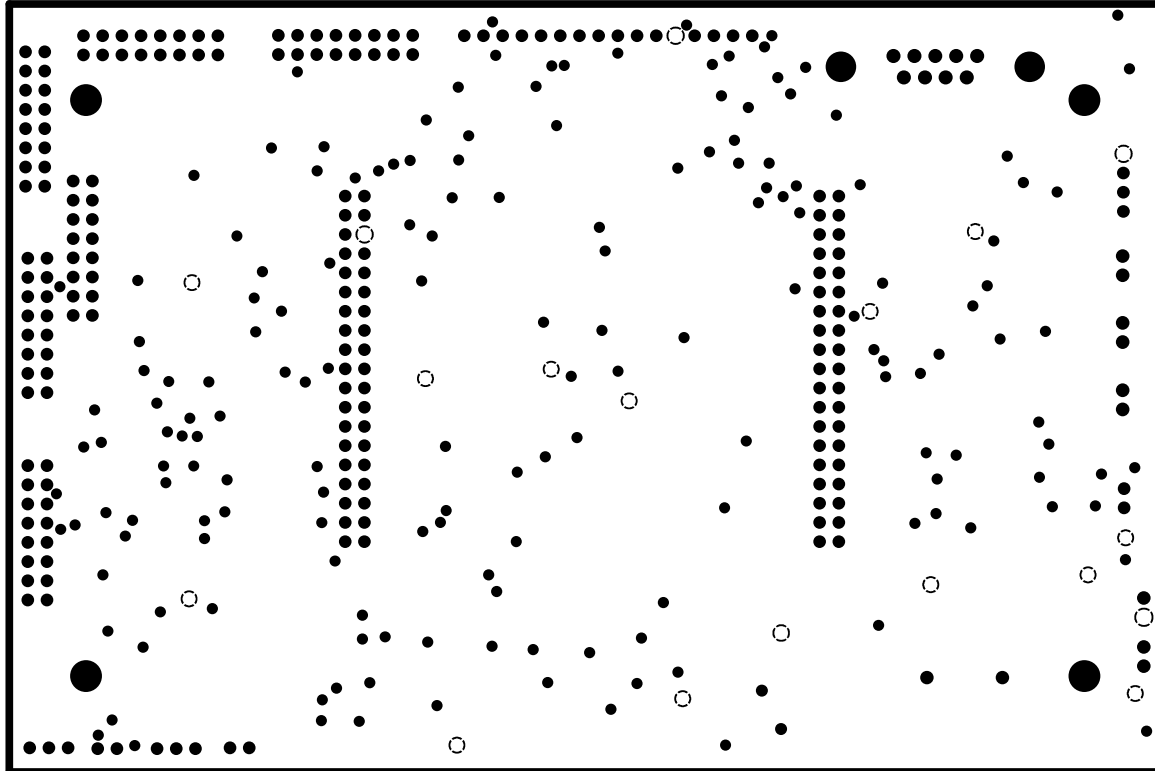


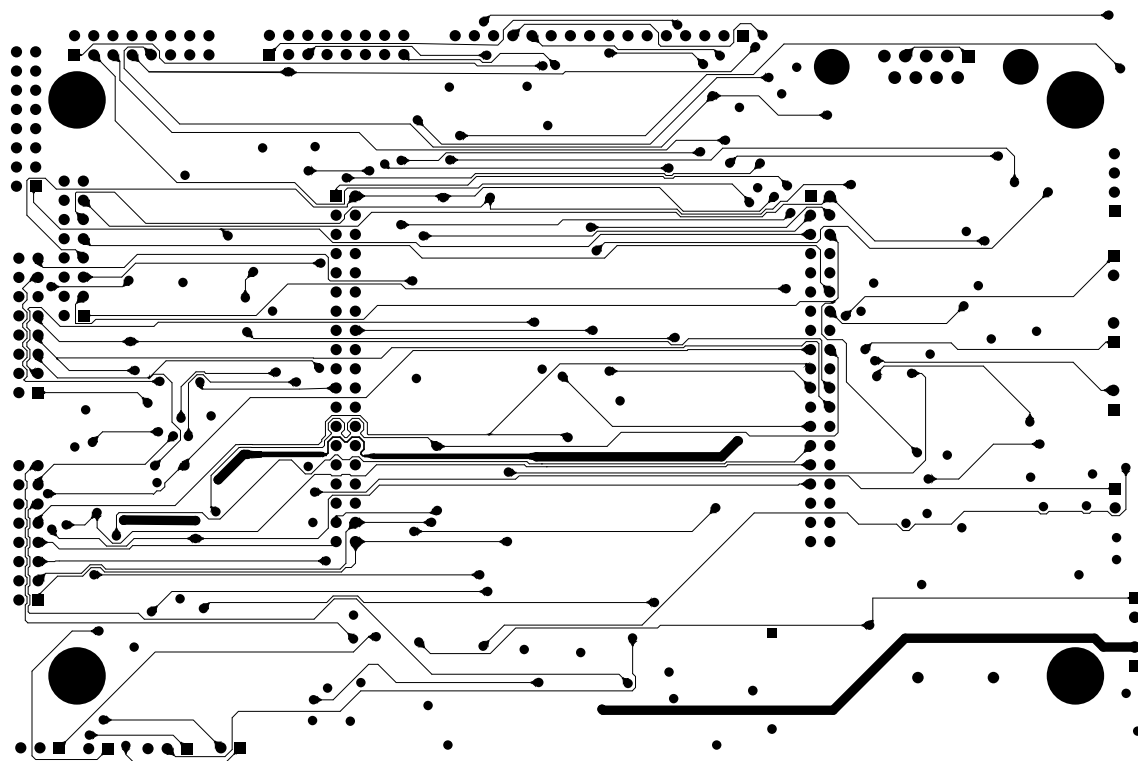


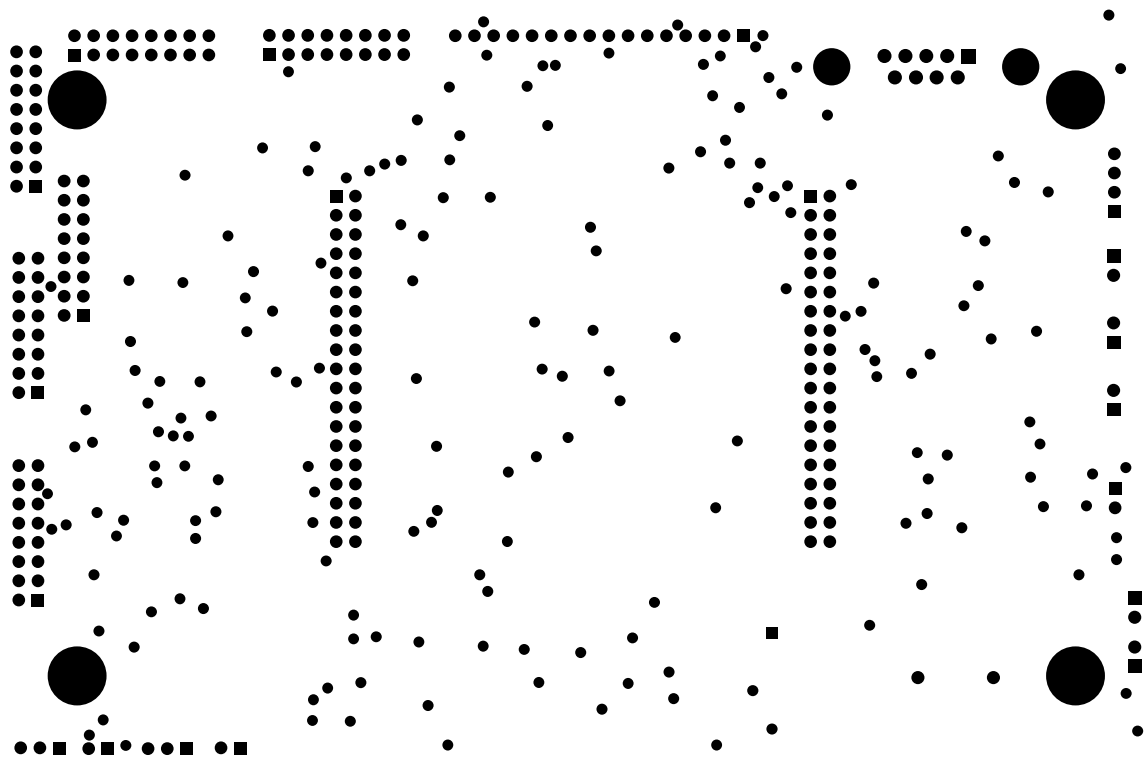












U200

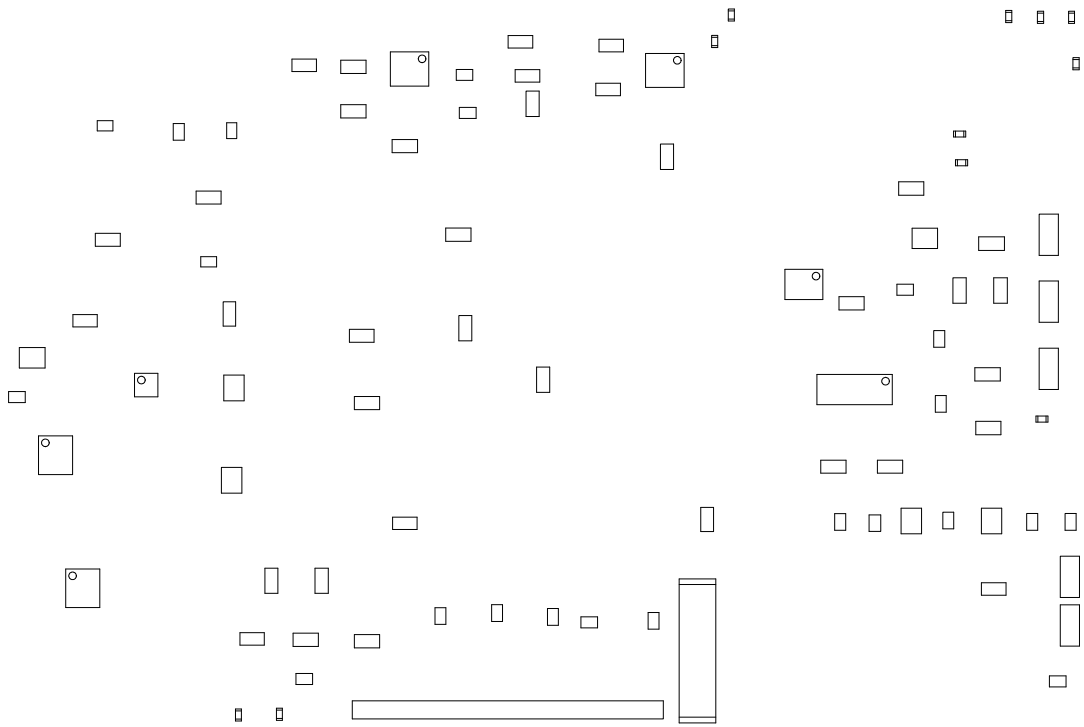
LIT 900

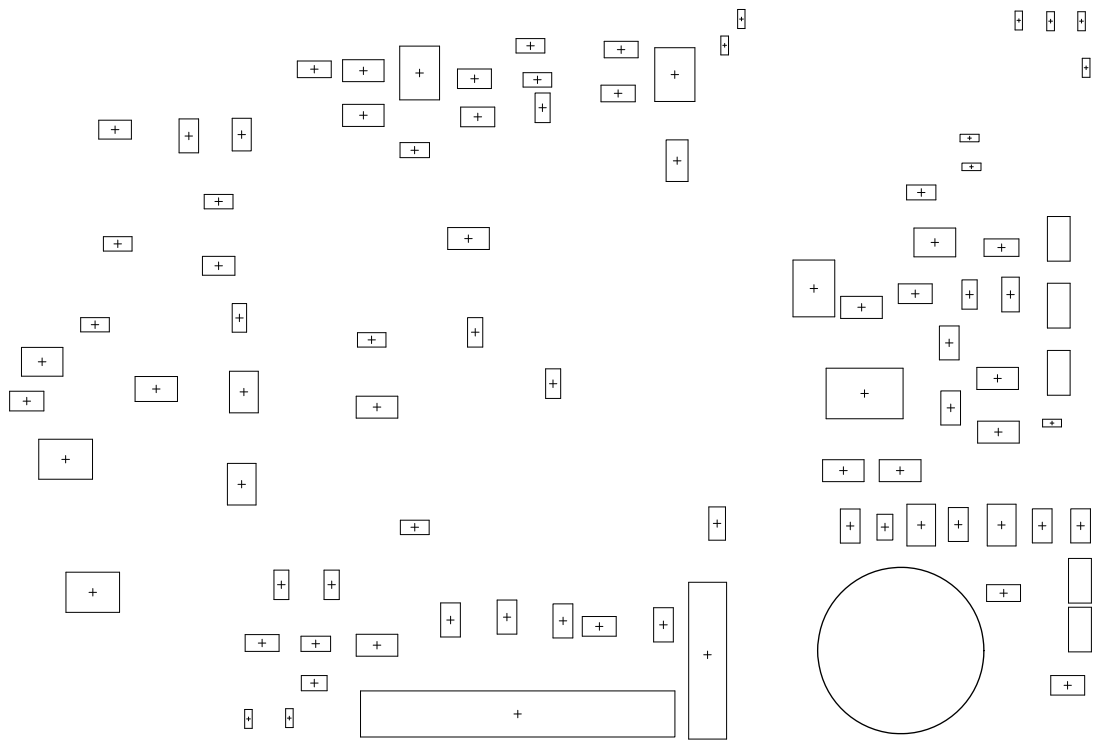
U800

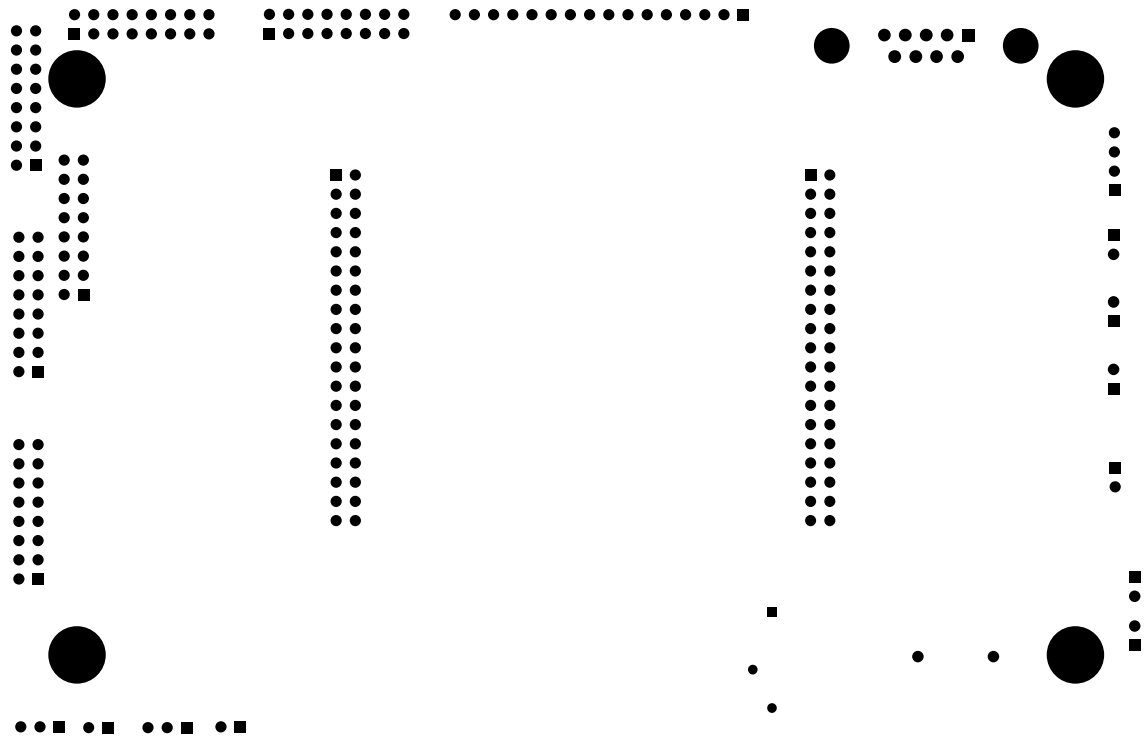
U700

U1000

ENC 900







Name	Description	Designator	Footprint	LibRef	Quantity
PKM22EPPH4012-B0	Audio Indicators & Ale	B400	PKM22EPPH4001-B0	PKM22EPPH4012-B0	1
TLCR107M004XTA		C200	CAPC2014X135X70NL2	CMP-2007-00046-1	1
Cap	CAP CER .1uF 50v X7R	C201, C202, C203, C20	CAPC2012X09M	CAP-X7R-.1uF-50V-±10	16
Cap	CAP CER 10uF 35v X5R	C204, C500, C705, C10	CAPC3225X25M	CAP-X5R-10uF-35V-±2	4
Cap	CAP CER 1uF 50v X7R	C300, C702	CAPC3225X25M	CAP-X7R-1uF-50V-±10	2
Cap	CAP CER 33pF 50v COG	C301	CAPC2012X09M	CAP-COG-33pF-50V-±5	1
GRM21BR61E226ME44L		C703	CAPC2013X145X45NL2	CMP-2007-03222-1	1
GRM219R61E225KA12D		C704, C1002, C1005	CAPC2013X95X45ML1	CMP-2007-00183-1	3
SBRD10200TR	Imported	D700	DPAK	SBRD10200TR	1
D Connector 9	Receptacle Assembly,	DP800	DSUB1.385-2H9	D Connector 9	1
LTST-C190KSKT	LED Uni-Color Yellow,	DS200, DS201, DS300,	LTST-C190KSKT_V	CMP-1674-00009-1	11
SN74ACT14PWR	Hex Schmitt-Trigger In	ENC 900, LIM 900	PW0014A_L	CMP-0268-00001-5	2
TSW-102-26-L-S	0.025" SQ Post Header	J300, J301, J302, J700,	SMTC-TSW-102-26-XX	CMP-1024-00330-1	5
SSW-116-22-F-S-VS	SQ Post Socket, Surface	J500	SMTC-SSW-116-22-X-S	CMP-1023-00451-1	1
VLP8040T-6R8M	Imported	L700	VLP8040	VLP8040T-6R8M	1
Header 16	Header, 16-Pin	P200	HDR1X16	Header 16	1
Header 4	Header, 4-Pin	P300	HDR1X4	Header 4	1
Header 19X2	Header, 19-Pin, Dual r	P600, P601	HDR2X19	Header 19X2	2
Header 2	Header, 2-Pin	P700, P1000, P1001	HDR1X2	Header 2	3
Header 8X2	Header, 8-Pin, Dual ro	P900, P901, P902, P90	HDR2X8	Header 8X2	6
Header 3	Header, 3-Pin	P1002, P1003	HDR1X3	Header 3	2
ERJ-8ENF1000V		R200, R201, R204, R40	RESC3216X70X50NL05	CMP-2003-00016-1	4
TNPW120610K0BETA		R202, R205, R303, R30	RESC3216X65X50LL15	CMP-2003-04611-1	9
ERJ-8RQFR33V		R203, R206, R1000, R1	RESC3216X70X50LL05	CMP-2003-00697-1	4
TNPW12061K00BEEN		R207, R208, R300, R30	RESC3216X65X50ML15	CMP-2003-04643-1	11
ERA8AEB620V		R302, R304	RESC3216X70X50NL20	CMP-2003-04484-1	2
CRCW1206107KFKEA		R700	RESC3216X60X45LL10	CMP-2003-04806-1	1
RC1206FR-079K76L		R701	RESC3116X65X40NL10	CMP-2003-03917-1	1
ERJ-8GEYJ473V		R703	RESC3216X70X50LL05	CMP-2003-00637-1	1
ERJ-L08KJ50MV		R705	RESC3216X70X50NL05	CMP-2003-00711-1	1
CRCW1206330RFKEA		R1001, R1005	RESC3216X60X45LL10	CMP-2003-02098-1	2
DRV8847PW	2 A Low Voltage Dual	U200, U1000	PW0016A_L	CMP-1529-00002-2	2
MCP2551-I/SN	High-Speed CAN Trans	U300	SOIC-SN8_N	CMP-0186-00138-2	1
LM25011MYX/NOPB	42V, 2A Constant On-T	U700	DGQ0010A_L	CMP-0069-01832-3	1
MAX3232CDR	3-V to 5.5-V Multichar	U800	D0016A_L	CMP-0299-00399-2	1
3006P-1-103ZLF	Trimming Potentiome	VR500	BOUR-3006P-3_V	CMP-0975-00014-2	1

