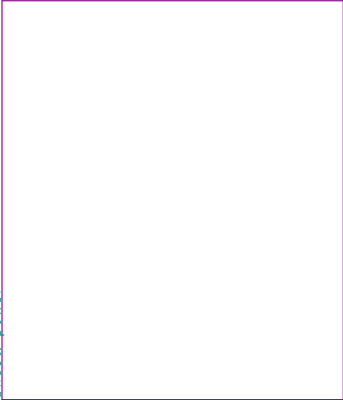


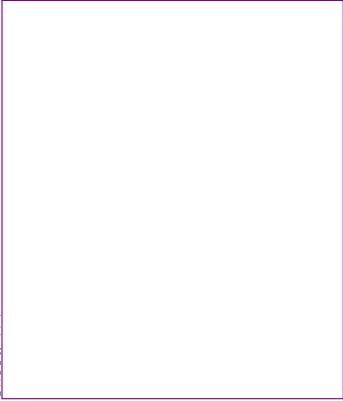
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Sheet: power



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Sheet: rPi



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Sheet: ultrasound



File: ultrasound.sch

Sheet: motorDriver



File: motorDriver.sch

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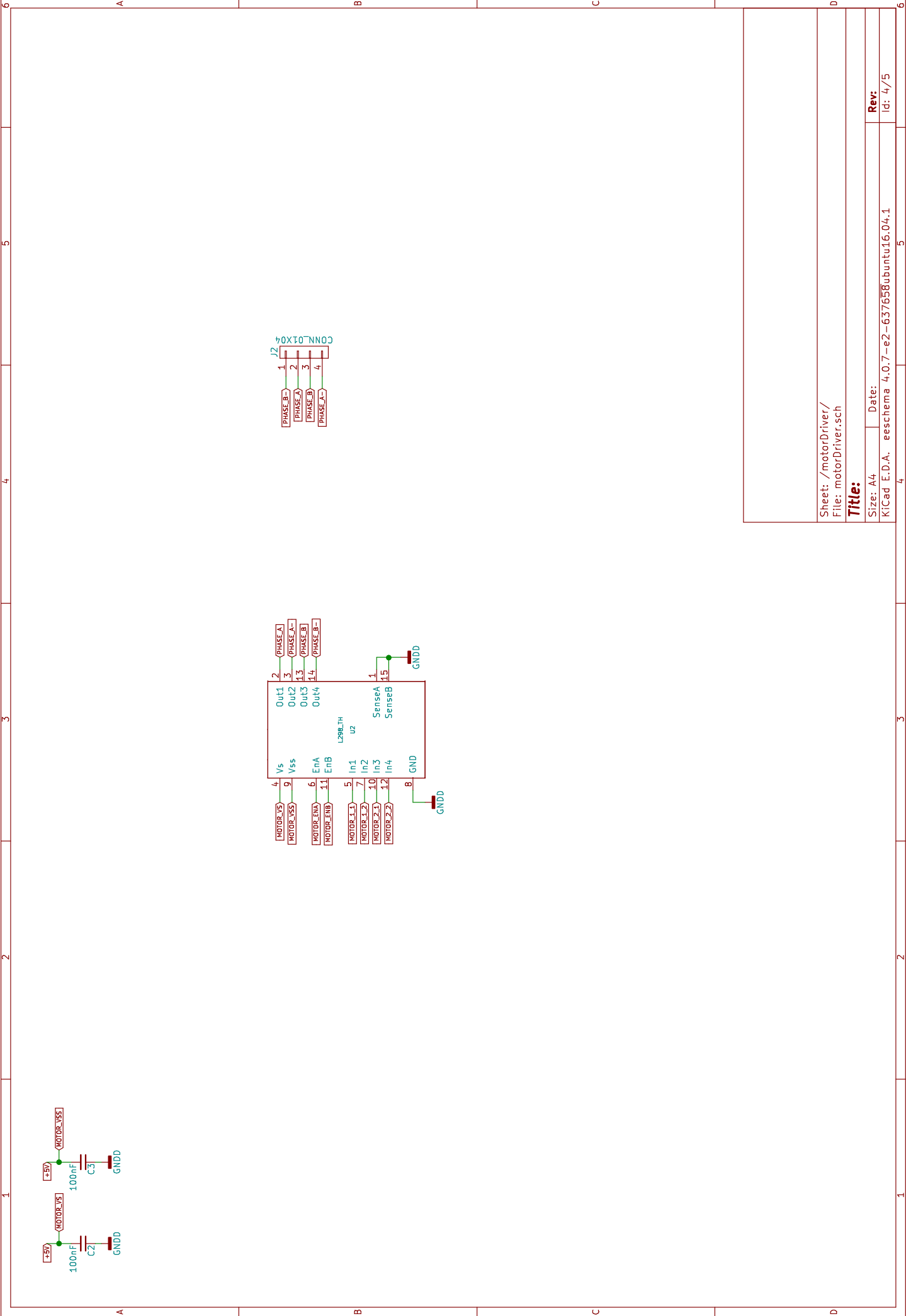
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Raspberry Pi J8 Header (Model B+)					
GPIO#	NAME	VALUE	GPIO#	NAME	VALUE
1	3.3 VDC Power	3.3 VDC	17	5.0 VDC Power	5.0 VDC
2	GPIO 15 SDA (I2C)	SDA (I2C)	18	5.0 VDC Power	5.0 VDC
3	GPIO 9 SCL (I2C)	SCL (I2C)	19	Ground	Ground
4	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)	20	GPIO 15 SDA (I2C)	SDA (I2C)
5	Ground	Ground	21	GPIO 9 SCL (I2C)	SCL (I2C)
6	GPIO 0	GPIO 0	22	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
7	GPIO 2	GPIO 2	23	Ground	Ground
8	GPIO 3	GPIO 3	24	GPIO 15 SDA (I2C)	SDA (I2C)
9	3.3 VDC Power	3.3 VDC	25	GPIO 9 SCL (I2C)	SCL (I2C)
10	GPIO 12 MOSI (SPI)	MOSI (SPI)	26	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
11	GPIO 13 MISO (SPI)	MISO (SPI)	27	Ground	Ground
12	GPIO 14 SCLK (SPI)	SCLK (SPI)	28	GPIO 15 SDA (I2C)	SDA (I2C)
13	Ground	Ground	29	GPIO 9 SCL (I2C)	SCL (I2C)
14	GPIO 16 CE1 (SPI)	CE1 (SPI)	30	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
15	GPIO 17	GPIO 17	31	Ground	Ground
16	GPIO 18	GPIO 18	32	GPIO 15 SDA (I2C)	SDA (I2C)
17	GPIO 19	GPIO 19	33	GPIO 9 SCL (I2C)	SCL (I2C)
18	GPIO 20	GPIO 20	34	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
19	GPIO 21	GPIO 21	35	Ground	Ground
20	GPIO 22	GPIO 22	36	GPIO 15 SDA (I2C)	SDA (I2C)
21	GPIO 23	GPIO 23	37	GPIO 9 SCL (I2C)	SCL (I2C)
22	GPIO 24	GPIO 24	38	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
23	GPIO 25	GPIO 25	39	Ground	Ground
24	GPIO 26	GPIO 26	40	GPIO 15 SDA (I2C)	SDA (I2C)
25	GPIO 27	GPIO 27	41	GPIO 9 SCL (I2C)	SCL (I2C)
26	GPIO 28	GPIO 28	42	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
27	GPIO 29	GPIO 29	43	Ground	Ground
28	GPIO 30	GPIO 30	44	GPIO 15 SDA (I2C)	SDA (I2C)
29	GPIO 31	GPIO 31	45	GPIO 9 SCL (I2C)	SCL (I2C)
30	GPIO 32	GPIO 32	46	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
31	GPIO 33	GPIO 33	47	Ground	Ground
32	GPIO 34	GPIO 34	48	GPIO 15 SDA (I2C)	SDA (I2C)
33	GPIO 35	GPIO 35	49	GPIO 9 SCL (I2C)	SCL (I2C)
34	GPIO 36	GPIO 36	50	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
35	GPIO 37	GPIO 37	51	Ground	Ground
36	GPIO 38	GPIO 38	52	GPIO 15 SDA (I2C)	SDA (I2C)
37	GPIO 39	GPIO 39	53	GPIO 9 SCL (I2C)	SCL (I2C)
38	GPIO 40	GPIO 40	54	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
39	GPIO 41	GPIO 41	55	Ground	Ground
40	GPIO 42	GPIO 42	56	GPIO 15 SDA (I2C)	SDA (I2C)
41	GPIO 43	GPIO 43	57	GPIO 9 SCL (I2C)	SCL (I2C)
42	GPIO 44	GPIO 44	58	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
43	GPIO 45	GPIO 45	59	Ground	Ground
44	GPIO 46	GPIO 46	60	GPIO 15 SDA (I2C)	SDA (I2C)
45	GPIO 47	GPIO 47	61	GPIO 9 SCL (I2C)	SCL (I2C)
46	GPIO 48	GPIO 48	62	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
47	GPIO 49	GPIO 49	63	Ground	Ground
48	GPIO 50	GPIO 50	64	GPIO 15 SDA (I2C)	SDA (I2C)
49	GPIO 51	GPIO 51	65	GPIO 9 SCL (I2C)	SCL (I2C)
50	GPIO 52	GPIO 52	66	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
51	GPIO 53	GPIO 53	67	Ground	Ground
52	GPIO 54	GPIO 54	68	GPIO 15 SDA (I2C)	SDA (I2C)
53	GPIO 55	GPIO 55	69	GPIO 9 SCL (I2C)	SCL (I2C)
54	GPIO 56	GPIO 56	70	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
55	GPIO 57	GPIO 57	71	Ground	Ground
56	GPIO 58	GPIO 58	72	GPIO 15 SDA (I2C)	SDA (I2C)
57	GPIO 59	GPIO 59	73	GPIO 9 SCL (I2C)	SCL (I2C)
58	GPIO 60	GPIO 60	74	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
59	GPIO 61	GPIO 61	75	Ground	Ground
60	GPIO 62	GPIO 62	76	GPIO 15 SDA (I2C)	SDA (I2C)
61	GPIO 63	GPIO 63	77	GPIO 9 SCL (I2C)	SCL (I2C)
62	GPIO 64	GPIO 64	78	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
63	GPIO 65	GPIO 65	79	Ground	Ground
64	GPIO 66	GPIO 66	80	GPIO 15 SDA (I2C)	SDA (I2C)
65	GPIO 67	GPIO 67	81	GPIO 9 SCL (I2C)	SCL (I2C)
66	GPIO 68	GPIO 68	82	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
67	GPIO 69	GPIO 69	83	Ground	Ground
68	GPIO 70	GPIO 70	84	GPIO 15 SDA (I2C)	SDA (I2C)
69	GPIO 71	GPIO 71	85	GPIO 9 SCL (I2C)	SCL (I2C)
70	GPIO 72	GPIO 72	86	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
71	GPIO 73	GPIO 73	87	Ground	Ground
72	GPIO 74	GPIO 74	88	GPIO 15 SDA (I2C)	SDA (I2C)
73	GPIO 75	GPIO 75	89	GPIO 9 SCL (I2C)	SCL (I2C)
74	GPIO 76	GPIO 76	90	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
75	GPIO 77	GPIO 77	91	Ground	Ground
76	GPIO 78	GPIO 78	92	GPIO 15 SDA (I2C)	SDA (I2C)
77	GPIO 79	GPIO 79	93	GPIO 9 SCL (I2C)	SCL (I2C)
78	GPIO 80	GPIO 80	94	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
79	GPIO 81	GPIO 81	95	Ground	Ground
80	GPIO 82	GPIO 82	96	GPIO 15 SDA (I2C)	SDA (I2C)
81	GPIO 83	GPIO 83	97	GPIO 9 SCL (I2C)	SCL (I2C)
82	GPIO 84	GPIO 84	98	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
83	GPIO 85	GPIO 85	99	Ground	Ground
84	GPIO 86	GPIO 86	100	GPIO 15 SDA (I2C)	SDA (I2C)
85	GPIO 87	GPIO 87	101	GPIO 9 SCL (I2C)	SCL (I2C)
86	GPIO 88	GPIO 88	102	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
87	GPIO 89	GPIO 89	103	Ground	Ground
88	GPIO 90	GPIO 90	104	GPIO 15 SDA (I2C)	SDA (I2C)
89	GPIO 91	GPIO 91	105	GPIO 9 SCL (I2C)	SCL (I2C)
90	GPIO 92	GPIO 92	106	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
91	GPIO 93	GPIO 93	107	Ground	Ground
92	GPIO 94	GPIO 94	108	GPIO 15 SDA (I2C)	SDA (I2C)
93	GPIO 95	GPIO 95	109	GPIO 9 SCL (I2C)	SCL (I2C)
94	GPIO 96	GPIO 96	110	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
95	GPIO 97	GPIO 97	111	Ground	Ground
96	GPIO 98	GPIO 98	112	GPIO 15 SDA (I2C)	SDA (I2C)
97	GPIO 99	GPIO 99	113	GPIO 9 SCL (I2C)	SCL (I2C)
98	GPIO 100	GPIO 100	114	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
99	GPIO 101	GPIO 101	115	Ground	Ground
100	GPIO 102	GPIO 102	116	GPIO 15 SDA (I2C)	SDA (I2C)
101	GPIO 103	GPIO 103	117	GPIO 9 SCL (I2C)	SCL (I2C)
102	GPIO 104	GPIO 104	118	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
103	GPIO 105	GPIO 105	119	Ground	Ground
104	GPIO 106	GPIO 106	120	GPIO 15 SDA (I2C)	SDA (I2C)
105	GPIO 107	GPIO 107	121	GPIO 9 SCL (I2C)	SCL (I2C)
106	GPIO 108	GPIO 108	122	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
107	GPIO 109	GPIO 109	123	Ground	Ground
108	GPIO 110	GPIO 110	124	GPIO 15 SDA (I2C)	SDA (I2C)
109	GPIO 111	GPIO 111	125	GPIO 9 SCL (I2C)	SCL (I2C)
110	GPIO 112	GPIO 112	126	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
111	GPIO 113	GPIO 113	127	Ground	Ground
112	GPIO 114	GPIO 114	128	GPIO 15 SDA (I2C)	SDA (I2C)
113	GPIO 115	GPIO 115	129	GPIO 9 SCL (I2C)	SCL (I2C)
114	GPIO 116	GPIO 116	130	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
115	GPIO 117	GPIO 117	131	Ground	Ground
116	GPIO 118	GPIO 118	132	GPIO 15 SDA (I2C)	SDA (I2C)
117	GPIO 119	GPIO 119	133	GPIO 9 SCL (I2C)	SCL (I2C)
118	GPIO 120	GPIO 120	134	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
119	GPIO 121	GPIO 121	135	Ground	Ground
120	GPIO 122	GPIO 122	136	GPIO 15 SDA (I2C)	SDA (I2C)
121	GPIO 123	GPIO 123	137	GPIO 9 SCL (I2C)	SCL (I2C)
122	GPIO 124	GPIO 124	138	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
123	GPIO 125	GPIO 125	139	Ground	Ground
124	GPIO 126	GPIO 126	140	GPIO 15 SDA (I2C)	SDA (I2C)
125	GPIO 127	GPIO 127	141	GPIO 9 SCL (I2C)	SCL (I2C)
126	GPIO 128	GPIO 128	142	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
127	GPIO 129	GPIO 129	143	Ground	Ground
128	GPIO 130	GPIO 130	144	GPIO 15 SDA (I2C)	SDA (I2C)
129	GPIO 131	GPIO 131	145	GPIO 9 SCL (I2C)	SCL (I2C)
130	GPIO 132	GPIO 132	146	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
131	GPIO 133	GPIO 133	147	Ground	Ground
132	GPIO 134	GPIO 134	148	GPIO 15 SDA (I2C)	SDA (I2C)
133	GPIO 135	GPIO 135	149	GPIO 9 SCL (I2C)	SCL (I2C)
134	GPIO 136	GPIO 136	150	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
135	GPIO 137	GPIO 137	151	Ground	Ground
136	GPIO 138	GPIO 138	152	GPIO 15 SDA (I2C)	SDA (I2C)
137	GPIO 139	GPIO 139	153	GPIO 9 SCL (I2C)	SCL (I2C)
138	GPIO 140	GPIO 140	154	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
139	GPIO 141	GPIO 141	155	Ground	Ground
140	GPIO 142	GPIO 142	156	GPIO 15 SDA (I2C)	SDA (I2C)
141	GPIO 143	GPIO 143	157	GPIO 9 SCL (I2C)	SCL (I2C)
142	GPIO 144	GPIO 144	158	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
143	GPIO 145	GPIO 145	159	Ground	Ground
144	GPIO 146	GPIO 146	160	GPIO 15 SDA (I2C)	SDA (I2C)
145	GPIO 147	GPIO 147	161	GPIO 9 SCL (I2C)	SCL (I2C)
146	GPIO 148	GPIO 148	162	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
147	GPIO 149	GPIO 149	163	Ground	Ground
148	GPIO 150	GPIO 150	164	GPIO 15 SDA (I2C)	SDA (I2C)
149	GPIO 151	GPIO 151	165	GPIO 9 SCL (I2C)	SCL (I2C)
150	GPIO 152	GPIO 152	166	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
151	GPIO 153	GPIO 153	167	Ground	Ground
152	GPIO 154	GPIO 154	168	GPIO 15 SDA (I2C)	SDA (I2C)
153	GPIO 155	GPIO 155	169	GPIO 9 SCL (I2C)	SCL (I2C)
154	GPIO 156	GPIO 156	170	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
155	GPIO 157	GPIO 157	171	Ground	Ground
156	GPIO 158	GPIO 158	172	GPIO 15 SDA (I2C)	SDA (I2C)
157	GPIO 159	GPIO 159	173	GPIO 9 SCL (I2C)	SCL (I2C)
158	GPIO 160	GPIO 160	174	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
159	GPIO 161	GPIO 161	175	Ground	Ground
160	GPIO 162	GPIO 162	176	GPIO 15 SDA (I2C)	SDA (I2C)
161	GPIO 163	GPIO 163	177	GPIO 9 SCL (I2C)	SCL (I2C)
162	GPIO 164	GPIO 164	178	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
163	GPIO 165	GPIO 165	179	Ground	Ground
164	GPIO 166	GPIO 166	180	GPIO 15 SDA (I2C)	SDA (I2C)
165	GPIO 167	GPIO 167	181	GPIO 9 SCL (I2C)	SCL (I2C)
166	GPIO 168	GPIO 168	182	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
167	GPIO 169	GPIO 169	183	Ground	Ground
168	GPIO 170	GPIO 170	184	GPIO 15 SDA (I2C)	SDA (I2C)
169	GPIO 171	GPIO 171	185	GPIO 9 SCL (I2C)	SCL (I2C)
170	GPIO 172	GPIO 172	186	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
171	GPIO 173	GPIO 173	187	Ground	Ground
172	GPIO 174	GPIO 174	188	GPIO 15 SDA (I2C)	SDA (I2C)
173	GPIO 175	GPIO 175	189	GPIO 9 SCL (I2C)	SCL (I2C)
174	GPIO 176	GPIO 176	190	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
175	GPIO 177	GPIO 177	191	Ground	Ground
176	GPIO 178	GPIO 178	192	GPIO 15 SDA (I2C)	SDA (I2C)
177	GPIO 179	GPIO 179	193	GPIO 9 SCL (I2C)	SCL (I2C)
178	GPIO 180	GPIO 180	194	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
179	GPIO 181	GPIO 181	195	Ground	Ground
180	GPIO 182	GPIO 182	196	GPIO 15 SDA (I2C)	SDA (I2C)
181	GPIO 183	GPIO 183	197	GPIO 9 SCL (I2C)	SCL (I2C)
182	GPIO 184	GPIO 184	198	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
183	GPIO 185	GPIO 185	199	Ground	Ground
184	GPIO 186	GPIO 186	200	GPIO 15 SDA (I2C)	SDA (I2C)
185	GPIO 187	GPIO 187	201	GPIO 9 SCL (I2C)	SCL (I2C)
186	GPIO 188	GPIO 188	202	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
187	GPIO 189	GPIO 189	203	Ground	Ground
188	GPIO 190	GPIO 190	204	GPIO 15 SDA (I2C)	SDA (I2C)
189	GPIO 191	GPIO 191	205	GPIO 9 SCL (I2C)	SCL (I2C)
190	GPIO 192	GPIO 192	206	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
191	GPIO 193	GPIO 193	207	Ground	Ground
192	GPIO 194	GPIO 194	208	GPIO 15 SDA (I2C)	SDA (I2C)
193	GPIO 195	GPIO 195	209	GPIO 9 SCL (I2C)	SCL (I2C)
194	GPIO 196	GPIO 196	210	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
195	GPIO 197	GPIO 197	211	Ground	Ground
196	GPIO 198	GPIO 198	212	GPIO 15 SDA (I2C)	SDA (I2C)
197	GPIO 199	GPIO 199	213	GPIO 9 SCL (I2C)	SCL (I2C)
198	GPIO 200	GPIO 200	214	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
199	GPIO 201	GPIO 201	215	Ground	Ground
200	GPIO 202	GPIO 202	216	GPIO 15 SDA (I2C)	SDA (I2C)
201	GPIO 203	GPIO 203	217	GPIO 9 SCL (I2C)	SCL (I2C)
202	GPIO 204	GPIO 204	218	GPIO 7 GPIO 13 TxD (UART)	TxD (UART)
203	GPIO 205	GPIO 205	219	Ground	Ground
204	GPIO 206	GPIO 206	220	GPIO 15 SDA (I2C)	SDA (I2C)
205	GPIO 207</				



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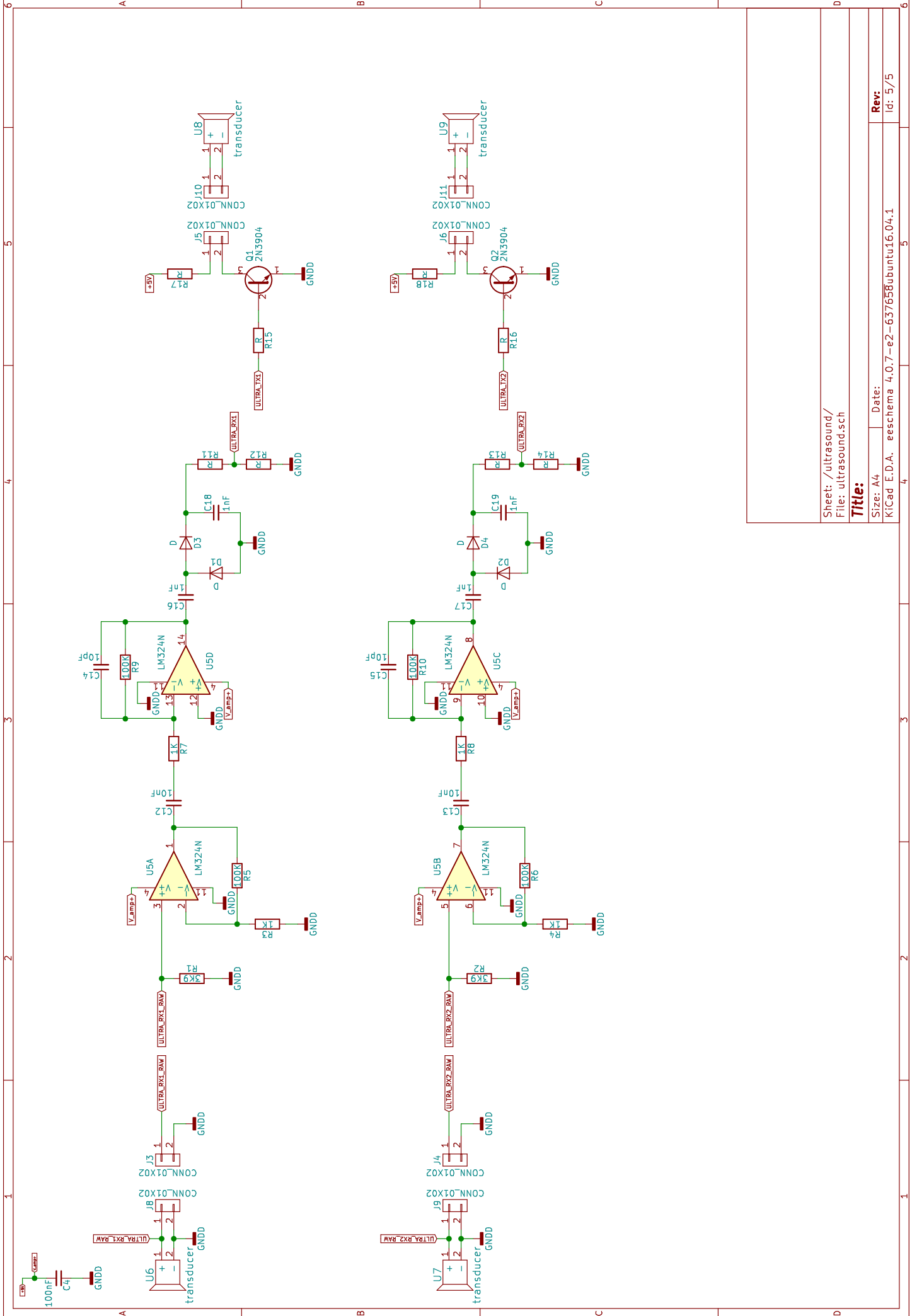
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