DMX 8-Channel Relay Board

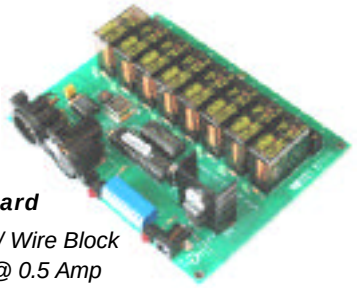
Version 2.0 -2018
WD1493

Overview

The DMX Relay board provides up to 8- programmable Digital Outputs channels when connected to a DMX controlled network.

The board Base Address may be set between 1 and 505.

Mechanical Relays Rated: 10 Amps @ 240V AC.
Board Requires 12 VDC @ 0.5 Amp Supply.



DMX 8-Ch Relay Board

5-Pin XLR Connectors / Wire Block
Power Supply: 12VDC @ 0.5 Amp
5-1/2" W x 5-1/8" L x 1-3/8" H

Setup

Connections

The board requires a 12V DC supply at 0.5 Amps (or 24V DC at 250mA for the 24V version). Connect the relay board to the DMX network using 5-pin XLR connectors. If the DMX Relay board is the last item on the network, place a jumper over the pins marked TRM. This will improve the performance of the DMX network, acting as a DMX Network Termination.

Connect your loads / devices to the relevant volt-free relay outputs 1-8 . (See relay setup and application example pages for details). Each relay is rated at 10 Amps at 240V AC.

Settings - *(See Pages on Control / Addressing)*
Set the base address of Relay Output - No. 1 as follows: (when not in byte mode - see below)
Add the value of the address DIP switches set to the **ON** position to calculate the base address.
Example: DIP switches 16 and 32 set to **ON** position, the base address is now 48, this setting is used to determine the starting address output of Relay 1, in DMX Multiple Channel Control, the next relay would be address 49 for Relay 2, and the next 50 for Relay 3, etc. Use this same process for setting the base address in Single Channel Control but Byte Output Switch 10 is set to ON and a Control Byte Value Number is added to the DMX output for control of all the 8 Relays. (see pages on Addressing for more details on Byte - Binary addressing)

Control Syntax - *(See Pages on Control / Addressing)*
Byte Output switch (DIP Switch 10) set to **OFF**: (Multiple DMX control channels)
The output on a particular channel will go high (ON) when the DMX transmitted value for that channel exceeds 224. (243= OFF, 0% and 244= ON, 100%). Each relay 1-8 has it's own channel assigned with the base number + a relay position number added to determine the address for each relay output.

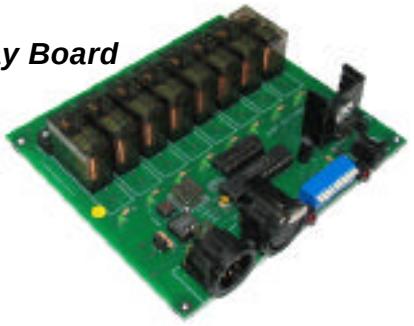
Byte Output switch (DIP Switch 10) set to **ON**: (Single DMX control channel)
The relay outputs act as a binary representation of the data on the base address channel -example, if the base address is set to 33 and the dmx value on channel 33 is 240 (ie 11110000 in binary) then relays 5 through 8 would be energized and relays 1 through 4 off. If the value on channel 33 was 15 (00001111) then relays 1 through 4 would be on and relays 5-8 off. 1 or more relays can be grouped as a base start address and a single binary value added for each relay output control.

DMX LED- **ON** when a suitable DMX signal is being received or a flashing LED when **NO** valid DMX signal stream is being received by the 8-Ch DMX relay board.

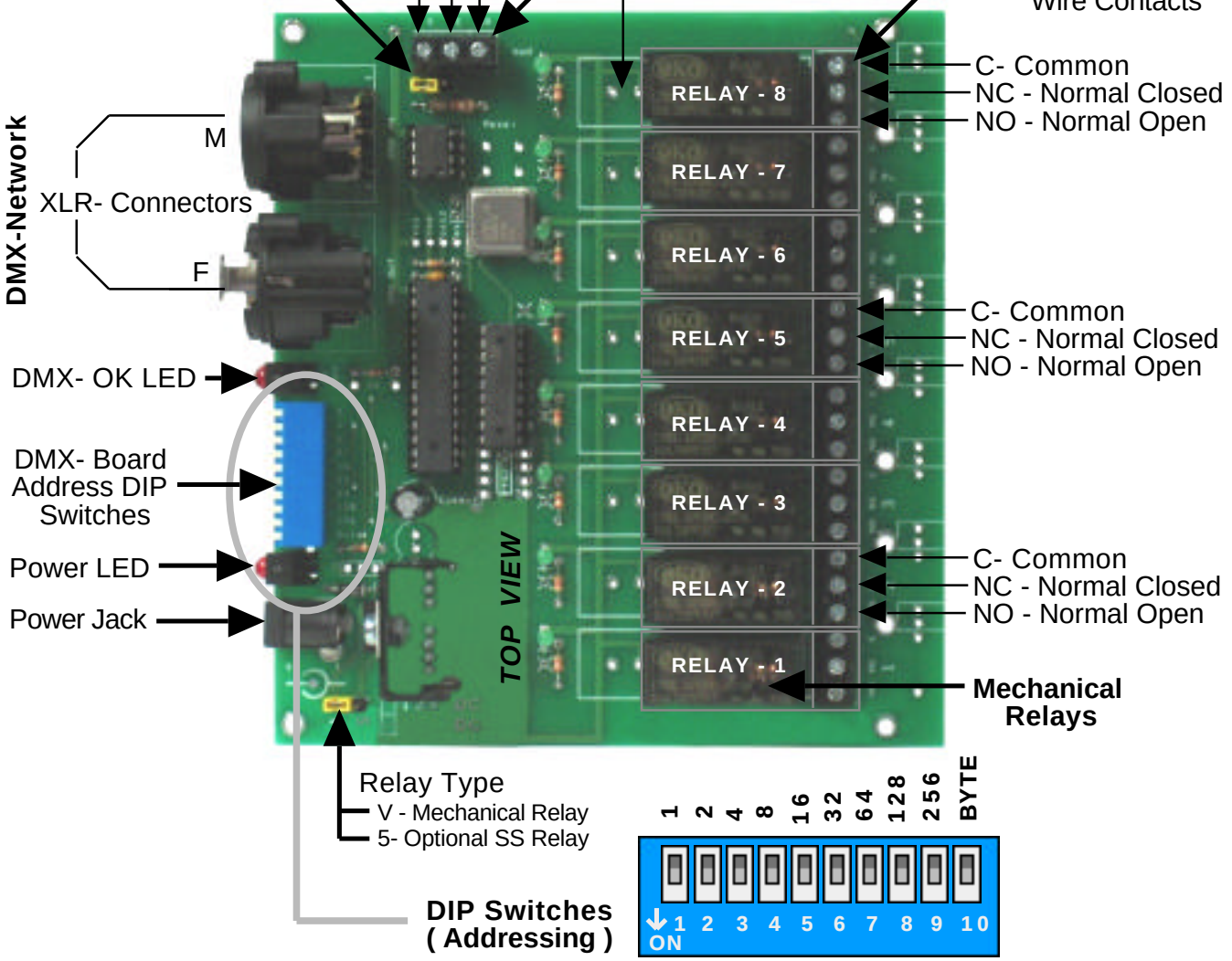
The jumper next to the input power socket should be set to the V position when using mechanical relays and set to the 5 position when using the Solid State Relay Board version. (Default =V)

DMX 8-Channel Relay Board

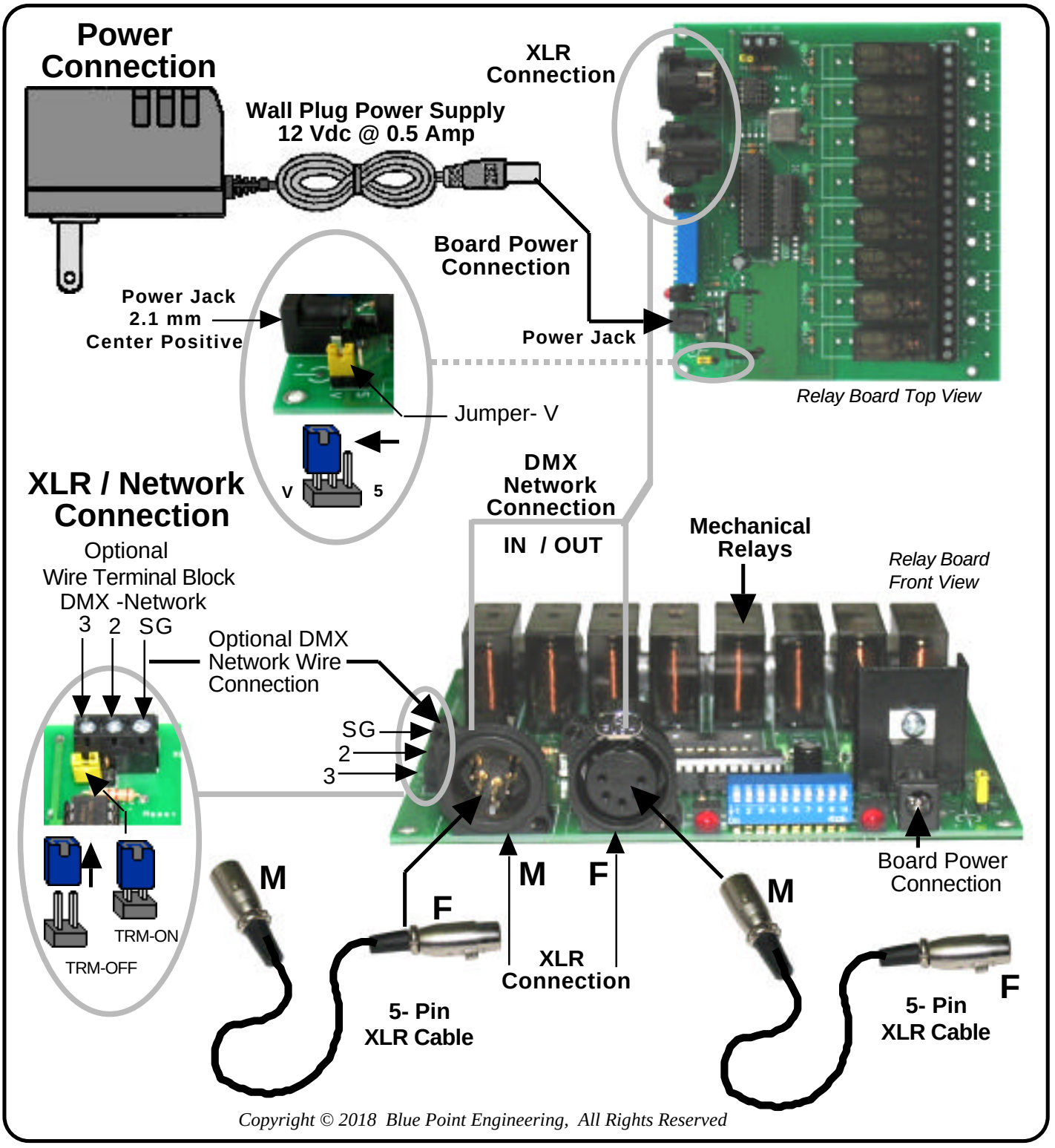
Hook-up



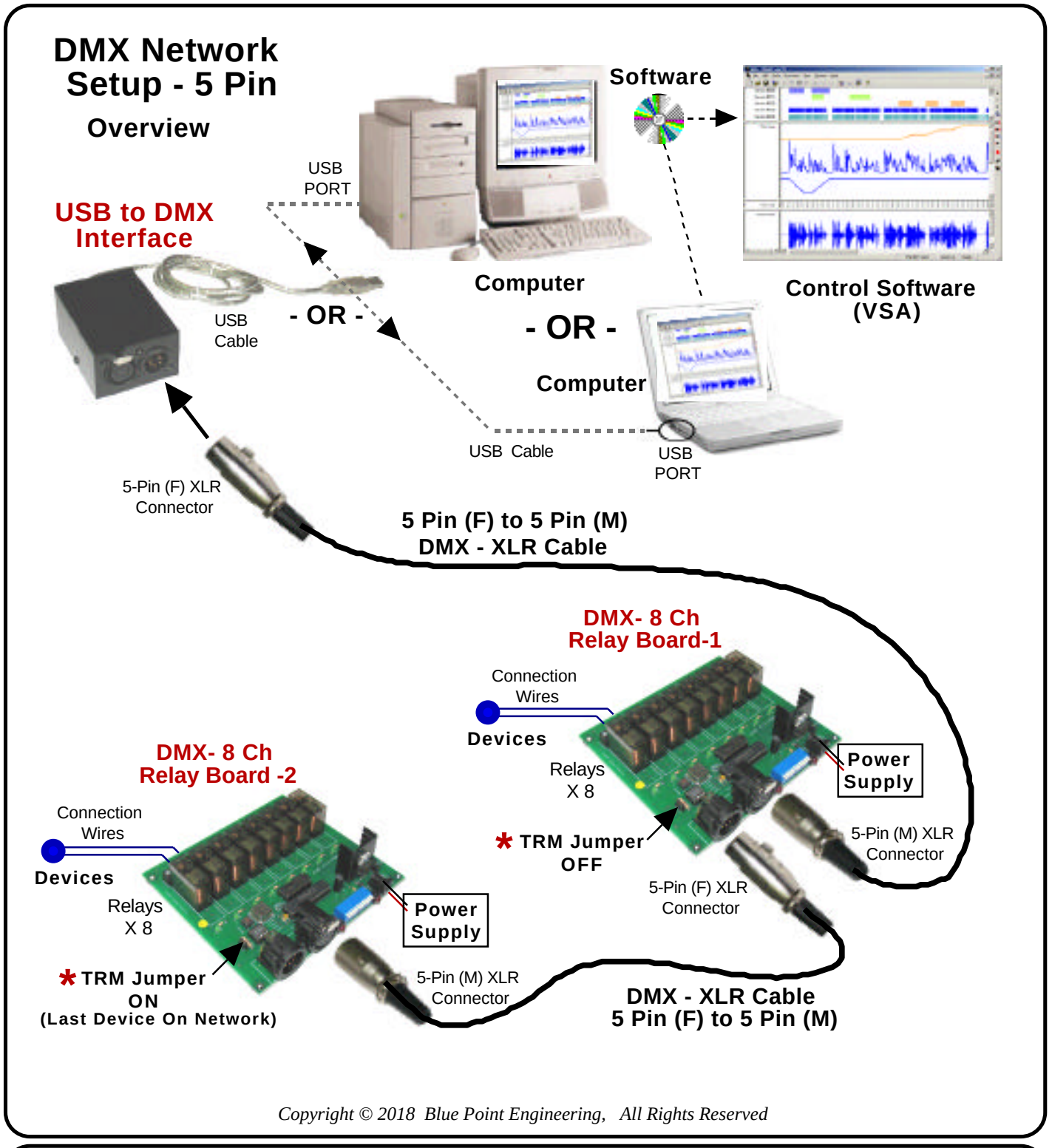
DMX 8-Ch Relay Board



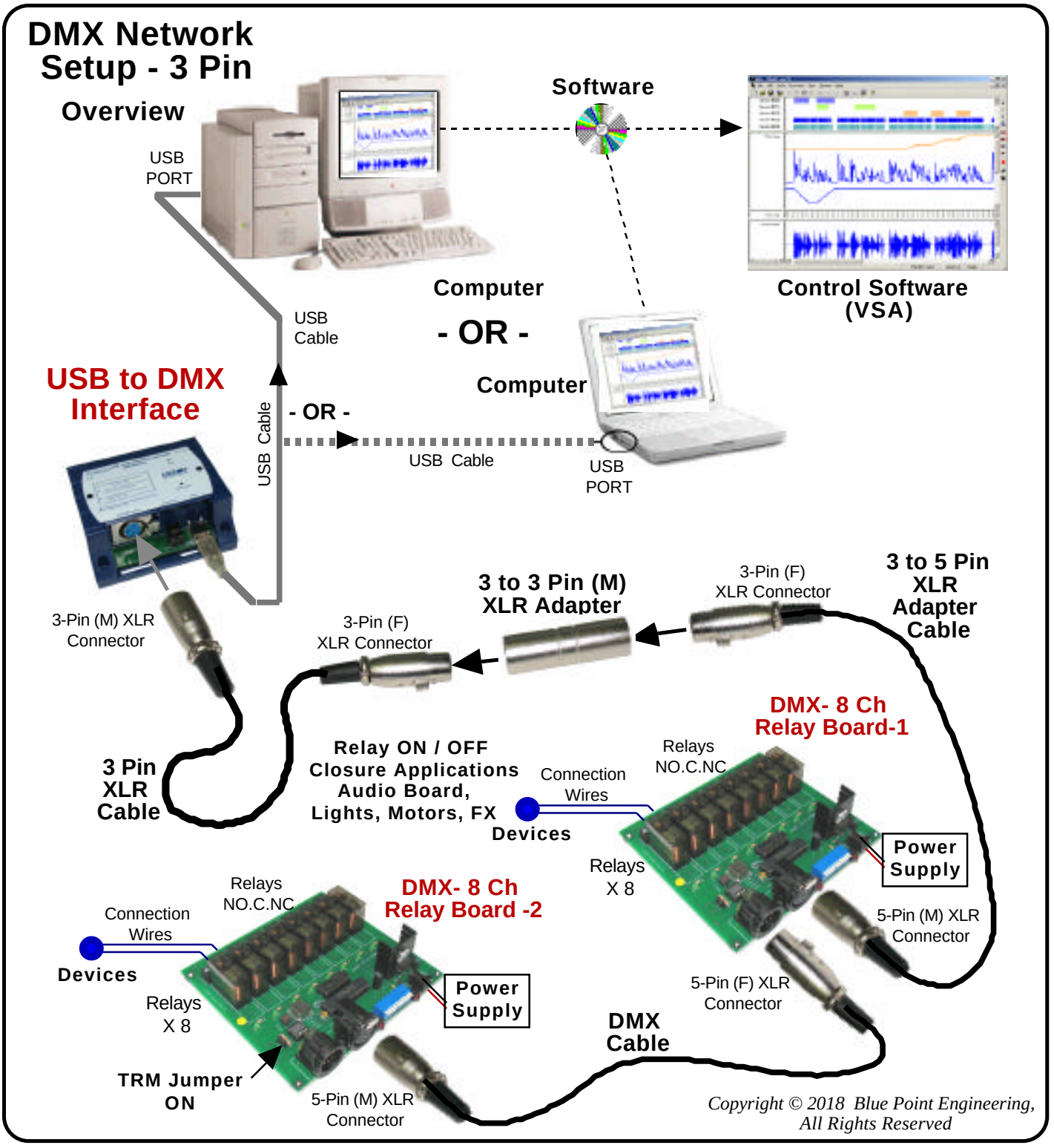
DMX 8-Channel Relay Board



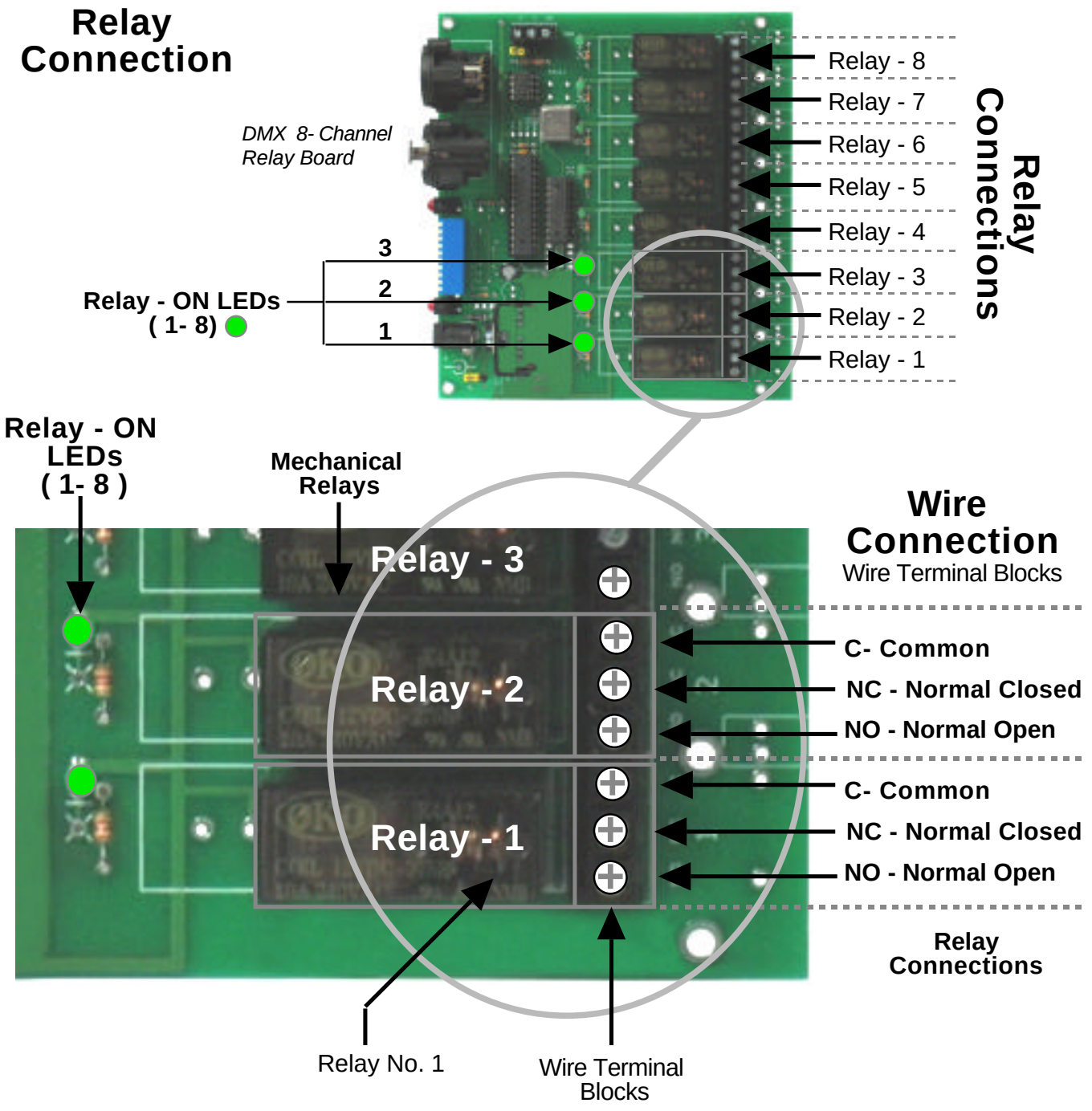
DMX 8-Channel Relay Board



DMX 8-Channel Relay Board



DMX 8-Channel Relay Board



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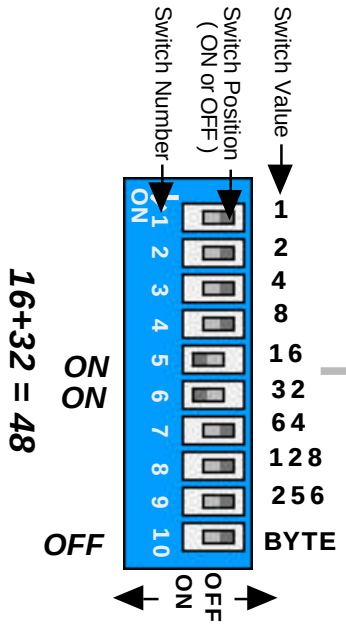
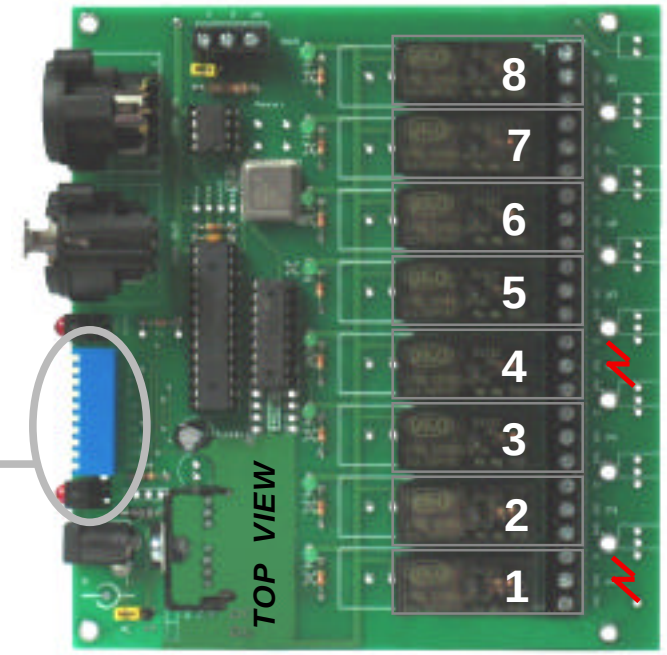
DMX 8-Channel Relay Board

Board Address DMX - Values Byte Mode- OFF



DIP Switches (Addressing)



DMX Value 0-255 = 0-100% DMX Value 244+ =100%

Example

Relay-8
(CH=55)
(Value= 243)
*(Relay = **OFF**)*

Relay-7 = Ch 54

Relay-6 = Ch 53

Relay-5 = Ch 52

Relay-4
(CH=51)
(Value= 244)
*(Relay = **ON**)*

Relay-3 = Ch 50

Relay-2 = Ch 49

Relay-1
(CH=48)
(Value= 244)
*(Relay = **ON**)*

Setting the base address of Relay Outputs when not in byte mode - Switch 10 set to OFF
Add the value of the address DIP switches set to the **ON** position to calculate the base address.
Example(**CH**): DIP switches 5 and 6 set to **ON** position, the base address is now 48, (16+32) this setting is used to determine the starting address output of Relay 1, the next relay would be address 49 for Relay 2, and the next 50 for Relay 3, 51 for Relay 4, 52 for Relay 5, etc.

Control Syntex - (See DMX512 Chart Chart for Values)
Byte Output switch (DIP Switch 10) set to OFF: (Multiple DMX control channels)
The output on a particular channel will go high (ON) when the DMX transmitted value for that channel exceeds 224.
0= OFF (0%) and 244= ON (100%)

Example

DIp Switch 5 and 6 ON = **Base Address 48 = Relay No.1** (Relay 1- Base Address starting at 48)
Byte Output Switch 10 = OFF
Relay 1 **ON** at DMX value 244+
Relay 1 **OFF** at DMX value 243- **RELAY - 1**

DIp Switch 5 and 6 ON = **Base Address 48 + 3 = 51 = Relay No.4** (Relay 1- Base Address Plus next 3 Relays)
Byte Output Switch 10 = OFF
Relay 4 **ON** at DMX value 244+
Relay 4 **OFF** at DMX value 243- **RELAY - 4**

DIp Switch 5 and 6 ON = **Base Address 48 + 7 = 55 = Relay No.8** (Relay 1- Base Address Plus next 7 Relays)
Byte Output Switch 10 = OFF
Relay 8 **ON** at DMX value 244+
Relay 8 **OFF** at DMX value 243- **RELAY - 8**

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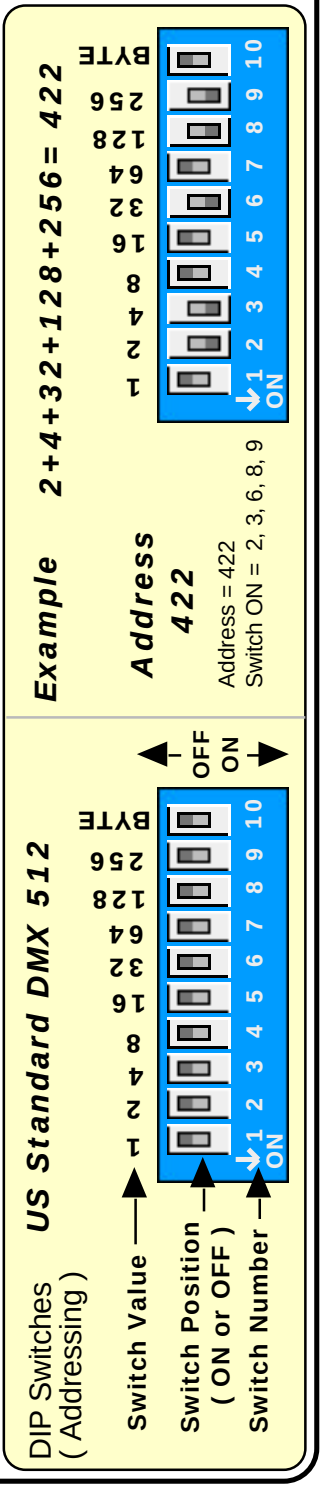
DMX 512 Chart - US Standard

Chart A - US Standard DMX 512

Ch - Switches	Ch - Switches	Ch - Switches	Ch - Switches	Ch - Switches
1 = 1	53 = 1, 3, 5, 6	105 = 1, 4, 6, 7	157 = 1, 3, 4, 5, 8	209 = 1, 5, 7, 8
2 = 2	54 = 2, 3, 5, 6	106 = 2, 4, 6, 7	158 = 2, 3, 4, 5, 8	210 = 2, 5, 7, 8
3 = 1, 2	55 = 1, 2, 3, 5, 6	107 = 1, 2, 4, 6, 7	159 = 1, 2, 3, 4, 5, 8	211 = 1, 2, 5, 7, 8
4 = 3	56 = 4, 5, 6	108 = 3, 4, 6, 7	160 = 6, 8	212 = 3, 5, 7, 8
5 = 1, 3	57 = 1, 4, 5, 6	109 = 1, 3, 4, 6, 7	161 = 1, 6, 8	213 = 1, 3, 5, 7, 8
6 = 2, 3	58 = 2, 4, 5, 6	110 = 2, 3, 4, 6, 7	162 = 2, 6, 8	214 = 2, 3, 5, 7, 8
7 = 1, 2, 3	59 = 1, 2, 4, 5, 6	111 = 1, 2, 3, 4, 6, 7	163 = 1, 2, 6, 8	215 = 1, 2, 3, 5, 7, 8
8 = 4	60 = 3, 4, 5, 6	112 = 5, 6, 7	164 = 3, 6, 8	216 = 4, 5, 7, 8
9 = 1, 4	61 = 1, 3, 4, 5, 6	113 = 1, 5, 6, 7	165 = 1, 3, 6, 8	217 = 1, 4, 5, 7, 8
10 = 2, 4	62 = 2, 3, 4, 5, 6	114 = 2, 5, 6, 7	166 = 2, 3, 6, 8	218 = 2, 4, 5, 7, 8
11 = 1, 2, 4	63 = 1, 2, 3, 4, 5, 6	115 = 1, 2, 5, 6, 7	167 = 1, 2, 3, 6, 8	219 = 1, 2, 4, 5, 7, 8
12 = 3, 4	64 = 7	116 = 3, 5, 6, 7	168 = 4, 6, 8	220 = 3, 4, 5, 7, 8
13 = 1, 3, 4	65 = 1, 7	117 = 1, 3, 5, 6, 7	169 = 1, 4, 6, 8	221 = 1, 3, 4, 5, 7, 8
14 = 2, 3, 4	66 = 2, 7	118 = 2, 3, 5, 6, 7	170 = 2, 4, 6, 8	222 = 2, 3, 4, 5, 7, 8
15 = 1, 2, 3, 4	67 = 1, 2, 7	119 = 1, 2, 3, 5, 6, 7	171 = 1, 2, 4, 6, 8	223 = 1, 2, 3, 4, 5, 7, 8
16 = 5	68 = 3, 7	120 = 4, 5, 6, 7	172 = 3, 4, 6, 8	224 = 6, 7, 8
17 = 1, 5	69 = 1, 3, 7	121 = 1, 4, 5, 6, 7	173 = 1, 3, 4, 6, 8	225 = 1, 6, 7, 8
18 = 2, 5	70 = 2, 3, 7	122 = 2, 4, 5, 6, 7	174 = 2, 3, 4, 6, 8	226 = 2, 6, 7, 8
19 = 1, 2, 5	71 = 1, 2, 3, 7	123 = 1, 2, 4, 5, 6, 7	175 = 1,2, 3, 4, 6, 8	227 = 1, 2, 6, 7, 8
20 = 3, 5	72 = 4, 7	124 = 3, 4, 5, 6, 7	176 = 5, 6, 8	228 = 3, 6, 7, 8
21 = 1, 3, 5	73 = 1, 4, 7	125 = 1, 3, 4, 5, 6, 7	177 = 1, 5, 6, 8	229 = 1, 3, 6, 7, 8
22 = 2, 3, 5	74 = 2, 4, 7	126 = 2, 3, 4, 5, 6, 7	178 = 2, 5, 6, 8	230 = 2, 3, 6, 7, 8
23 = 1, 2, 3, 5	75 = 1, 2, 4, 7	127 = 1, 2, 3, 4, 5, 6, 7	179 = 1, 2, 5, 6, 8	231 = 1, 2, 3, 6, 7, 8
24 = 4, 5	76 = 3, 4, 7	128 = 8	180 = 3, 5, 6, 8	232 = 4, 6, 7, 8
25 = 1, 4, 5	77 = 1, 3, 4, 7	129 = 1, 8	181 = 1, 3, 5, 6, 8	233 = 1, 4, 6, 7, 8
26 = 2, 4, 5	78 = 2, 3, 4, 7	130 = 2, 8	182 = 2, 3, 5, 6, 8	234 = 2, 4, 6, 7, 8
27 = 1, 2, 4, 5	79 = 1, 2, 3, 4, 7	131 = 1, 2, 8	183 = 1, 2, 3, 5, 6, 8	235 = 1, 2, 4, 6, 7, 8
28 = 3, 4, 5	80 = 5, 7	132 = 3, 8	184 = 4, 5, 6, 8	236 = 3, 4, 6, 7, 8
29 = 1, 3, 4, 5	81 = 1, 5, 7	133 = 1, 3, 8	185 = 1, 4, 5, 6, 8	237 = 1, 3, 4, 6, 7, 8
30 = 2, 3, 4, 5	82 = 2, 5, 7	134 = 2, 3, 8	186 = 2, 4, 5, 6, 8	238 = 2, 3, 4, 6, 7, 8
31 = 1, 2, 3, 4, 5	83 = 1, 2, 5, 7	135 = 1, 2, 3, 8	187 = 1, 2, 4, 5, 6, 8	239 = 1, 2, 3, 4, 6, 7, 8
32 = 6	84 = 3, 5, 7	136 = 4, 8	188 = 3, 4, 5, 6, 8	240 = 5, 6, 7, 8
33 = 1, 6	85 = 1, 3, 5, 7	137 = 1, 4, 8	189 = 1, 3, 4, 5, 6, 8	241 = 1, 5, 6, 7, 8
34 = 2, 6	86 = 2, 3, 5, 7	138 = 2, 4, 8	190 = 2, 3, 4, 5, 6, 8	242 = 2, 5, 6, 7, 8
35 = 1, 2, 6	87 = 1, 2, 3, 5, 7	139 = 1, 2, 4, 8	191 = 1, 2, 3, 4, 5, 6, 8	243 = 1, 2, 5, 6, 7, 8
36 = 3, 6	88 = 4, 5, 7	140 = 3, 4, 8	192 = 7, 8	244 = 3, 5, 6, 7, 8
37 = 1, 3, 6	89 = 1, 4, 5, 7	141 = 1, 3, 4, 8	193 = 1, 7, 8,	245 = 1, 3, 5, 6, 7, 8
38 = 2, 3, 6	90 = 2, 4, 5, 7	142 = 2, 3, 4, 8	194 = 2, 7, 8,	246 = 2, 3, 5, 6, 7, 8
39 = 1, 2, 3, 6	91 = 1, 2, 4, 5, 7	143 = 1, 2, 3, 4, 8	195 = 1, 2, 7, 8	247 = 1, 2, 3, 5, 6, 7, 8
40 = 4, 6	92 = 3, 4, 5, 7	144 = 5, 8	196 = 3, 7, 8	248 = 4, 5, 6, 7, 8
41 = 1, 4, 6	93 = 1, 3, 4, 5, 7	145 = 1, 5, 8	197 = 1, 3, 7, 8	249 = 1, 4, 5, 6, 7, 8
42 = 2, 4, 6	94 = 2, 3, 4, 5, 7	146 = 2, 5, 8	198 = 2, 3, 7, 8	250 = 2, 4, 5, 6, 7, 8
43 = 1, 2, 4, 6	95 = 1, 2, 3, 4, 5, 7	147 = 1, 2, 5, 8	199 = 1, 2, 3, 7, 8	251 = 1, 2, 4, 5, 6, 7, 8
44 = 3, 4, 6,	96 = 6, 7	148 = 3, 5, 8	200 = 4, 7, 8,	252 = 3, 4, 5, 6, 7, 8
45 = 1, 3, 4, 6	97 = 1, 6, 7	149 = 1, 3, 5, 8	201 = 1, 4, 7, 8	253 = 1, 3, 4, 5, 6, 7, 8
46 = 2, 3, 4, 6	98 = 2, 6, 7	150 = 2, 3, 5, 8	202 = 2, 4, 7, 8	254 = 2, 3, 4, 5, 6, 7, 8
47 = 1, 2, 3, 4, 6	99 = 1, 2, 6, 7	151 = 1, 2, 3, 5, 8	203 = 1, 2, 4, 7, 8	255 = 1, 2, 3, 4, 5, 6, 7, 8
48 = 5, 6	100 = 3, 6, 7	152 = 4, 5, 8	204 = 3, 4, 7, 8	256 = 9
49 = 1, 5, 6	101 = 1, 3, 6, 7	153 = 1, 4, 5, 8	205 = 1, 3, 4, 7, 8	257 = 1, 9
50 = 2, 5, 6	102 = 2, 3, 6, 7	154 = 2, 4, 5, 8	206 = 2, 3, 4, 7, 8	258 = 2, 9
51 = 1, 2, 5, 6	103 = 1, 2, 3, 6, 7	155 = 1, 2, 4, 5, 8	207 = 1, 2, 3, 4, 7, 8	259 = 1, 2, 9
52 = 3, 5, 6	104 = 4, 6, 7	156 = 3, 4, 5, 8	208 = 5, 7, 8	260 = 3, 9

Ch - Switches	Ch - Switches	Ch - Switches	Ch - Switches	Ch - Switches
261 = 1, 3, 9	322 = 2, 7, 9	383 = 1, 2, 3, 4, 5, 6, 7, 9	444 = 3, 4, 5, 6, 8, 9	505 = 1, 4, 5, 6, 7, 8, 9
262 = 2, 3, 9	323 = 1, 2, 7, 9	384 = 8, 9	445 = 1, 3, 4, 5, 6, 8, 9	506 = 2, 4, 5, 6, 7, 8, 9
263 = 1, 2, 3, 9	324 = 3, 7, 9	385 = 1, 8, 9	446 = 2, 3, 4, 5, 6, 8, 9	507 = 1, 2, 4, 5, 6, 7, 8, 9
264 = 4, 9	325 = 1, 3, 7, 9	386 = 2, 8, 9	447 = 1, 2, 3, 4, 5, 6, 8, 9	508 = 3, 4, 5, 6, 7, 8, 9
265 = 1, 4, 9	326 = 2, 3, 7, 9	387 = 1, 2, 8, 9	448 = 7, 8, 9	509 = 1, 3, 4, 5, 6, 7, 8, 9
266 = 2, 4, 9	327 = 1, 2, 3, 7, 9	388 = 3, 8, 9	449 = 1, 7, 8, 9	510 = 2, 3, 4, 5, 6, 7, 8, 9
267 = 1, 2, 4, 9	328 = 4, 7, 9	389 = 1, 3, 8, 9	450 = 2, 7, 8, 9	511 = 1, 2, 3, 4, 5, 6, 7, 8, 9
268 = 3, 4, 9	329 = 1, 4, 7, 9	390 = 2, 3, 8, 9	451 = 1, 2, 7, 8, 9	512 = 0
269 = 1, 3, 4, 9	330 = 2, 4, 7, 9	391 = 1, 2, 3, 8, 9	452 = 3, 7, 8, 9	
270 = 2, 3, 4, 9	331 = 1, 2, 4, 7, 9	392 = 4, 8, 9	453 = 1, 3, 7, 8, 9	
271 = 1, 2, 3, 4, 9	332 = 3, 4, 7, 9	393 = 1, 4, 8, 9	454 = 2, 3, 7, 8, 9	
272 = 5, 9	333 = 1, 3, 4, 7, 9	394 = 2, 4, 8, 9	455 = 1, 2, 3, 7, 8, 9	
273 = 1, 5, 9	334 = 2, 3, 4, 7, 9	395 = 1, 2, 4, 8, 9	456 = 4, 7, 8, 9	
274 = 2, 5, 9	335 = 1, 2, 3, 4, 7, 9	396 = 3, 4, 8, 9	457 = 1, 4, 7, 8, 9	
275 = 1, 2, 5, 9	336 = 5, 7, 9	397 = 1, 3, 4, 8, 9	458 = 2, 4, 7, 8, 9	
276 = 3, 5, 9	337 = 1, 5, 7, 9	398 = 2, 3, 4, 8, 9	459 = 1, 2, 4, 7, 8, 9	
277 = 1, 3, 5, 9	338 = 2, 5, 7, 9	399 = 1, 2, 3, 4, 8, 9	460 = 3, 4, 7, 8, 9	
278 = 2, 3, 5, 9	339 = 1, 2, 5, 7, 9	400 = 5, 8, 9	461 = 1, 3, 4, 7, 8, 9	
279 = 1, 2, 3, 5, 9	340 = 3, 5, 7, 9	401 = 1, 5, 8, 9	462 = 2, 3, 4, 7, 8, 9	
280 = 4, 5, 9	341 = 1, 3, 5, 7, 9	402 = 2, 5, 8, 9	463 = 1, 2, 3, 4, 7, 8, 9	
281 = 1, 4, 5, 9	342 = 2, 3, 5, 7, 9	403 = 1, 2, 5, 8, 9	464 = 5, 7, 8, 9	
282 = 2, 4, 5, 9	343 = 1, 2, 3, 5, 7, 9	404 = 3, 5, 8, 9	465 = 1, 5, 7, 8, 9	
283 = 1, 2, 4, 5, 9	344 = 4, 5, 7, 9	405 = 1, 3, 5, 8, 9	466 = 2, 5, 7, 8, 9	
284 = 3, 4, 5, 9	345 = 1, 4, 5, 7, 9	406 = 2, 3, 5, 8, 9	467 = 1, 2, 5, 7, 8, 9	
285 = 1, 3, 4, 5, 9	346 = 2, 4, 5, 7, 9	407 = 1, 2, 3, 5, 8, 9	468 = 3, 5, 7, 8, 9	
286 = 2, 3, 4, 5, 9	347 = 1, 2, 4, 5, 7, 9	408 = 4, 5, 8, 9	469 = 1, 3, 5, 7, 8, 9	
287 = 1, 2, 3, 4, 5, 9	348 = 3, 4, 5, 7, 9	409 = 1, 4, 5, 8, 9	470 = 2, 3, 5, 7, 8, 9	
288 = 6, 9	349 = 1, 3, 4, 5, 7, 9	410 = 2, 4, 5, 8, 9	471 = 1, 2, 3, 5, 7, 8, 9	
289 = 1, 6, 9	350 = 2, 3, 4, 5, 7, 9	411 = 1, 2, 4, 5, 8, 9	472 = 4, 5, 7, 8, 9	
290 = 2, 6, 9	351 = 1, 2, 3, 4, 5, 7, 9	412 = 3, 4, 5, 8, 9	473 = 1, 4, 5, 7, 8, 9	
291 = 1, 2, 6, 9	352 = 6, 7, 9	413 = 1, 3, 4, 5, 8, 9	474 = 2, 4, 5, 7, 8, 9	
292 = 3, 6, 9	353 = 1, 6, 7, 9	414 = 2, 3, 4, 5, 8, 9	475 = 1, 2, 4, 5, 7, 8, 9	
293 = 1, 3, 6, 9	354 = 2, 6, 7, 9	415 = 1, 2, 3, 4, 5, 8, 9	476 = 3, 4, 5, 7, 8, 9	
294 = 2, 3, 6, 9	355 = 1, 2, 6, 7, 9	416 = 6, 8, 9	477 = 1, 3, 4, 5, 7, 8, 9	
295 = 1, 2, 3, 6, 9	356 = 3, 6, 7, 9	417 = 1, 6, 8, 9	478 = 2, 3, 4, 5, 7, 8, 9	
296 = 4, 6, 9	357 = 1, 3, 6, 7, 9	418 = 2, 6, 8, 9	479 = 1, 2, 3, 4, 5, 7, 8, 9	
297 = 1, 4, 6, 9	358 = 2, 3, 6, 7, 9	419 = 1, 2, 6, 8, 9	480 = 6, 7, 8, 9	
298 = 2, 4, 6, 9	359 = 1, 2, 3, 6, 7, 9	420 = 3, 6, 8, 9	481 = 1, 6, 7, 8, 9	
299 = 1, 2, 4, 6, 9	360 = 4, 6, 7, 9	421 = 1, 3, 6, 8, 9	482 = 2, 6, 7, 8, 9	
300 = 3, 4, 6, 9	361 = 1, 4, 6, 7, 9	422 = 2, 3, 6, 8, 9	483 = 1, 2, 6, 7, 8, 9	
301 = 1, 3, 4, 6, 9	362 = 2, 4, 6, 7, 9	423 = 1, 2, 3, 6, 8, 9	484 = 3, 6, 7, 8, 9	
302 = 2, 3, 4, 6, 9	363 = 1, 2, 4, 6, 7, 9	424 = 4, 6, 8, 9	485 = 1, 3, 6, 7, 8, 9	
303 = 1, 2, 3, 4, 6, 9	364 = 3, 4, 6, 7, 9	425 = 1, 4, 6, 8, 9	486 = 2, 3, 6, 7, 8, 9	
304 = 5, 6, 9	365 = 1, 3, 4, 6, 7, 9	426 = 2, 4, 6, 8, 9	487 = 1, 2, 3, 6, 7, 8, 9	
305 = 1, 5, 6, 9	366 = 2, 3, 4, 6, 7, 9	427 = 1, 2, 4, 6, 8, 9	488 = 4, 6, 7, 8, 9	
306 = 2, 5, 6, 9	367 = 1, 2, 3, 4, 6, 7, 9	428 = 3, 4, 6, 8, 9	489 = 1, 4, 6, 7, 8, 9	
307 = 1, 2, 5, 6, 9	368 = 5, 6, 7, 9	429 = 1, 3, 4, 6, 8, 9	490 = 2, 4, 6, 7, 8, 9	
308 = 3, 5, 6, 9	369 = 1, 5, 6, 7, 9	430 = 2, 3, 4, 6, 8, 9	491 = 1, 2, 4, 6, 7, 8, 9	
309 = 1, 3, 5, 6, 9	370 = 2, 5, 6, 7, 9	431 = 1, 2, 3, 4, 6, 8, 9	492 = 3, 4, 6, 7, 8, 9	
310 = 2, 3, 5, 6, 9	371 = 1, 2, 5, 6, 7, 9	432 = 5, 6, 8, 9	493 = 1, 3, 4, 6, 7, 8, 9	
311 = 1, 2, 3, 5, 6, 9	372 = 3, 5, 6, 7, 9	433 = 1, 5, 6, 8, 9	494 = 2, 3, 4, 6, 7, 8, 9	
312 = 4, 5, 6, 9	373 = 1, 3, 5, 6, 7, 9	434 = 2, 5, 6, 8, 9	495 = 1, 2, 3, 4, 6, 7, 8, 9	
313 = 1, 4, 5, 6, 9	374 = 2, 3, 5, 6, 7, 9	435 = 1, 2, 5, 6, 8, 9	496 = 5, 6, 7, 8, 9,	
314 = 2, 4, 5, 6, 9	375 = 1, 2, 3, 5, 6, 7, 9	436 = 3, 5, 6, 8, 9	497 = 1, 5, 6, 7, 8, 9	
315 = 1, 2, 4, 5, 6, 9	376 = 4, 5, 6, 7, 9	437 = 1, 3, 5, 6, 8, 9	498 = 2, 5, 6, 7, 8, 9	
316 = 3, 4, 5, 6, 9	377 = 1, 4, 5, 6, 7, 9	438 = 2, 3, 5, 6, 8, 9	499 = 1, 2, 5, 6, 7, 8, 9	
317 = 1, 3, 4, 5, 6, 9	378 = 2, 4, 5, 6, 7, 9	439 = 1, 2, 3, 5, 6, 8, 9	500 = 3, 5, 6, 7, 8, 9	
318 = 2, 3, 4, 5, 6, 9	379 = 1, 2, 4, 5, 6, 7, 9	440 = 4, 5, 6, 8, 9	501 = 1, 3, 5, 6, 7, 8, 9	
329 = 1, 2, 3, 4, 5, 6, 9	380 = 3, 4, 5, 6, 7, 9	441 = 1, 4, 5, 6, 8, 9	502 = 2, 3, 5, 6, 7, 8, 9	
320 = 7, 9	381 = 1, 3, 4, 5, 6, 7, 9	442 = 2, 4, 5, 6, 8, 9	503 = 1, 2, 3, 5, 6, 7, 8, 9	
321 = 1, 7, 9	382 = 2, 3, 4, 5, 6, 7, 9	443 = 1, 2, 4, 5, 6, 8, 9	504 = 4, 5, 6, 7, 8, 9	



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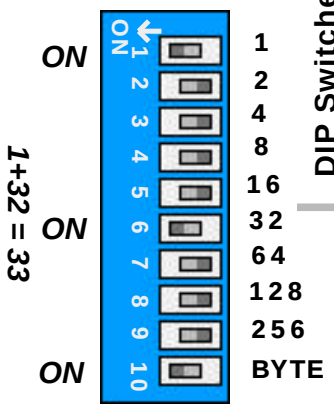
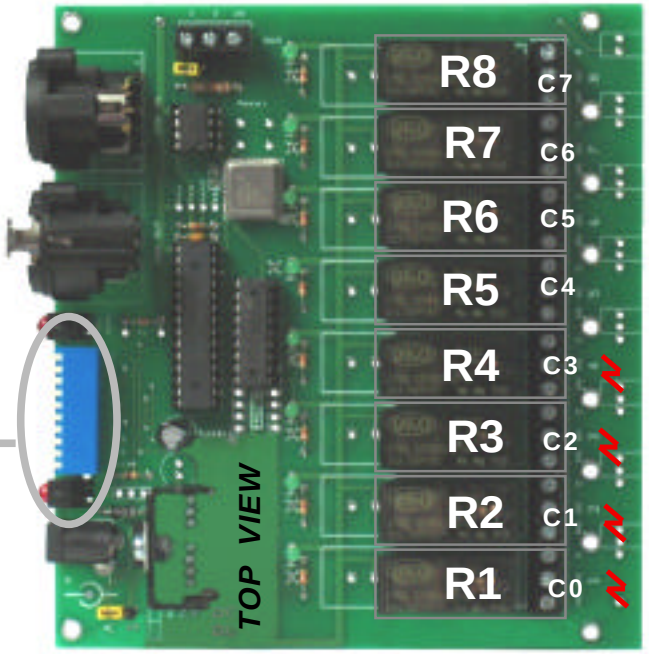
DMX 8-Channel Relay Board

Board Address Binary Value Byte Mode - ON





Example

Relay-8 C7
Relay-7 C6
Relay-6 C5
Relay-5 C4
Relay-4 C3
Relay-3 C2
Relay-2 C1
Relay-1 C0

(CH=33) (Value= 15) Relay
5 = OFF
6 = OFF
7 = OFF
8 = OFF

(CH=33) (Value= 15) Relay
1 = ON
2 = ON
3 = ON
4 = ON

Binary Value = 15
00001111

Setting the base address of Relay Outputs when in byte mode - Switch 10 set to ON
Add the value of the address DIP switches set to the **ON** position to calculate the base address.
Example: DIP switches 6 and 1 set to **ON** position, the base address is now 33. (Single DMX control channel)

Control Syntex - (See Binary Chart for Values)

The DMX output values now act as a binary representation of the data on the base address channel. Example, if the **base address is set to 33** and the **value (Binary) on DMX channel 33 is 240**
(Example: 11110000 in binary) then relays 5 through 8 would be energised and relays 1 through 4 OFF.

Example RELAY - 1-4 =ON, 5-8 =OFF

If the **base address is set to 33** and the **dmx value (Binary) on DMX channel 33 is15** then relays 1 through 4 would be **ON** and relays 5-8 **OFF**.

R8	R7	R6	R5	R4	R3	R2	R1
0	0	0	0	1	1	1	1

Binary Value

RELAY - 1,3,7 =ON, 2,4,5,6,8 =OFF
If the **base address is set to 33** and the **dmx value (Binary) on DMX channel 33 is 162** (**10100010**) then relays 1,3,7 would be **ON** and relays 2,4,5,6,8 **OFF**.

RELAY - 2,4,6,8 =ON, 1,3,5,7 =OFF
If the **base address is set to 33** and the **dmx value (Binary) on DMX channel 33 is 85** (**01010101**) then relays 2,4,6,8 would be **ON** and relays 1,3,5,7 **OFF**.

RELAY - 1-8 =ALL ON
If the **base address is set to 33** and the **dmx value (Binary) on DMX channel 33 is 255** (**11111111**) then relays 1 through 8 would be **ON**.

RELAYS - 1-8 =All OFF
If the **base address is set to 33** and the **dmx value (Binary) on DMX channel 33 is 0** (**00000000**) then relays 1 through 8 would be **OFF**.

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Binary Value Chart

C7	C6	C5	C4	C3	C2	C1	C0	Port / Channel
128	64	32	16	8	4	2	1	Decimal Value

CH 7-0 *76543210*	Digit
00000000	= **0**
00000001	= **1**
00000010	= **2**
00000011	= 3
00000100	= **4**
00000101	= 5
00000110	= 6
00000111	= 7
00001000	= **8**
00001001	= 9
00001010	= 10
00001011	= 11
00001100	= 12
00001101	= 13
00001110	= 14
00001111	= 15
00010000	= **16**
00010001	= 17
00010010	= 18
00010011	= 19
00010100	= 20
00010101	= 21
00010110	= 22
00010111	= 23
00011000	= 24
00011001	= 25
00011010	= 26
00011011	= 27
00011100	= 28
00011101	= 29
00011110	= 30
00011111	= 31
00100000	= **32**
00100001	= 33
00100010	= 34
00100011	= 35
00100100	= 36
00100101	= 37
00100110	= 38
00100111	= 39
00101000	= 40
00101001	= 41
00101010	= 42
00101011	= 43
00101100	= 44
00101101	= 45
00101110	= 46
00101111	= 47
00110000	= 48
00110001	= 49
00110010	= 50

CH 7-0 *76543210*	Digit
00110011	= 51
00110100	= 52
00110101	= 53
00110110	= 54
00110111	= 55
00111000	= 56
00111001	= 57
00111010	= 58
00111011	= 59
00111100	= 60
00111101	= 61
00111110	= 62
00111111	= 63
01000000	= **64**
01000001	= 65
01000010	= 66
01000011	= 67
01000100	= 68
01000101	= 69
01000110	= 70
01000111	= 71
01001000	= 72
01001001	= 73
01001010	= 74
01001011	= 75
01001100	= 76
01001101	= 77
01001110	= 78
01001111	= 79
01010000	= 80
01010001	= 81
01010010	= 82
01010011	= 83
01010100	= 84
01010101	= 85
01010110	= 86
01010111	= 87
01011000	= 88
01011001	= 89
01011010	= 90
01011011	= 91
01011100	= 92
01011101	= 93
01011110	= 94
01011111	= 95
01100000	= 96
01100001	= 97
01100010	= 98
01100011	= 99
01100100	= 100
01100101	= 101

CH 7-0 *76543210*	Digit
01100110	= 102
01100111	= 103
01101000	= 104
01101001	= 105
01101010	= 106
01101011	= 107
01101100	= 108
01101101	= 109
01101110	= 110
01101111	= 111
01110000	= 112
01110001	= 113
01110010	= 114
01110011	= 115
01110100	= 116
01110101	= 117
01110110	= 118
01110111	= 119
01111000	= 120
01111001	= 121
01111010	= 122
01111011	= 123
01111100	= 124
01111101	= 125
01111110	= 126
01111111	= 127
10000000	=**128**
10000001	= 129
10000010	= 130
10000011	= 131
10000100	= 132
10000101	= 133
10000110	= 134
10000111	= 135
10001000	= 136
10001001	= 137
10001010	= 138
10001011	= 139
10001100	= 140
10001101	= 141
10001110	= 142
10001111	= 143
10010000	= 144
10010001	= 145
10010010	= 146
10010011	= 147
10010100	= 148
10010101	= 149
10010110	= 150
10010111	= 151
10011000	= 152

CH 7-0 *76543210*	Digit
10011001	= 153
10011010	= 154
10011011	= 155
10011100	= 156
10011101	= 157
10011110	= 158
10011111	= 159
10100000	= 160
10100001	= 161
10100010	= 162
10100011	= 163
10100100	= 164
10100101	= 165
10100110	= 166
10100111	= 167
10101000	= 168
10101001	= 169
10101010	= 170
10101011	= 171
10001100	= 172
10101101	= 173
10101110	= 174
10101111	= 175
10110000	= 176
10110001	= 177
10110010	= 178
10110011	= 179
10110100	= 180
10110101	= 181
10110110	= 182
10110111	= 183
10111000	= 184
10111001	= 185
10111010	= 186
10111011	= 187
10111100	= 188
10111101	= 189
10111110	= 190
10111111	= 191
11000000	= 192
11000001	= 193
11000010	= 194
11000011	= 195
11000100	= 196
11000101	= 197
11000110	= 198
11000111	= 199
11001000	= 200
11001001	= 201
11001010	= 202
11001011	= 203

CH 7-0 *76543210*	Digit
11001100	= 204
11001101	= 205
11001110	= 206
11001111	= 207
11010000	= 208
11010001	= 209
11010010	= 210
11010011	= 211
11010100	= 212
11010101	= 213
11010110	= 214
11010111	= 215
11011000	= 216
11011001	= 217
11011010	= 218
11011011	= 219
11011100	= 220
11011101	= 221
11011110	= 222
11011111	= 223
11100000	= 224
11100001	= 225
11100010	= 226
11100011	= 227
11100100	= 228
11100101	= 229
11100110	= 230
11100111	= 231
11101000	= 232
11101001	= 233
11101010	= 234
11101011	= 235
11101100	= 236
11101101	= 237
11101110	= 238
11101111	= 239
11110000	= 240
11110001	= 241
11110010	= 242
11110011	= 243
11110100	= 244
11110101	= 245
11110110	= 246
11110111	= 247
11111000	= 248
11111001	= 249
11111010	= 250
11111011	= 251
11111100	= 252
11111101	= 253
11111110	= 254
11111111	=**255**

1 = Port / Channel **ON**
0 = Port / Channel **OFF**

0 = All Ports / Channels **OFF**
255 = All Ports / Channels **ON**

00000000
76543210
Port / Ch Numbering

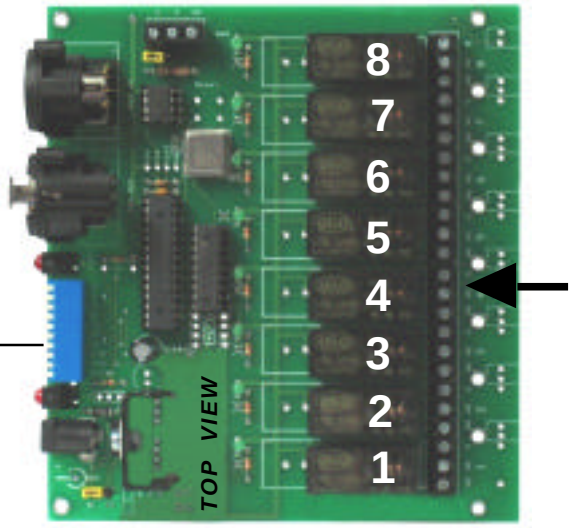
Version 1.0
2009

DMX 8-Channel Relay Board

	CHANNELS 7-0 or RELAYS 8-1								
	R8	R7	R6	R5	R4	R3	R2	R1	DMX - Relay
0=OFF - 1=ON	0 or1	0 or1	0 or1	0 or1	0 or1	0 or1	0 or1	0 or1	Binary Value
	C7	C6	C5	C4	C3	C2	C1	C0	Channel / Port
	128	64	32	16	8	4	2	1	Decimal Value

Channels / Ports Binary Action	*Binary Value*
0= Channel / Port / Relay OFF 1= Channel / Port / Relay ON	0 = All Channels / Ports OFF 255 = All Channels / Ports ON

DMX 8- Ch Relay Board

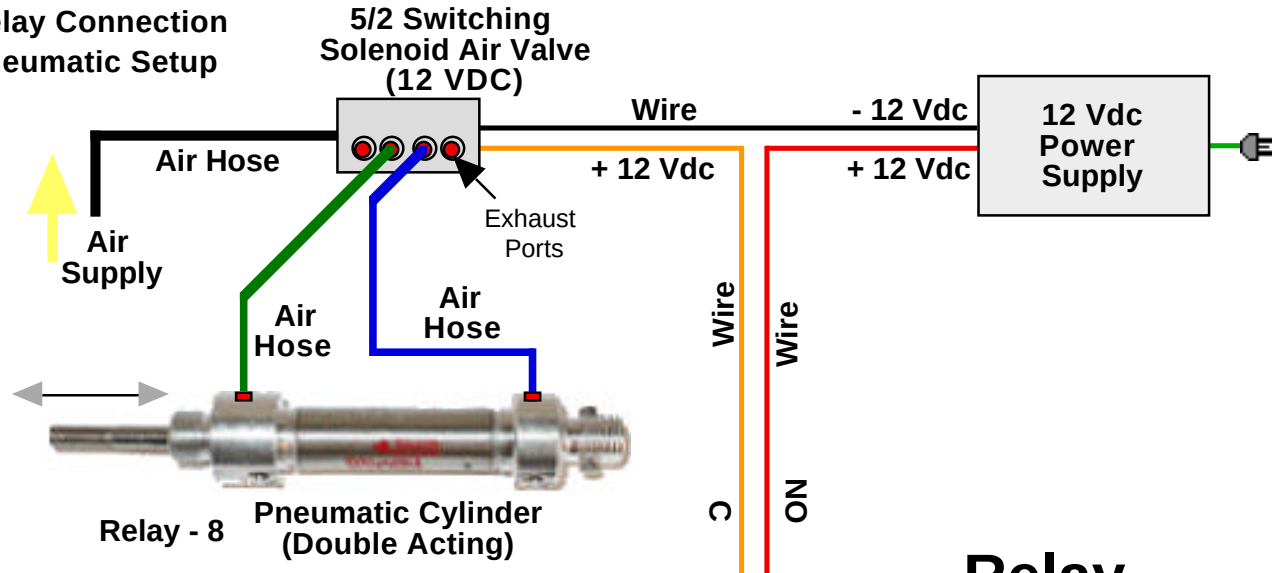


Relay No	Channel No	Decimal Value	Binary Value	Alpha Value
R-8	Ch7	128	0or1	H
R-7	Ch6	64	0or1	G
R-6	Ch5	32	0or1	F
R-5	Ch4	16	0or1	E
R-4	Ch3	8	0or1	D
R-3	Ch2	4	0or1	C
R-2	Ch1	2	0or1	B
R-1	Ch0	1	0or1	A

DMX 8-Channel Relay Board

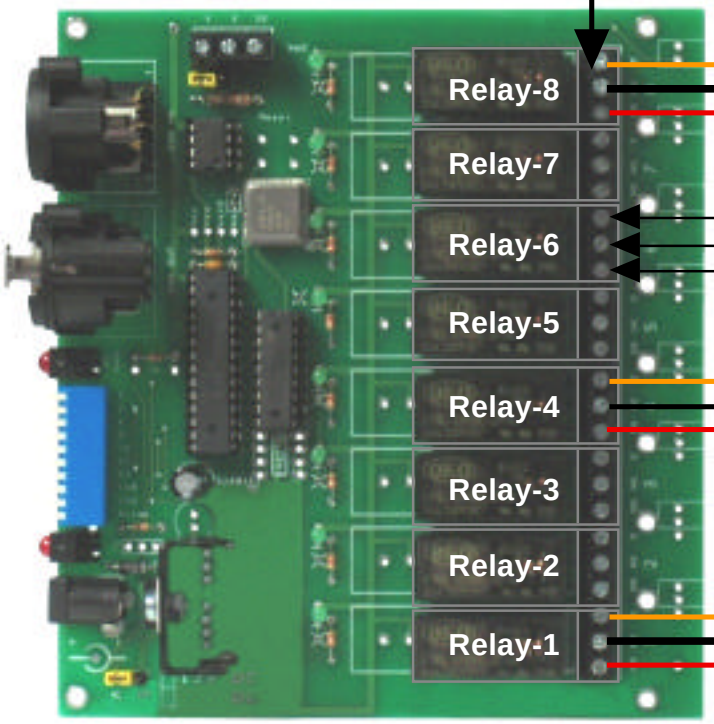
Applications

Relay Connection
Pneumatic Setup



Relay Connection

DMX- 8 Channel Relay Board



C- Common
NC - Normal Closed (Not Used)
NO - Normal Open

C- Common
NC - Normal Closed
NO - Normal Open

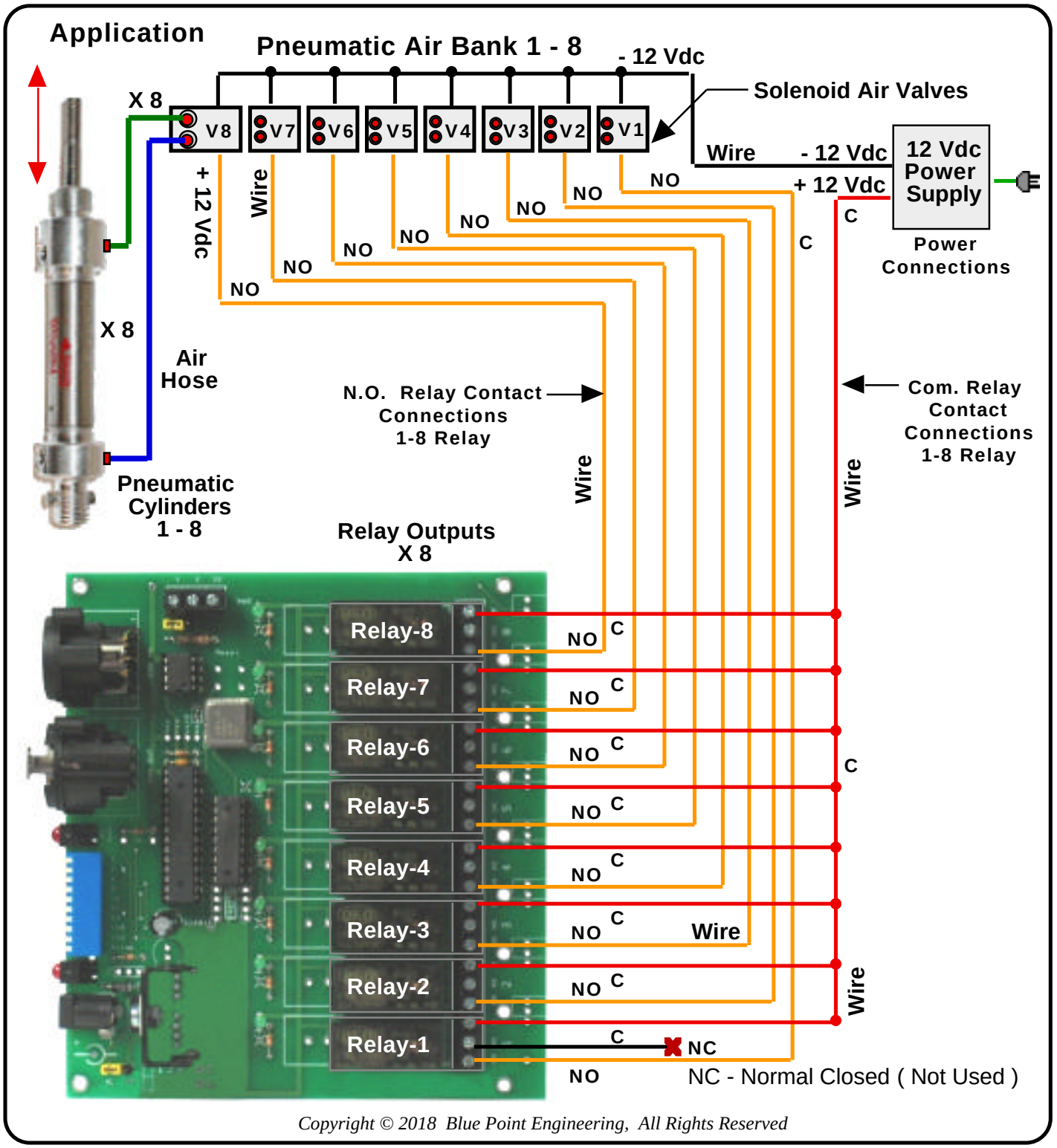
LED Lighting FX Unit

Open Contact Relay Closure

Open Contact Relay Closure

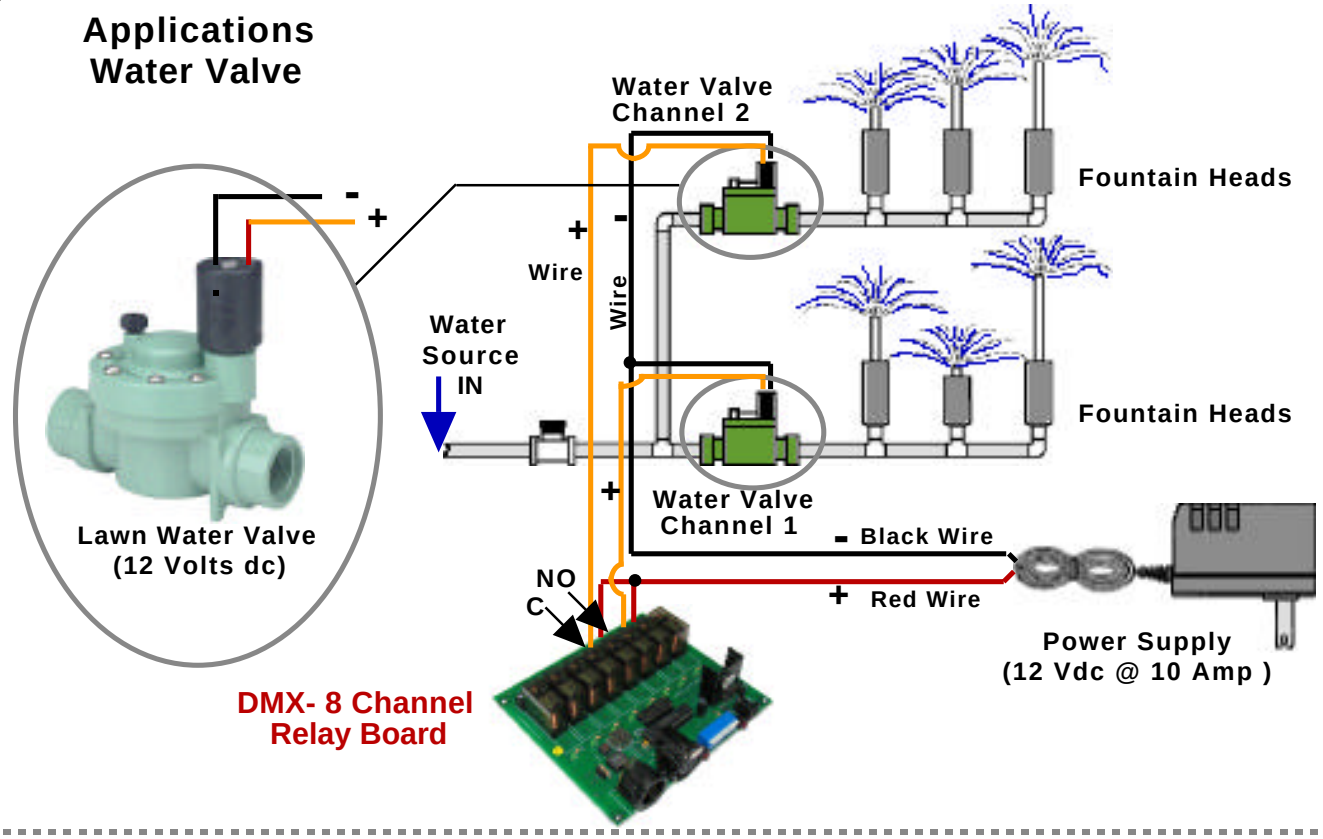
Sound Playback System

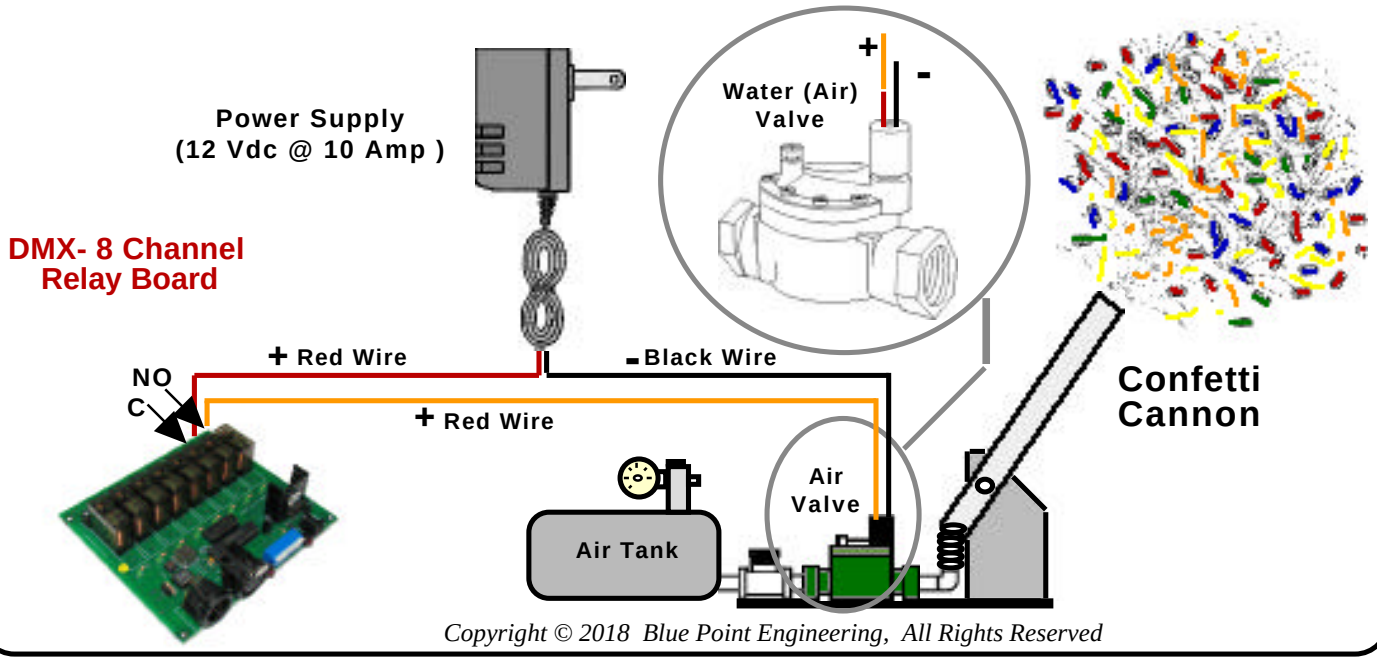
DMX 8-Channel Relay Board



DMX 8-Channel Relay Board

Applications
Water Valve

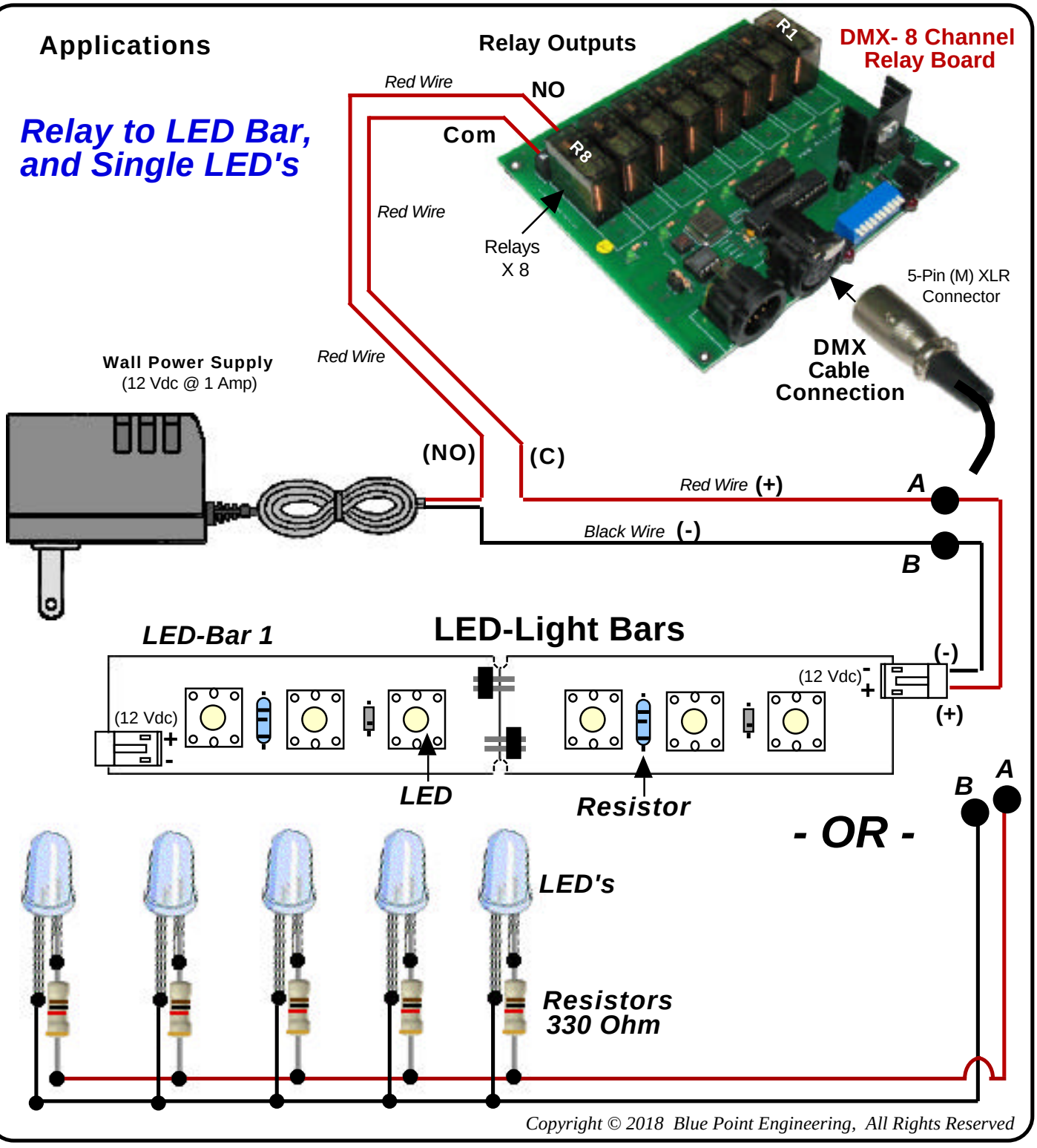




DMX 8-Channel Relay Board

Applications

Relay to LED Bar, and Single LED's



DMX 8-Channel Relay Board

DMX Relay / Switch Logic

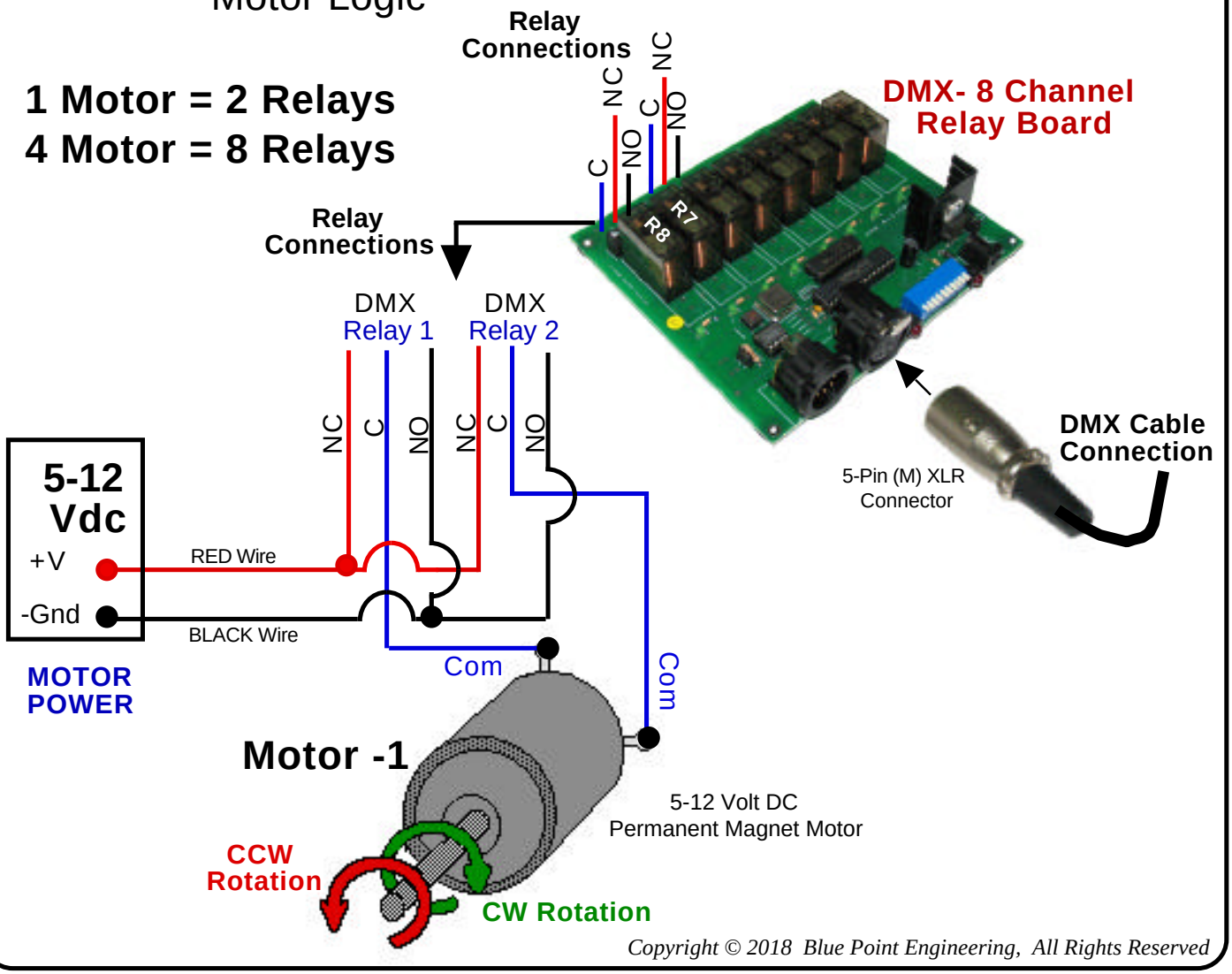
	DMX Relay 1	DMX Relay 2	Motor Status
Motor No. 1	OFF	OFF	STOP
	OFF	ON	CCW
	ON	OFF	CW
	ON	ON	STOP

Motor Logic

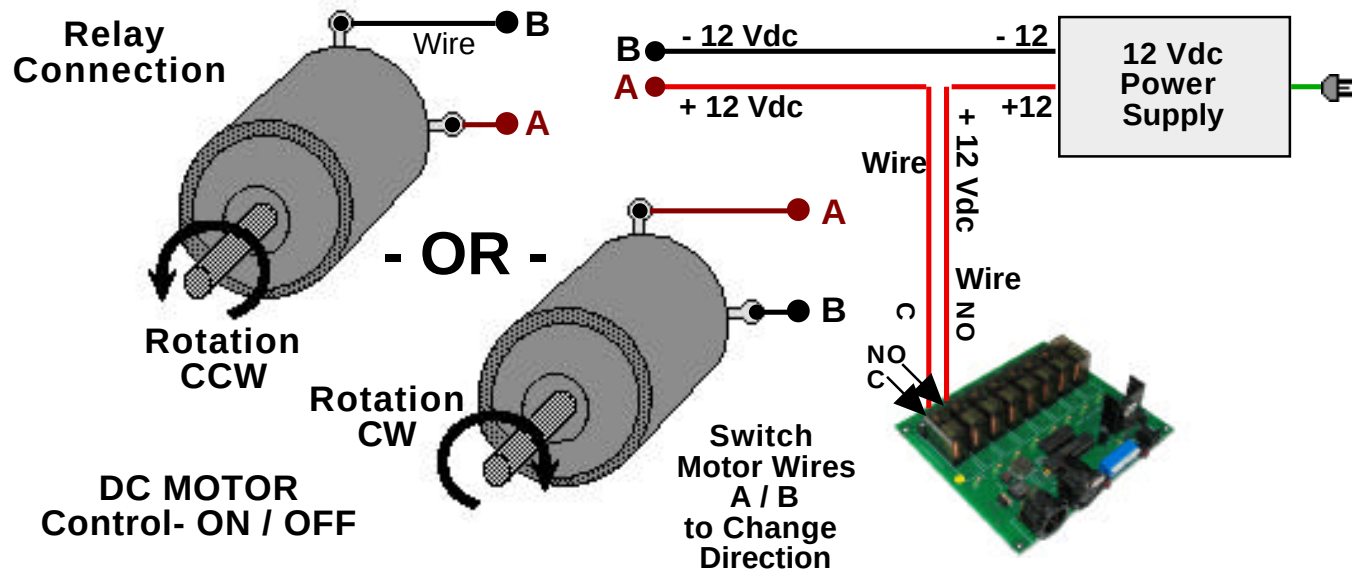
Relay Motor Control

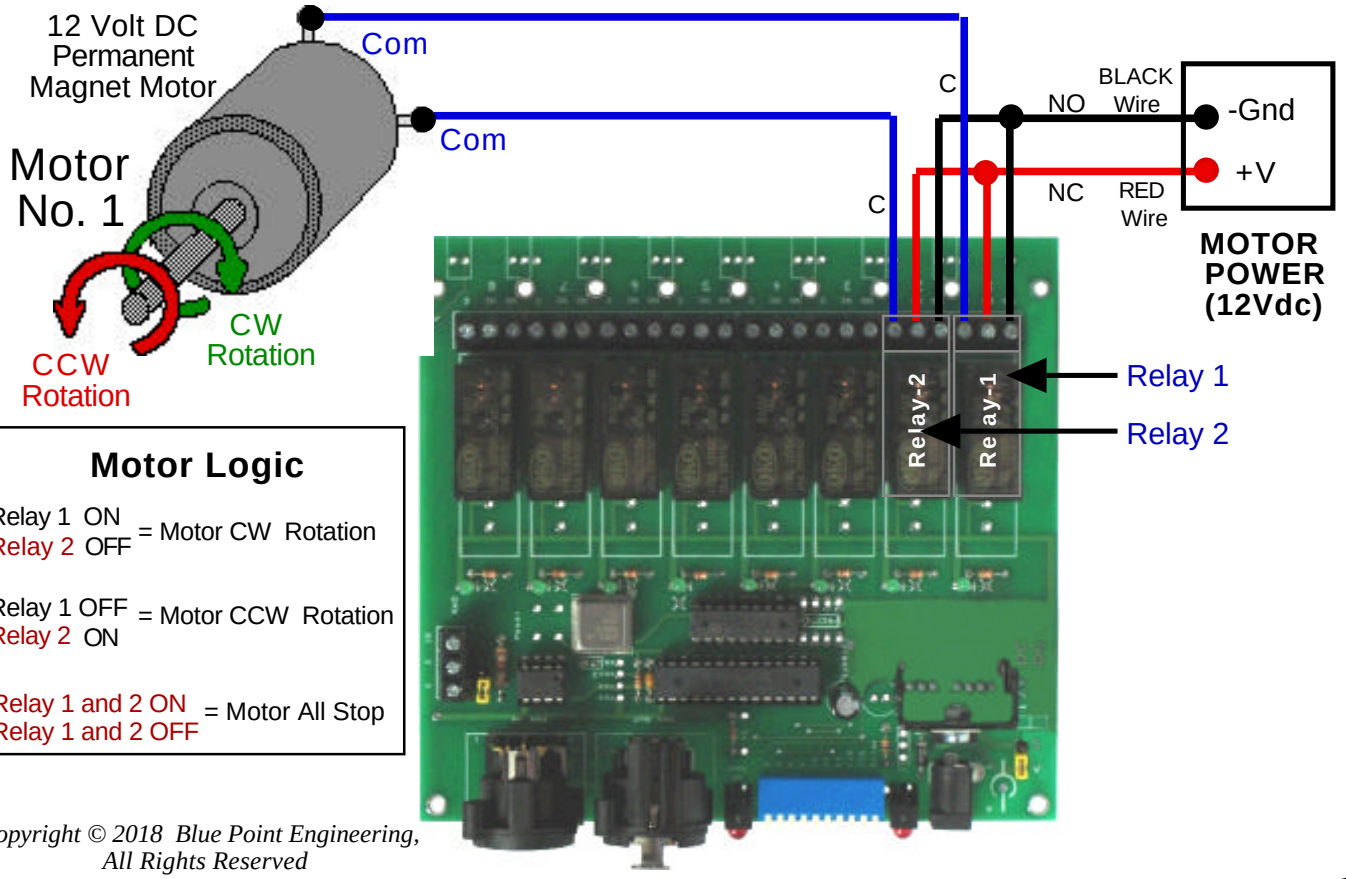
This design prevents the possibility of both relays from shorting back into the power supply when relays 1 and 2 are switched ON or OFF together at the same time.

1 Motor = 2 Relays
4 Motor = 8 Relays



DMX 8-Channel Relay Board





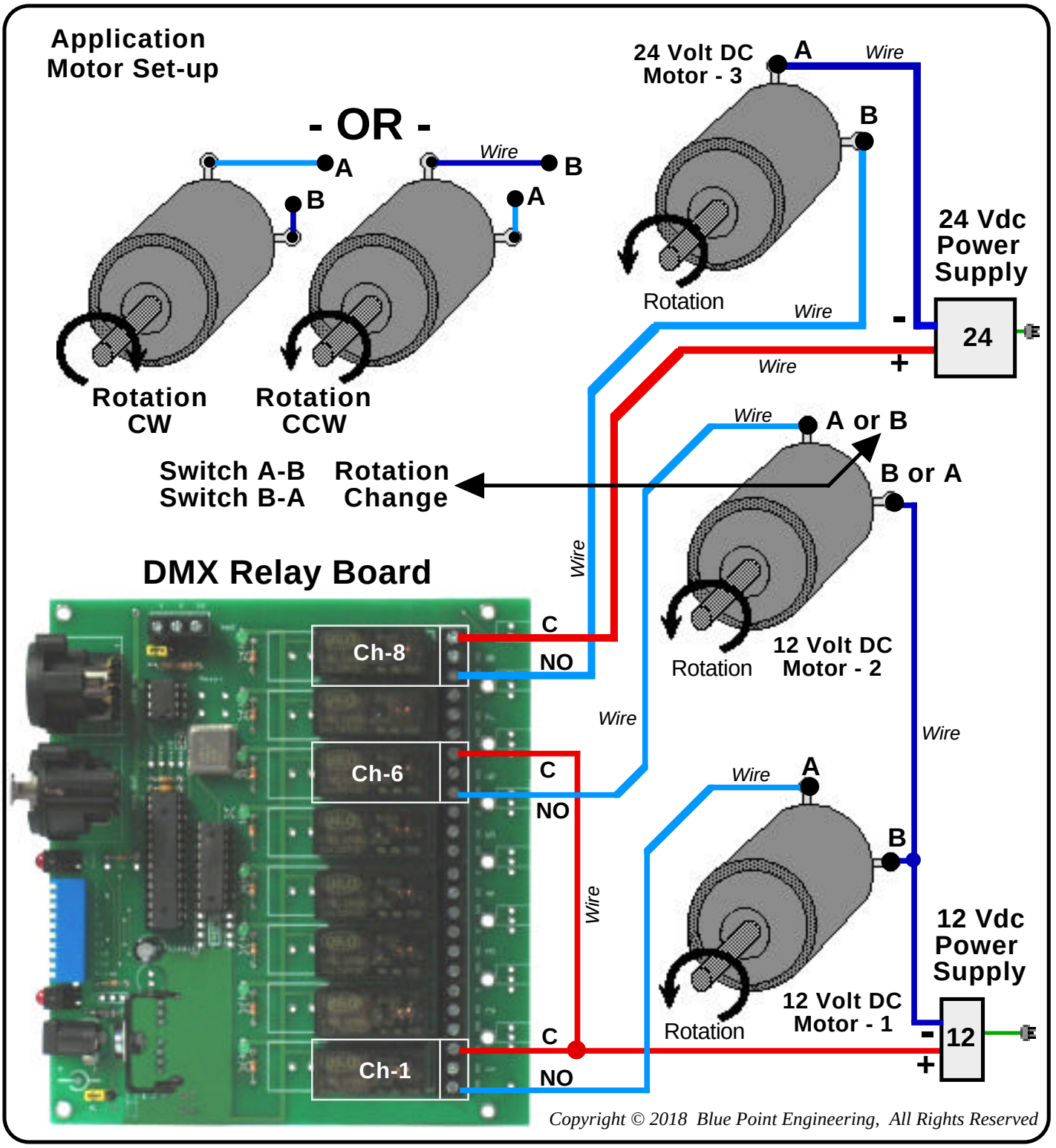
Motor Logic

Relay 1 ON
Relay 2 OFF = Motor CW Rotation

Relay 1 OFF
Relay 2 ON = Motor CCW Rotation

Relay 1 and 2 ON
Relay 1 and 2 OFF = Motor All Stop

DMX 8-Channel Relay Board

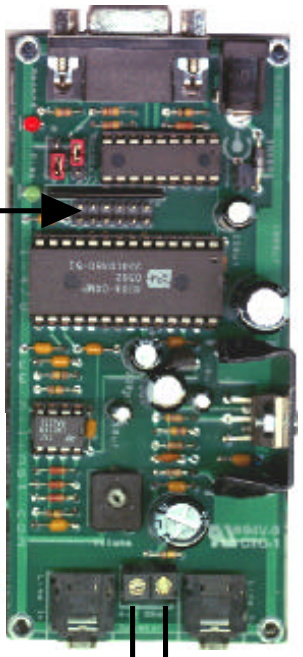


DMX 8-Channel Relay Board

Application

MP3 / Sound Board Playback

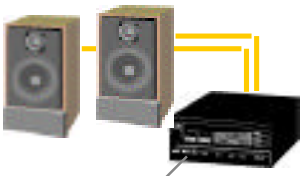
Sound Board Pro Module



PLAYBACK

Large Volume

Speaker and Amplifier (Mono Output)



Large Volume Sound Output

Pin Pair Terminal *6-CH*

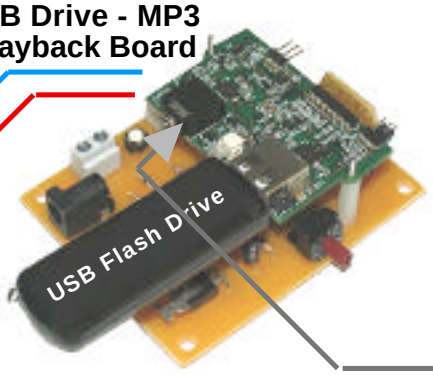
CH-8 Ch-7 Sound Playback

- OR -

- OR -

CH-6 Sound Playback

USB Drive - MP3 Playback Board



Wire

Wire

Wire

ON

ON

ON

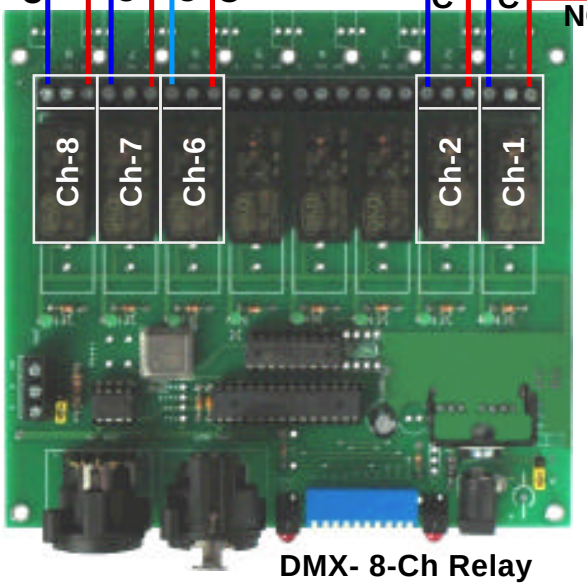
- OR -

Speaker Playback

C **C** **C** **C** **C** **C**

NO

NO

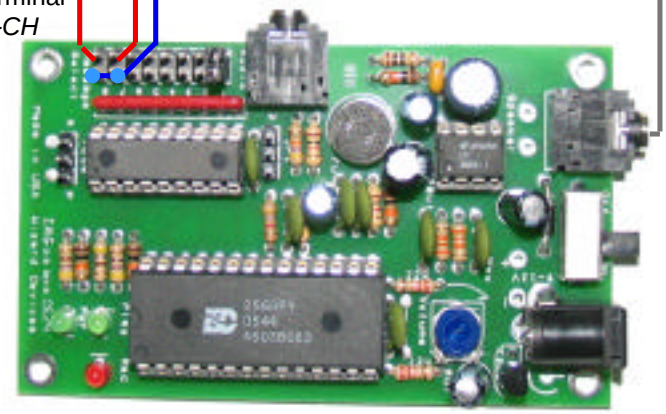


DMX- 8-Ch Relay

Pin Pair Terminal *8-CH*

- OR -

CH-1 Ch-2 Sound Playback

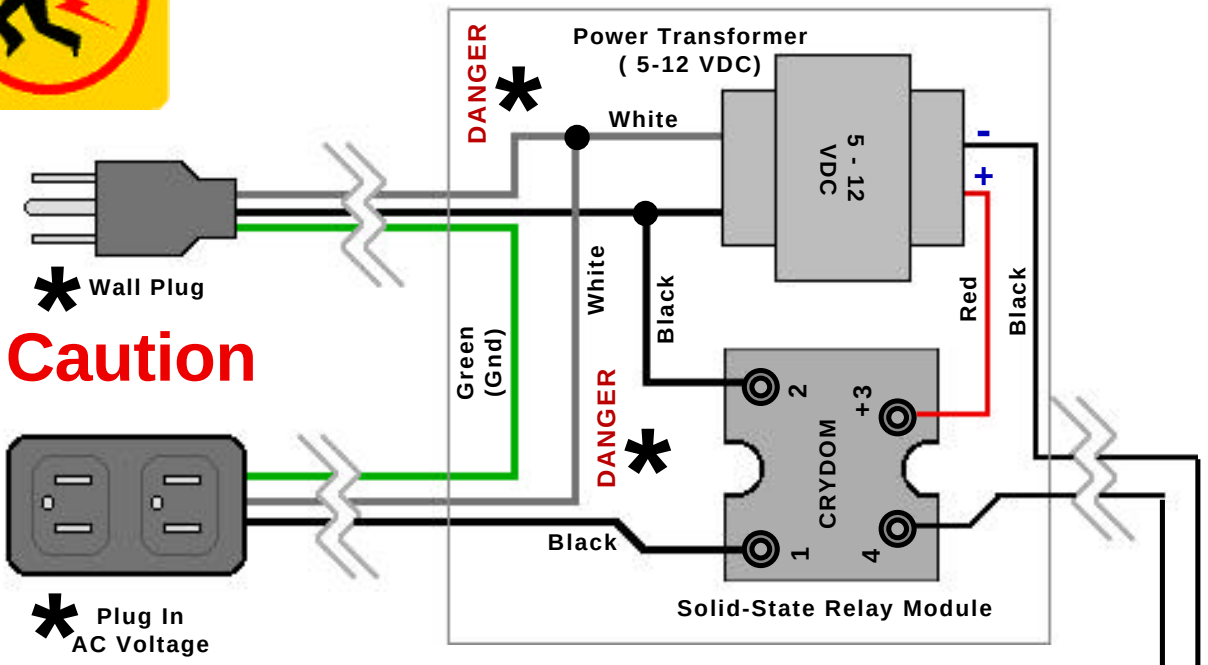


Sound Board "VEGAS" Module

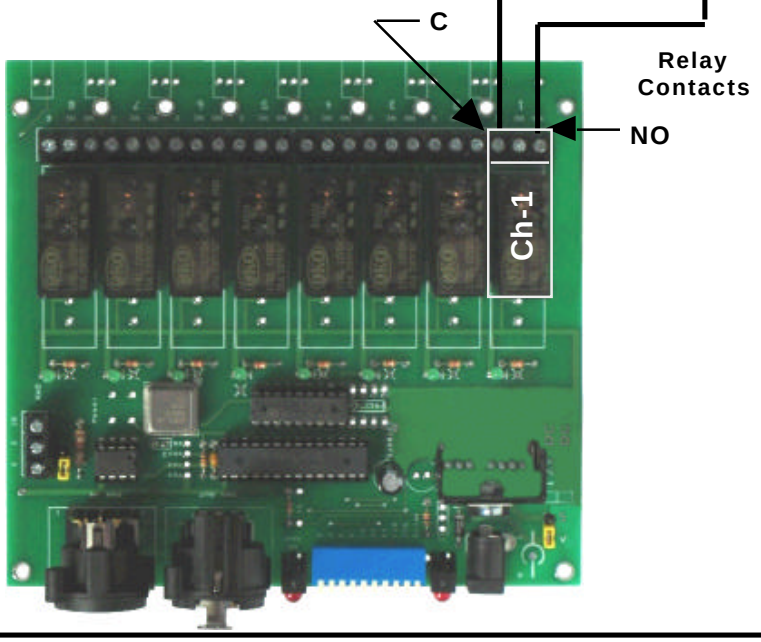
DMX 8-Channel Relay Board

Large AC Power Control

* Use caution when working with AC Voltage. Touching or incorrectly wiring this circuit could cause serious personal injury or damage to equipment.



AC Powered Devices



DMX 8-Ch Relay Board

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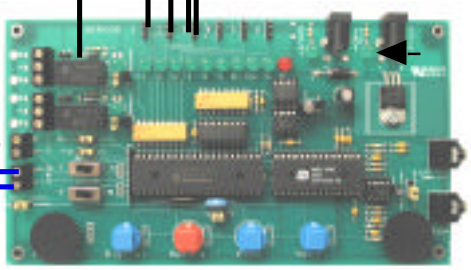
DMX 8-Channel Relay Board

Application

DMX Hybrid - Set-up
Wizard Board Control

To Servos, Motors, Light FX & Sound Effect Playback



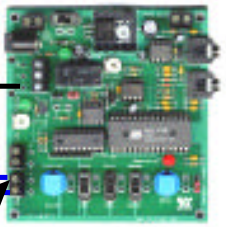
Wizard - 11 Controller Board

OTHER Wizard / Puppet Controllers

Ch-4

A B

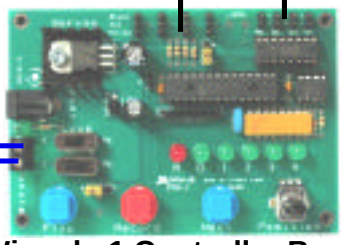
Wizard - 8 Controller Board



Ch-5

To Servomotors and Digital Output Channels

Ch-7



Ch-8

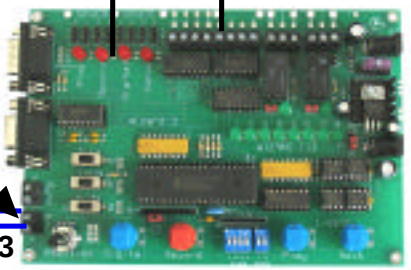
Wizard - 1 Controller Board

Wizard Board REM Port Connections (2-Wire)

To VAC Devices & Sound Effects Playback

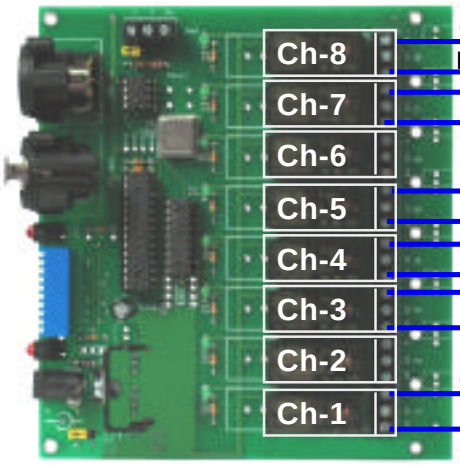
Wizard REM Port Activation by DMX- 8 Ch Relay

To Servos, Motors, Light FX & Sound Effect Playback



Ch-3

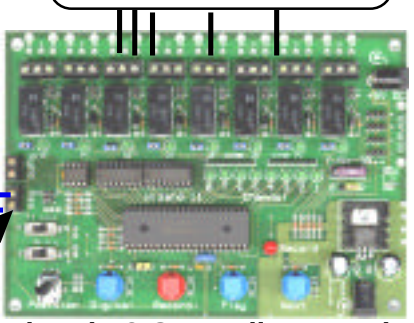
Wizard - 3 Controller Board



Ch-8 Ch-7 Ch-5 Ch-4 Ch-3 Ch-1

DMX 8- Channel Relay Board

To Motors, Light s, LED's Special Effect Devices



Ch-1

Wizard Board REM Port Connections (2-Wire)

Wizard - 2 Controller Board

Blue Point Engineering

Technical T

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Pointing the Way to Solutions!

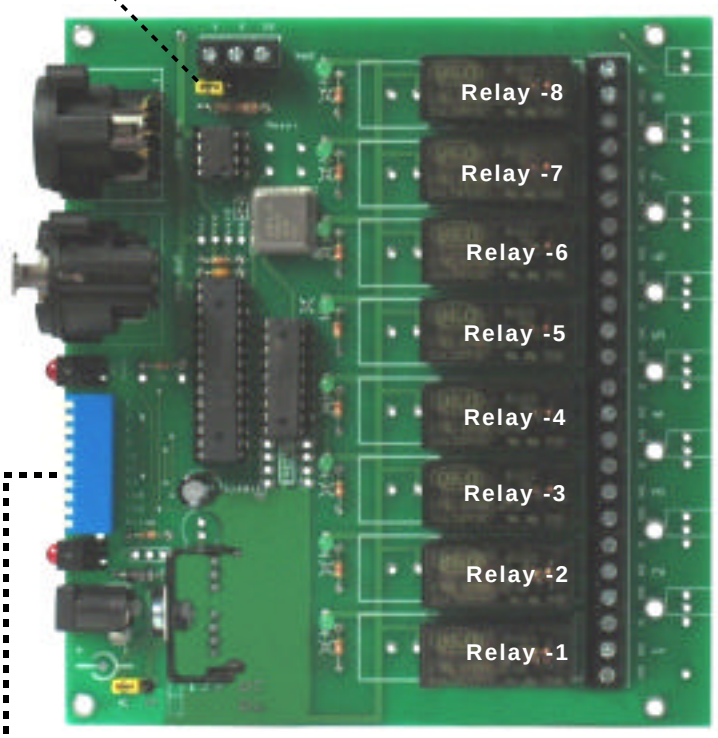
DMX 8-Channel Relay Board

Notes / Work Sheet:

DMX RELAY BOARD NO:_____

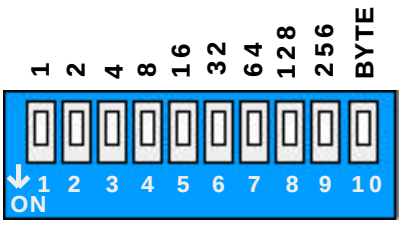
DMX RELAY BOARD Application:_____

TRM = (ON / OFF)_____



Addressing	Out Put Application
Relay -8	
Relay -7	
Relay -6	
Relay -5	
Relay -4	
Relay -3	
Relay -2	
Relay -1	

Addressing _____



Switch Positions (UP / Down)

1 = Relay ON

0 = Relay OFF

R8	R7	R6	R5	R4	R3	R2	R1	Binary
								=

Value	0 OFF	1 ON
SW-1		
SW-2		
SW-3		
SW-4		
SW-5		
SW-6		
SW-7		
SW-8		
SW-9		
SW-10		
Addressing		
DMX	Binary	