

SIGNAL LIGHT DECODER DIY - MASTER

Common anode (positive) version

Direct mode programming (only decoder address!):

- press button on board
- all lights start flashing
- enter the address of the first output on your hand controller (see table 4) and change direction as you command other accessories. The addresses are consecutive.

For other setting connect the decoder to programming track! (table 1)

Table 1

CV1	CV2	Adjustable values	Default	Description
513	1	1 ... 63	1	Decoder address (low bites)
515	3	1 ... 15	15	Maximum luminosity out 1
516	4	1 ... 15	15	Maximum luminosity out 2
517	5	1 ... 15	15	Maximum luminosity out 3
518	6	1 ... 15	15	Maximum luminosity out 4
521	9	0 ... 7	0	Decoder address (high bits)
545	33	1 ... 255	40	Speed of fade effect
546	34	1 ... 255	12	Speed of flashing

CV1 - „Lenz system” - accessory address over 513

CV2 - „Roco system” - accessory address under 255

CV547 - 674: Table 2 and 3 defining the aspects possible:

Aspect (output address) 1 (1+):

CV547: Enabling lights. Indicates that light affects the appearance

CV548: Aspect. Indicates the lights that lit

CV549: Blink. Indicates that the lights blink

CV550: Phase for a blink. For the flashing lights indicate the stage at which light (0:

Phase A, 1: Phase B)

Aspect (output address) 2 (1-):

CV551: Enabling lights. Indicates that light affects the appearance

CV552: Aspect. Indicates the lights that lit

CV553: Blink. Indicates that the lights blink

CV554: Phase for a blink. For the flashing lights indicate the stage at which light (0:

Phase A, 1: Phase B)

For any other light combination and how to program the module download file „Signal light variations”:

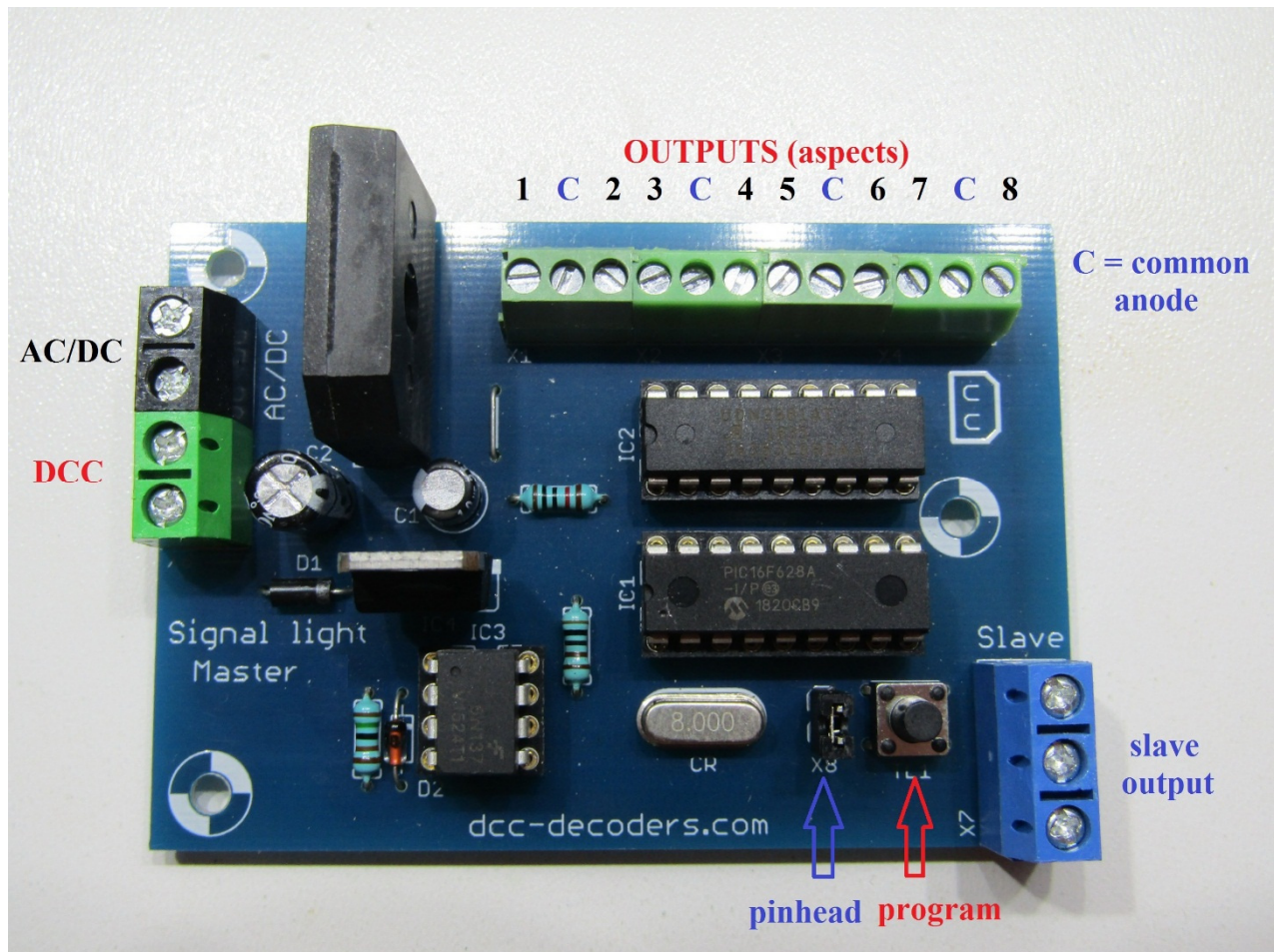
<https://www.dcc-decoders.com/download>

Table 2

CV 547 - 578 (output)	Bit							
	1+ (1)	1- (2)	2+ (3)	2- (4)	3+ (5)	3- (6)	4+ (7)	4- (8)
Multiplier	1	2	4	8	16	32	64	128

Table 3

Aspect (Output)	CV1	CV2	Default value	Description
1+ (1)	547	35	3	Affect to outputs 1+ and 1-
	548	36	1	Light 1+
	549	37	0	No flash
	550	38	0	Phase
1- (2)	551	39	3	Affect to outputs 1+ and 1-
	552	40	2	Light 1-
	553	41	0	No flash
	554	42	0	Phase
2+ (3)	555	43	12	Affect to outputs 2+ and 2-
	556	44	4	Light 2+
	557	45	0	No flash
	558	46	0	Phase
2- (4)	559	47	12	Affect to outputs 2+ and 2-
	560	48	8	Light 2-
	561	49	0	No flash
	562	50	0	Phase
3+ (5)	563	51	48	Affect to outputs 3+ and 3-
	564	52	16	Light 3+
	565	53	0	No flash
	566	54	0	Phase
3- (6)	567	55	48	Affect to outputs 3+ and 3-
	568	56	32	Light 3-
	569	57	0	No flash
	570	58	0	Phase
4+ (7)	571	59	192	Affect to outputs 4+ and 4-
	572	60	64	Light 4+
	573	61	0	No flash
	574	62	0	Phase
4- (8)	575	63	192	Affect to outputs 4+ and 4-
	576	64	128	Light 4-
	577	65	0	No flash
	578	66	0	Phase



JUMPER:

Disconnect if slave module is connected and want to change values in the CV.

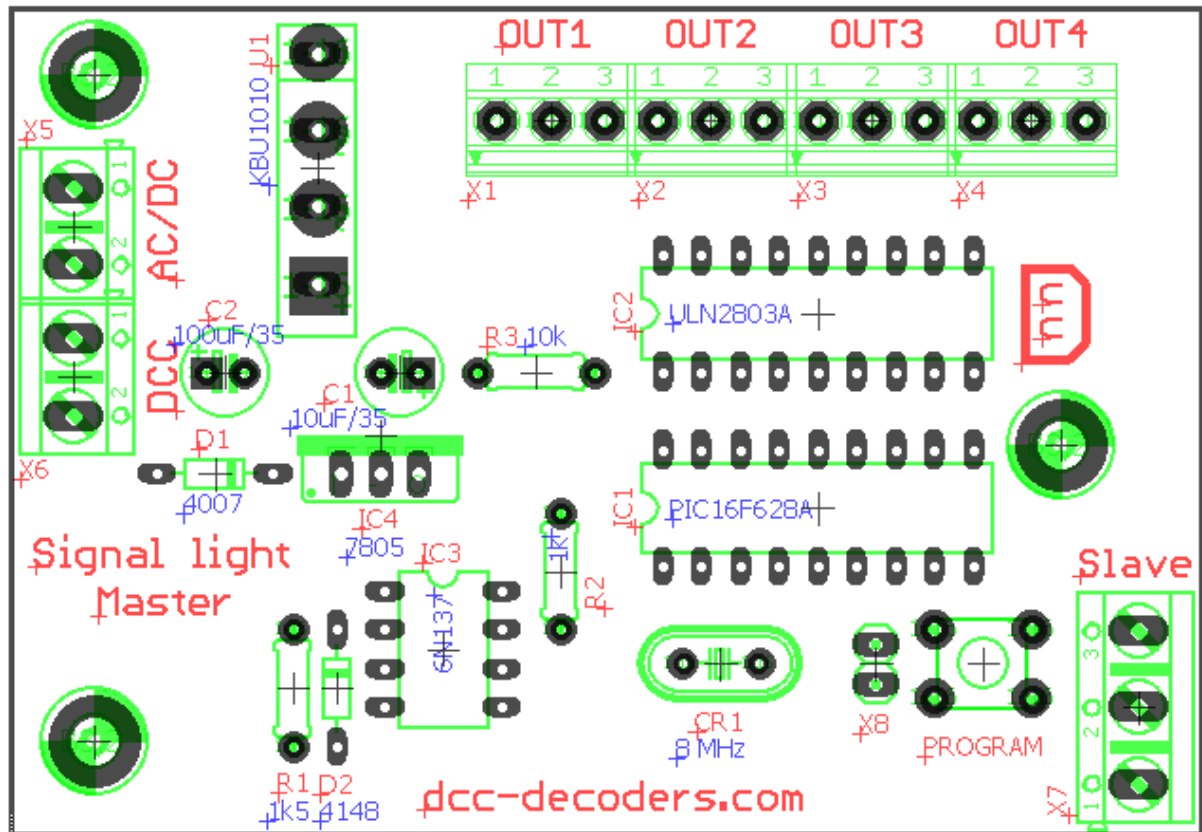
Connect master to Programming track (DCC terminal), remove all Jumpers except module, which you want to program.

If the Jumper is disconnected, you can't modify the CVs or command device!

For any other light combination download file „Signal light variations”:

<https://www.dcc-decoders.com/download>

All settings are the same for both version (common cathode and anode).



IC1	PIC16F628A	1
IC2	ULN2803	1
IC3	6N137	1
IC4	7805	1
IC socket	SOKL08	1
IC socket	SOKL18	2
D1	1N4007	1
D2	1N4148	1
CR1	8MHz	1
C1	10uF/35V	1
C2	100uF/35V	1
TL1	TACT-67N-F	1
R1	1k5	1
R2	1k	1
R3	10k	1
U1	KBU1010	1
X1-X4	TB-3.5-P-3P	4
X5, X6	DG306-5.0-2P11	2
X7	DG306-5.0-3P11	1
X8	2 pinhead + jumper	1
X1-X4	Output 1-4	
X5	Power supply (8-12V AC/ 10-15V DC)	
X6	DCC input	
X7	Output to Slave module	

Table 4

CV 513/ CV 1 *	Outputs no.	CV 513/ CV 1 *	Outputs no.
1	1,2,3,4	33	129,130,131,132
2	5,6,7,8	34	133,134,135,136
3	9,10,11,12	35	137,138,139,140
4	13,14,15,16	36	141,142,143,144
5	17,18,19,20	37	145,146,147,148
6	21,22,23,24	38	149,150,151,152
7	25,26,27,28	39	153,154,155,156
8	29,30,31,32	40	157,158,159,160
9	33,34,35,36	41	161,162,163,164
10	37,38,39,40	42	165,166,167,168
11	41,42,43,44	43	169,170,171,172
12	45,46,47,48	44	173,174,175,176
13	49,50,51,52	45	177,178,179,180
14	53,54,55,56	46	181,182,183,184
15	57,58,59,60	47	185,186,187,188
16	61,62,63,64	48	189,190,191,192
17	65,66,67,68	49	193,194,195,196
18	69,70,71,72	50	197,198,199,200
19	73,74,75,76	51	201,202,203,204
20	77,78,79,80	52	205,206,207,208
21	81,82,83,84	53	209,210,211,212
22	85,86,87,88	54	213,214,215,216
23	89,90,91,92	55	217,218,219,220
24	93,94,95,96	56	221,222,223,224
25	97,98,99,100	57	225,226,227,228
26	101,102,103,104	58	229,230,231,232
27	105,106,107,108	59	233,234,235,236
28	109,110,111,112	60	237,238,239,240
29	113,114,115,116	61	241,242,243,244
30	117,118,119,120	62	245,246,247,248
31	121,122,123,124	63	249,250,251,252
32	125,126,127,128		

*CV9/CV521 = 0