

## ***DMX 4-Channel Relay Board***

Version 1.0 -2010  
WD1493-H

### **Overview**

The DMX Relay board provides up to 4- 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.**

### **Setup**

### **Connections**

The board requires a 12V DC supply at 0.5 Amps.  
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 1-4 . ( 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)**

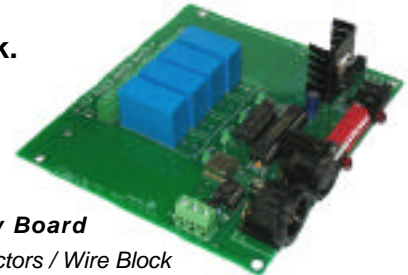
Byte Output switch (DIP Switch 10) set to **OFF**: ( Multiple DMX control channels )  
The output on a particular channel will go high (ON) when the DMX transmitted value for that channel exceeds 224. ( 243= OFF, 0% and 244= ON, 100% ). Each relay 1-4 has it's own channel assigned with the base number + 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 15 (00001111) then relays 1 through 4 would be ON together. one 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 4-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 4-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

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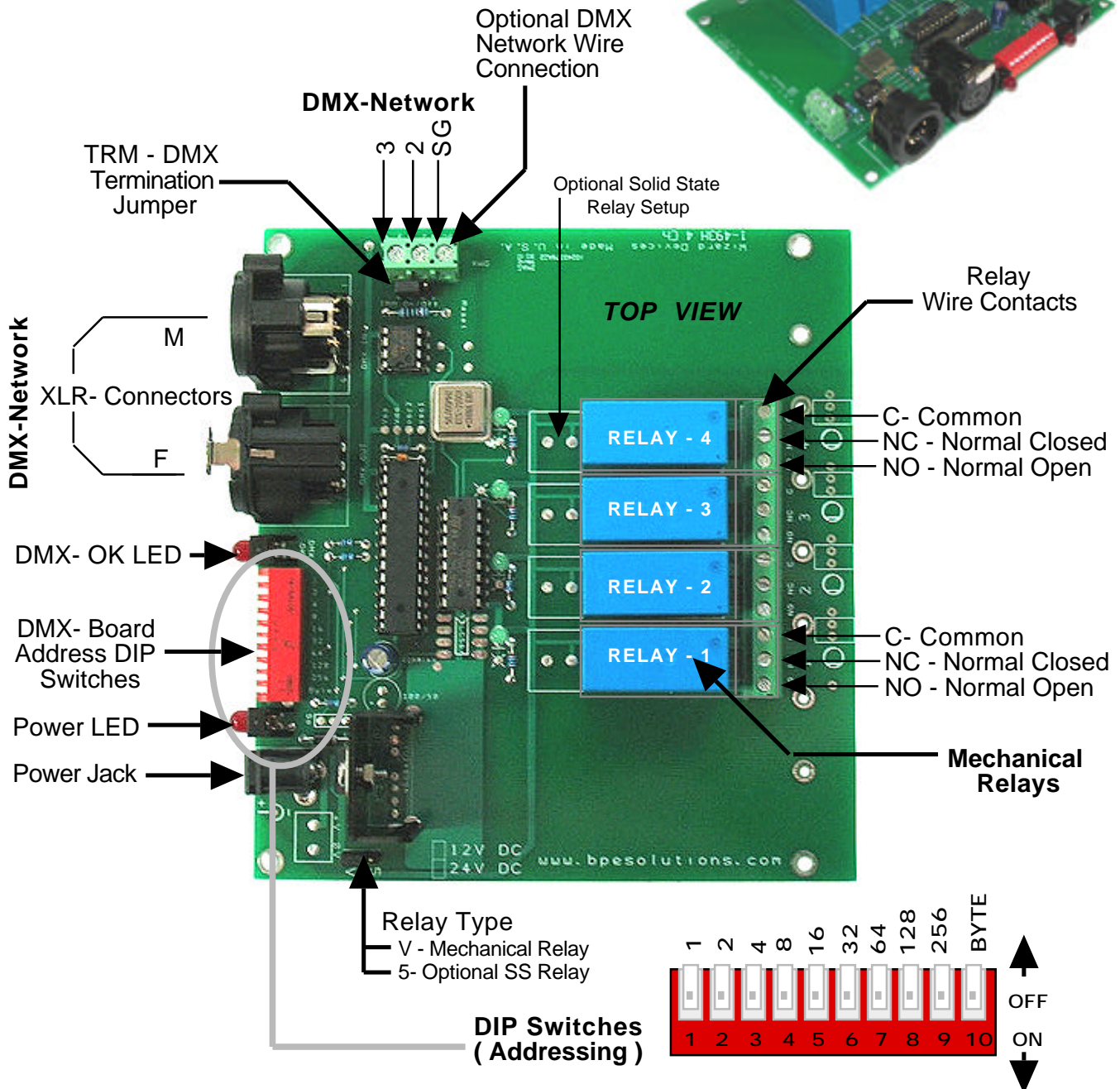
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## DMX 4-Channel Relay Board

### Hook-up

DMX 4-Ch Relay Board



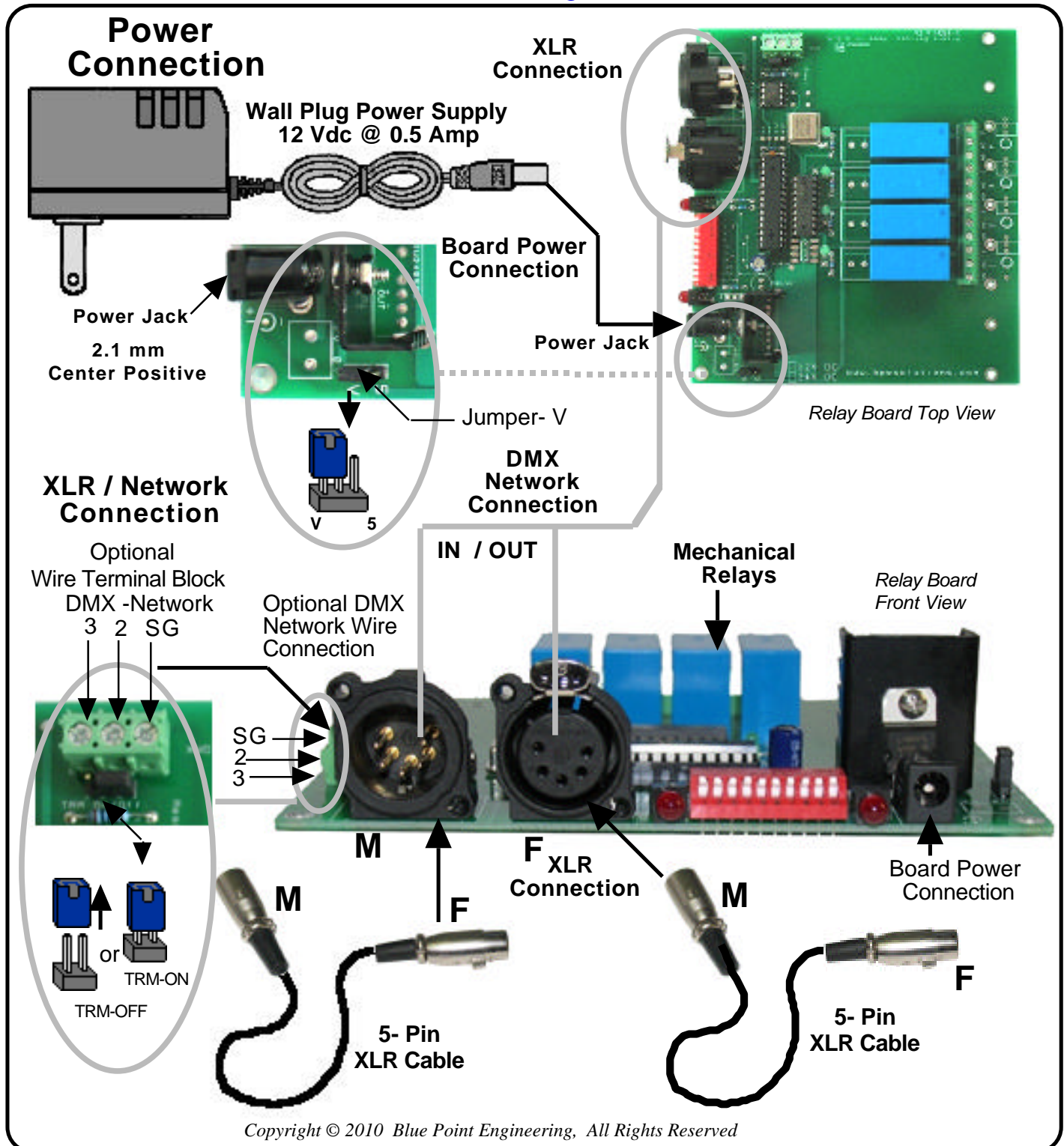
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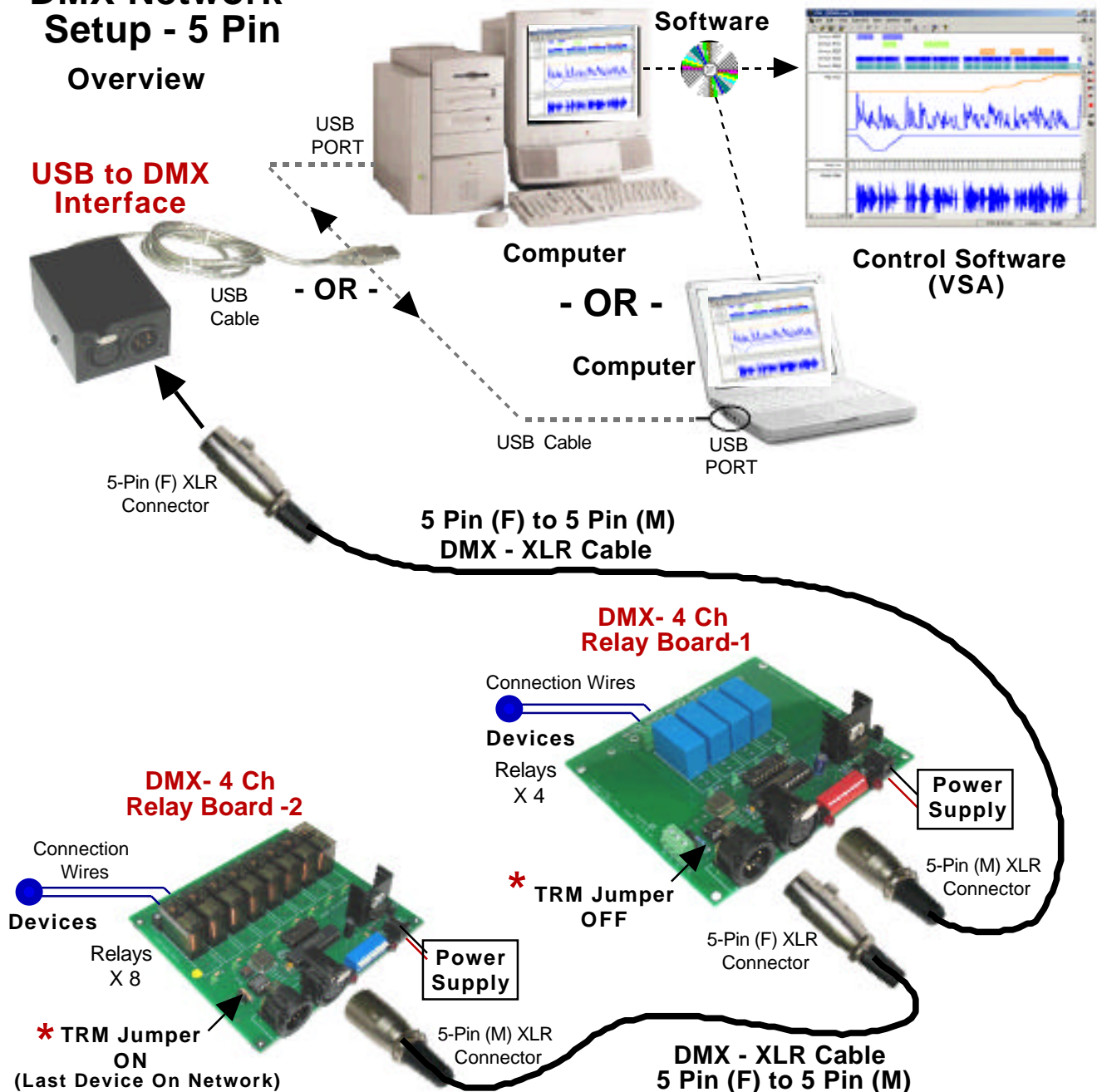
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## DMX 4-Channel Relay Board

### DMX Network Setup - 5 Pin Overview



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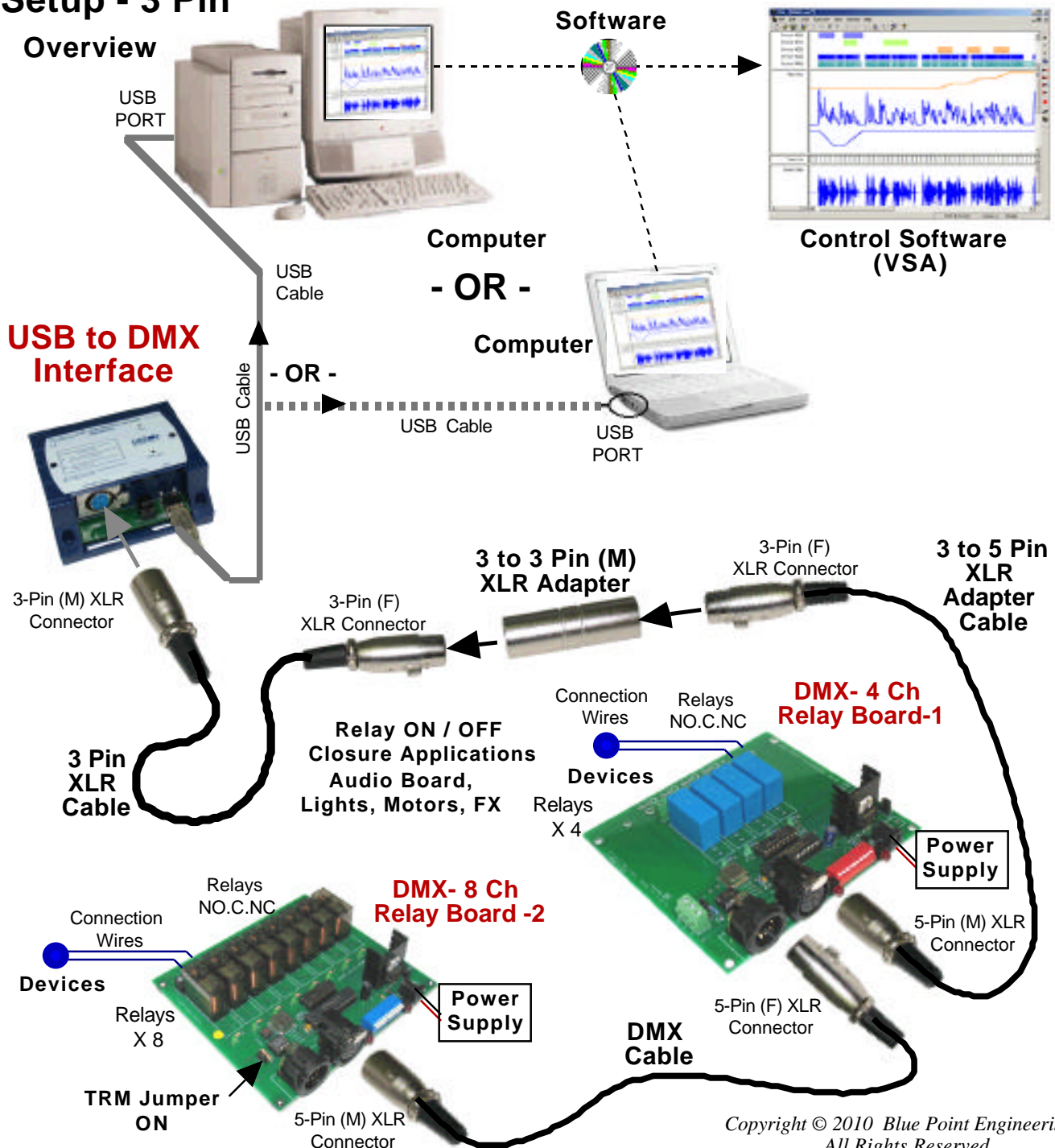
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## DMX 4-Channel Relay Board

### DMX Network Setup - 3 Pin

#### Overview

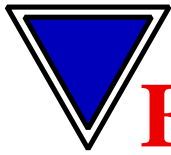


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## DMX 4-Channel Relay Board

### Relay Connection

Relay - ON LEDs  
( 1- 4 )

4  
3  
2  
1

DMX 4- Channel  
Relay Board

Relay  
Connections

Relay - 4  
Relay - 3  
Relay - 2  
Relay - 1

Relay - ON  
LEDs  
( 1- 4 )

Mechanical  
Relays

Wire  
Connection  
Wire Terminal Blocks

Relay - 4

Relay - 3

Relay - 2

Relay - 1

C- Common

NC - Normal Closed

NO - Normal Open

C- Common

NC - Normal Closed

NO - Normal Open

Relay  
Connections

Relay No. 1

Wire Terminal  
Blocks

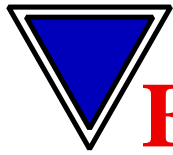
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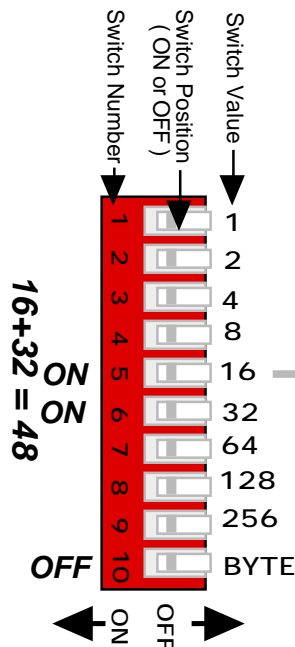
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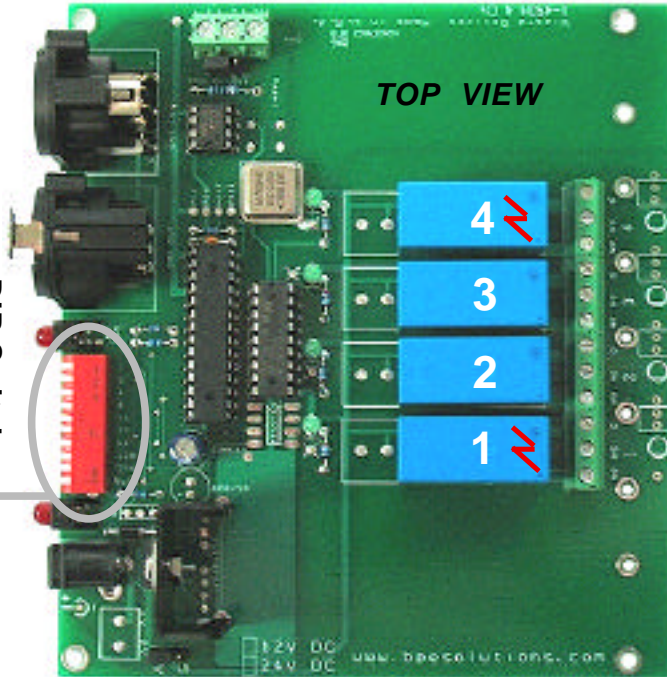


## DMX 4-Channel Relay Board

Board Address  
DMX - Values  
Byte Mode- OFF



DIP Switches  
(Addressing)



TOP VIEW

### Example

Relay-4  
(CH=51)  
(Value= 225-255)  
(Relay = ON)

Relay-3 = Ch 50

Relay-2 = Ch 49

Relay-1  
(CH=48)  
(Value= 225-255)  
(Relay = ON)

DMX Value 0-255 = 0-100%

DMX Value 225+ =100%

### 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 and 51 for Relay 4.

### Control Syntax - (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 225= 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 225+ **RELAY - 1**

Relay 1 **OFF** at DMX value 0-224

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 225+ **RELAY - 4**

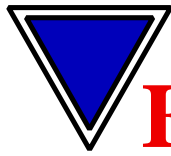
Relay 4 **OFF** at DMX value 0-224

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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, 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**

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**Ch - Switches**

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**Ch - Switches**

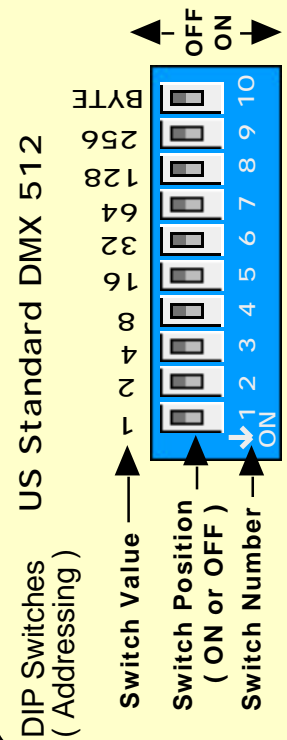
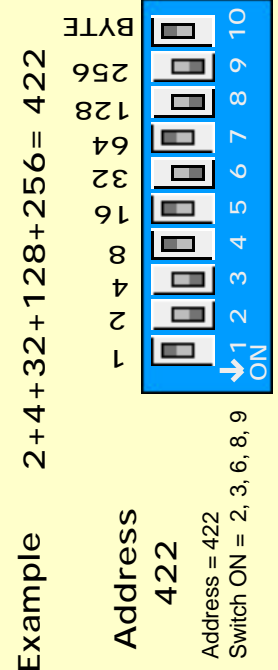
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**Ch - Switches**

444 = 3, 4, 5, 6, 8, 9  
 445 = 1, 3, 4, 5, 6, 8, 9  
 446 = 2, 3, 4, 5, 6, 8, 9  
 447 = 1, 2, 3, 4, 5, 6, 8, 9  
 448 = 7, 8, 9  
 449 = 1, 7, 8, 9  
 450 = 2, 7, 8, 9  
 451 = 1, 2, 7, 8, 9  
 452 = 3, 7, 8, 9  
 453 = 1, 3, 7, 8, 9  
 454 = 2, 3, 7, 8, 9  
 455 = 1, 2, 3, 7, 8, 9  
 456 = 4, 7, 8, 9  
 457 = 1, 4, 7, 8, 9  
 458 = 2, 4, 7, 8, 9  
 459 = 1, 2, 4, 7, 8, 9  
 460 = 3, 4, 7, 8, 9  
 461 = 1, 3, 4, 7, 8, 9  
 462 = 2, 3, 4, 7, 8, 9  
 463 = 1, 2, 3, 4, 7, 8, 9  
 464 = 5, 7, 8, 9  
 465 = 1, 5, 7, 8, 9  
 466 = 2, 5, 7, 8, 9  
 467 = 1, 2, 5, 7, 8, 9  
 468 = 3, 5, 7, 8, 9  
 469 = 1, 3, 5, 7, 8, 9  
 470 = 2, 3, 5, 7, 8, 9  
 471 = 1, 2, 3, 5, 7, 8, 9  
 472 = 4, 5, 7, 8, 9  
 473 = 1, 4, 5, 7, 8, 9  
 474 = 2, 4, 5, 7, 8, 9  
 475 = 1, 2, 4, 5, 7, 8, 9  
 476 = 3, 4, 5, 7, 8, 9  
 477 = 1, 3, 4, 5, 7, 8, 9  
 478 = 2, 3, 4, 5, 7, 8, 9  
 479 = 1, 2, 3, 4, 5, 7, 8, 9  
 480 = 6, 7, 8, 9  
 481 = 1, 6, 7, 8, 9  
 482 = 2, 6, 7, 8, 9  
 483 = 1, 2, 6, 7, 8, 9  
 484 = 3, 6, 7, 8, 9  
 485 = 1, 3, 6, 7, 8, 9  
 486 = 2, 3, 6, 7, 8, 9  
 487 = 1, 2, 3, 6, 7, 8, 9  
 488 = 4, 6, 7, 8, 9  
 489 = 1, 4, 6, 7, 8, 9  
 490 = 2, 4, 6, 7, 8, 9  
 491 = 1, 2, 4, 6, 7, 8, 9  
 492 = 3, 4, 6, 7, 8, 9  
 493 = 1, 3, 4, 6, 7, 8, 9  
 494 = 2, 3, 4, 6, 7, 8, 9  
 495 = 1, 2, 3, 4, 6, 7, 8, 9  
 496 = 5, 6, 7, 8, 9  
 497 = 1, 5, 6, 7, 8, 9  
 498 = 2, 5, 6, 7, 8, 9  
 499 = 1, 2, 5, 6, 7, 8, 9  
 500 = 3, 5, 6, 7, 8, 9  
 501 = 1, 3, 5, 6, 7, 8, 9  
 502 = 2, 3, 5, 6, 7, 8, 9  
 503 = 1, 2, 3, 5, 6, 7, 8, 9  
 504 = 4, 5, 6, 7, 8, 9

**Ch - Switches**

505 = 1, 4, 5, 6, 7, 8, 9  
 506 = 2, 4, 5, 6, 7, 8, 9  
 507 = 1, 2, 4, 5, 6, 7, 8, 9  
 508 = 3, 4, 5, 6, 7, 8, 9  
 509 = 1, 3, 4, 5, 6, 7, 8, 9  
 510 = 2, 3, 4, 5, 6, 7, 8, 9  
 511 = 1, 2, 3, 4, 5, 6, 7, 8, 9  
 512 = 0



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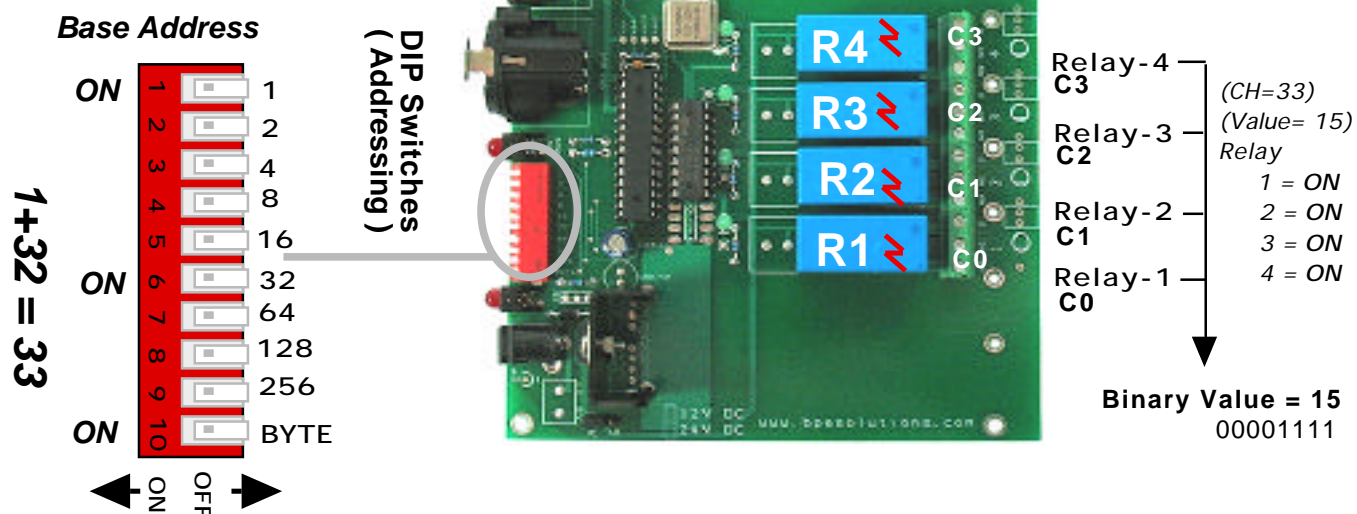
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## DMX 4-Channel Relay Board

Board Address  
Binary Value  
Byte Mode - ON

Example



**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 Syntax - (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 1 through 4 are OFF.

### Example

**RELAY - 1-4 =ON**

If the **base address is set to 33** and the **dmx value (Binary) on DMX channel 33 is 15** then relays 1 through 4 would be **ON**

00001111

Binary Value

**RELAY - 1,3 =ON, 2,4 =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 would be **ON** and relays 2,4 **OFF**.

**RELAY - 2,4 =ON, 1,3 =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 would be **ON** and relays 1,3 **OFF**.

**RELAYS - 1-4 =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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## DMX 8-Channel Relay Board

### Binary Value Chart

8=R8  
7=R7  
6=R6  
5=R5  
4=R4  
3=R3  
2=R2  
1=R1

Page 1 of 2

CHANNELS 8-1 or RELAYS 8-1								
O=OFF	R8	R7	R6	R5	R4	R3	R2	R1
1=ON	O or 1	O or 1	O or 1	O or 1	O or 1	O or 1	O or 1	O or 1

Channel 8-1	Digit	Channel 8-1	Digit	Channel 8-1	Digit	Channel 8-1	Digit	Channel 8-1	Digit
00000000	= 0	00110011	= 51	01100110	= 102	10011001	= 153	11001100	= 204
00000001	= 1	00110100	= 52	01100111	= 103	10011010	= 154	11001101	= 205
00000010	= 2	00110101	= 53	01101000	= 104	10011011	= 155	11001110	= 206
00000011	= 3	00110110	= 54	01101001	= 105	10011100	= 156	11001111	= 207
00000100	= 4	00110111	= 55	01101010	= 106	10011101	= 157	11010000	= 208
00000101	= 5	00111000	= 56	01101011	= 107	10011110	= 158	11010001	= 209
00000110	= 6	00111001	= 57	01101100	= 108	10011111	= 159	11010010	= 210
00000111	= 7	00111010	= 58	01101101	= 109	10100000	= 160	11010011	= 211
00001000	= 8	00111011	= 59	01101110	= 110	10100001	= 161	11010100	= 212
00001001	= 9	00111100	= 60	01101111	= 111	10100010	= 162	11010101	= 213
00001010	= 10	00111101	= 61	01110000	= 112	10100011	= 163	11010110	= 214
00001011	= 11	00111110	= 62	01110001	= 113	10100100	= 164	11010111	= 215
00001100	= 12	00111111	= 63	01110010	= 114	10100101	= 165	11011000	= 216
00001101	= 13	01000000	= 64	01110011	= 115	10100110	= 166	11011001	= 217
00001110	= 14	01000001	= 65	01110100	= 116	10100111	= 167	11011010	= 218
00001111	= 15	01000010	= 66	01110101	= 117	10101000	= 168	11011011	= 219
00010000	= 16	01000011	= 67	01110110	= 118	10101001	= 169	11011100	= 220
00010001	= 17	01000100	= 68	01110111	= 119	10101010	= 170	11011101	= 221
00010010	= 18	01000101	= 69	01111000	= 120	10101011	= 171	11011110	= 222
00010011	= 19	01000110	= 70	01111001	= 121	10001100	= 172	11011111	= 223
00010100	= 20	01000111	= 71	01111010	= 122	10101101	= 173	11100000	= 224
00010101	= 21	01001000	= 72	01111011	= 123	10101110	= 174	11100001	= 225
00010110	= 22	01001001	= 73	01111100	= 124	10101111	= 175	11100010	= 226
00010111	= 23	01001010	= 74	01111101	= 125	10110000	= 176	11100011	= 227
00011000	= 24	01001011	= 75	01111110	= 126	10110001	= 177	11100100	= 228
00011001	= 25	01001100	= 76	01111111	= 127	10110010	= 178	11100101	= 229
00011010	= 26	01001101	= 77	10000000	= 128	10110011	= 179	11100110	= 230
00011011	= 27	01001110	= 78	10000001	= 129	10110100	= 180	11100111	= 231
00011100	= 28	01001111	= 79	10000010	= 130	10110101	= 181	11101000	= 232
00011101	= 29	01010000	= 80	10000011	= 131	10110110	= 182	11101001	= 233
00011110	= 30	01010001	= 81	10000100	= 132	10110111	= 183	11101010	= 234
00011111	= 31	01010010	= 82	10000101	= 133	10111000	= 184	11101011	= 235
00100000	= 32	01010011	= 83	10000110	= 134	10111001	= 185	11101100	= 236
00100001	= 33	01010100	= 84	10000111	= 135	10111010	= 186	11101101	= 237
00100010	= 34	01010101	= 85	10001000	= 136	10111011	= 187	11101110	= 238
00100011	= 35	01010110	= 86	10001001	= 137	10111100	= 188	11101111	= 239
00100100	= 36	01010111	= 87	10001010	= 138	10111101	= 189	11110000	= 240
00100101	= 37	01011000	= 88	10001011	= 139	10111110	= 190	11110001	= 241
00100110	= 38	01011001	= 89	10001100	= 140	10111111	= 191	11110010	= 242

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## DMX 8-Channel Relay Board

### Binary Value Chart - Cont.

Page 2 of 2

00100111	= 39
00101000	= 40
00101001	= 41
00101010	= 42
00101011	= 43
00101100	= 44
00101101	= 45
00101110	= 46
00101111	= 47
00110000	= 48
00110001	= 49
00110010	= 50

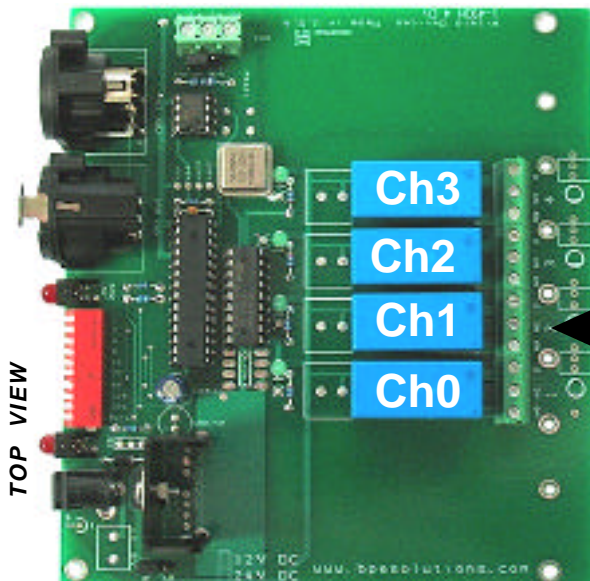
01011010	= 90
01011011	= 91
01011100	= 92
01011101	= 93
01011110	= 94
01011111	= 95
01100000	= 96
01100001	= 97
01100010	= 98
01100011	= 99
01100100	= 100
01100101	= 101

10001101	= 141
10001110	= 142
10001111	= 143
10010000	= 144
10010001	= 145
10010010	= 146
10010011	= 147
10010100	= 148
10010101	= 149
10010110	= 150
10010111	= 151
10011000	= 152

11000000	= 192
11000001	= 193
11000010	= 194
11000011	= 195
11000100	= 196
11000101	= 197
11000110	= 198
11000111	= 199
11001000	= 200
11001001	= 201
11001010	= 202
11001011	= 203

8=R8	11110011	= 243
7=R7	11110100	= 244
6=R6	11110101	= 245
5=R5	11110110	= 246
4=R4	11110111	= 247
3=R3	11111000	= 248
2=R2	11111001	= 249
1=R1	11111010	= 250
	11111011	= 251
	11111100	= 252
	11111101	= 253
	11111110	= 254
	11111111	= 255

		CHANNELS 3-0 or RELAYS 4-1					
			R4	R3	R2	R1	DMX - Relay
		O=OFF - 1=ON	O or 1	O or 1	O or 1	O or 1	Binary Value
			C3	C2	C1	C0	Channel / Port
			8	4	2	1	Decimal Value
<b>Binary Action</b>		<b>Channels / Ports</b>		<b>Binary Value</b>			
0 = Channel / Port / Relay OFF				0 = All Channels / Ports OFF			
1 = Channel / Port / Relay ON				255 = All Channels / Ports ON			



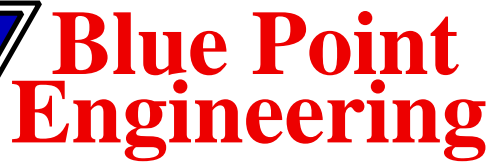
Relay No	Channel No	Decimal Value	Binary Value	Alpha Value
R-4	Ch3	8	0or1	D
R-3	Ch2	4	0or1	C
R-2	Ch1	2	0or1	B
R-1	Ch0	1	0or1	A

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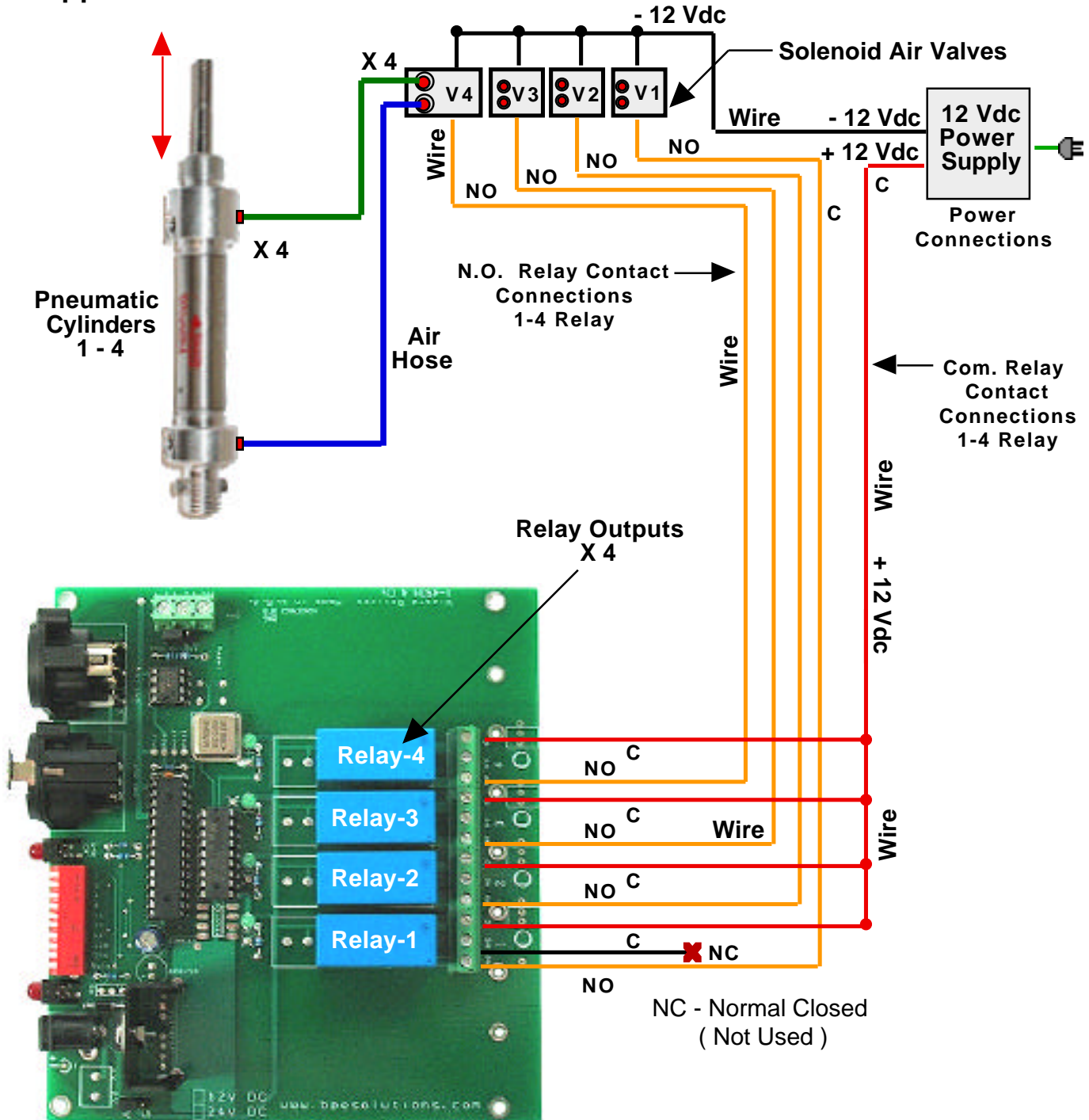
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## DMX 4-Channel Relay Board

Application Pneumatic Air Bank 1 - 4



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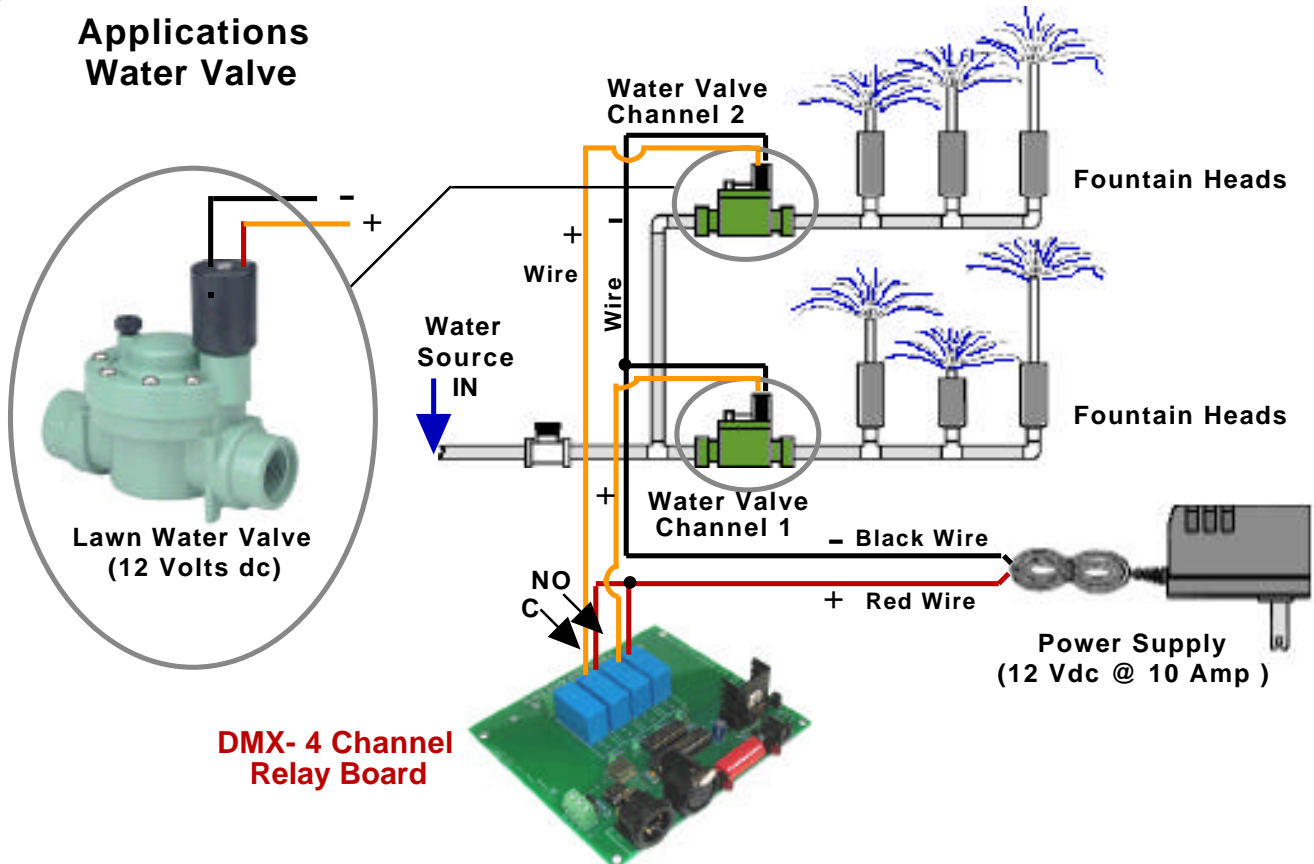
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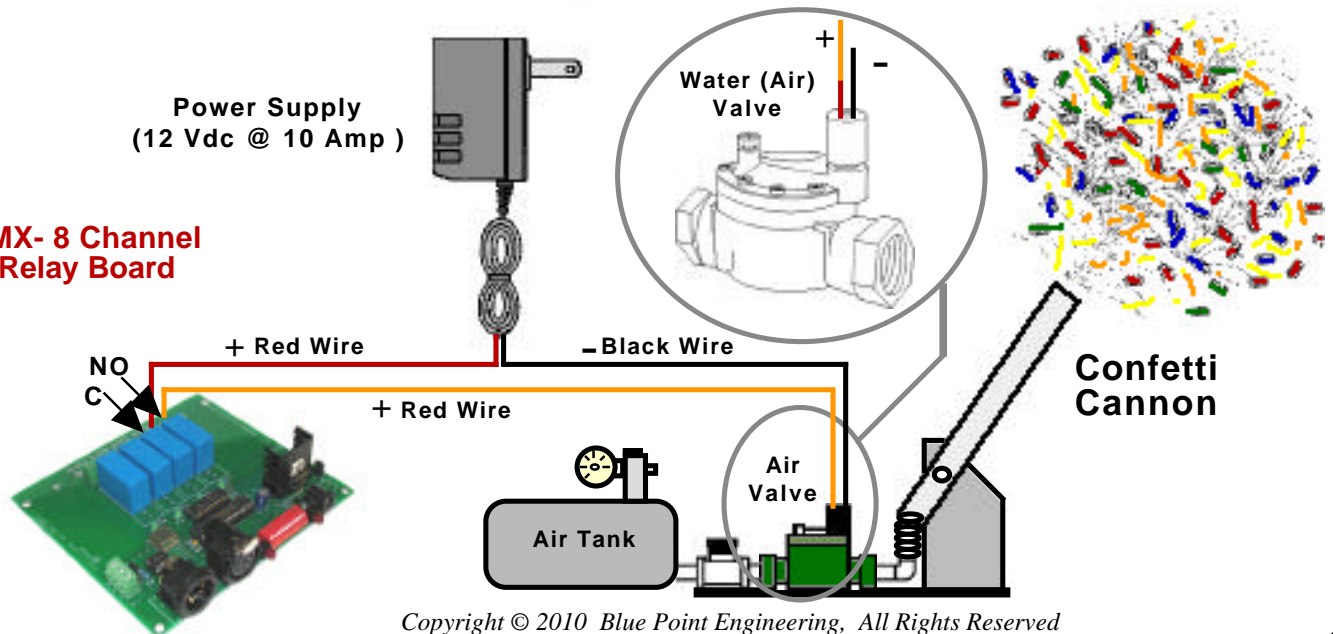


## DMX 4-Channel Relay Board

### Applications Water Valve



### DMX- 8 Channel Relay Board



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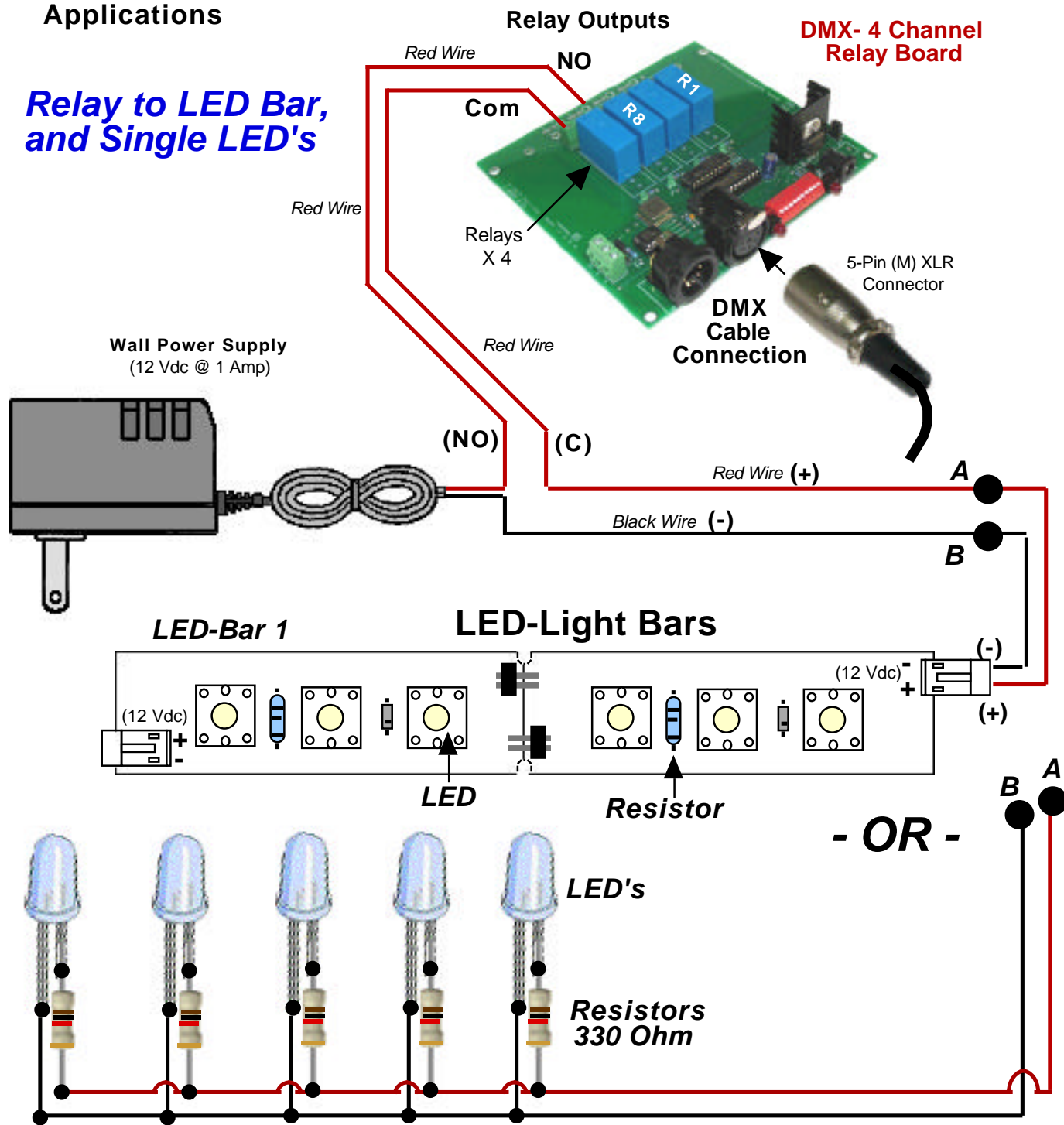
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## DMX 4-Channel Relay Board

### Applications

*Relay to LED Bar, and Single LED's*



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## DMX 4-Channel Relay Board

### DMX Relay / Switch Logic

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

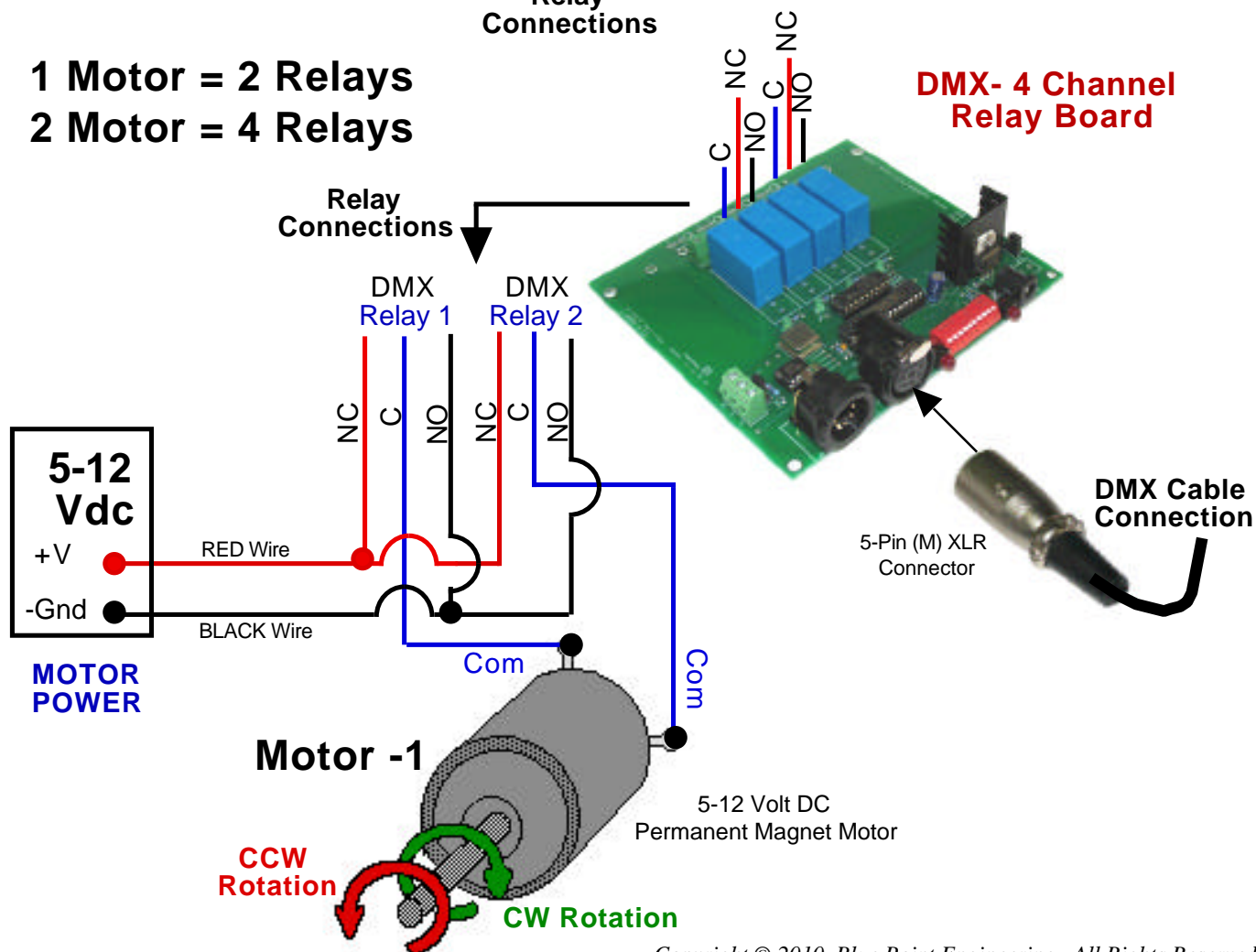
Motor Logic

### 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  
2 Motor = 4 Relays

Relay Connections



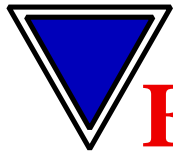
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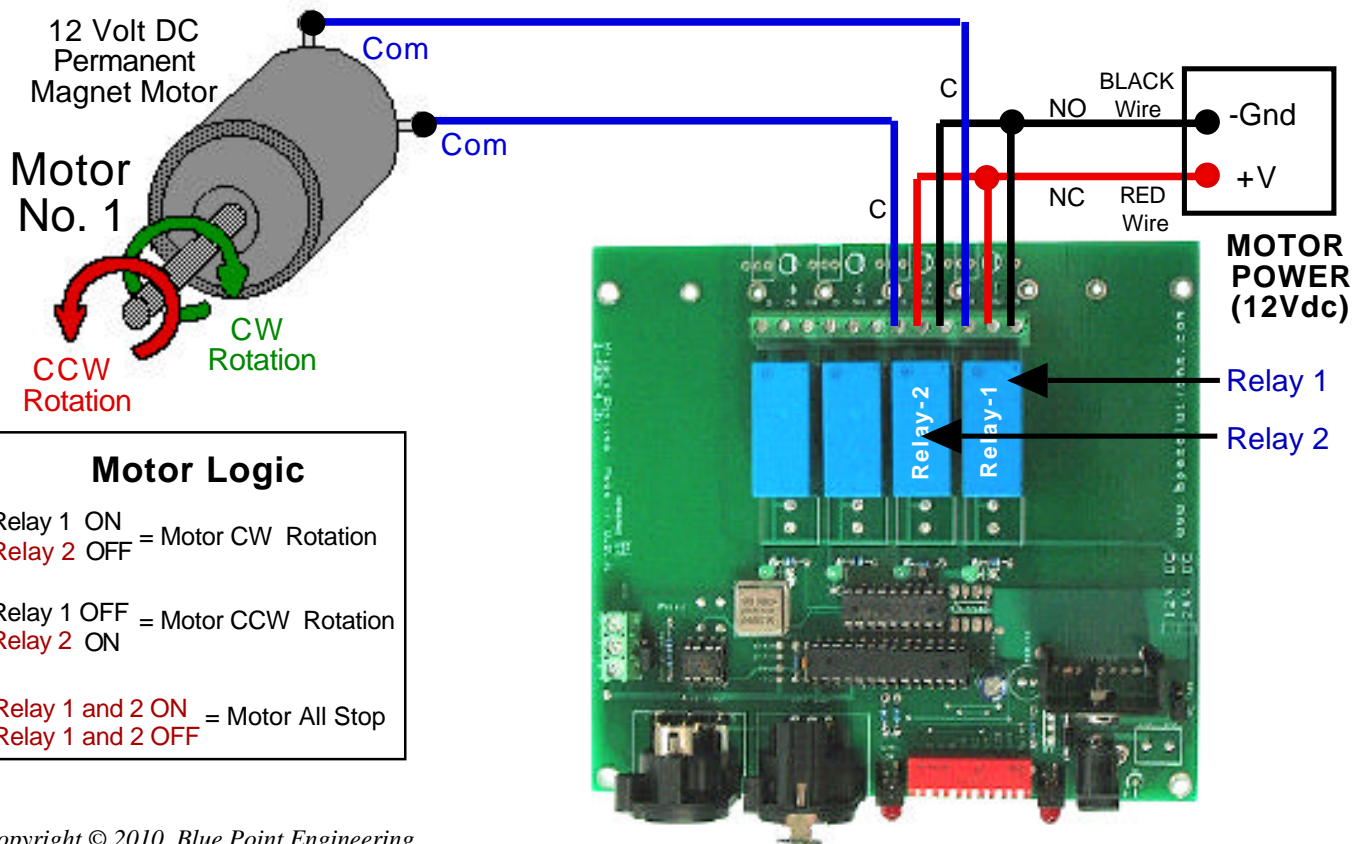
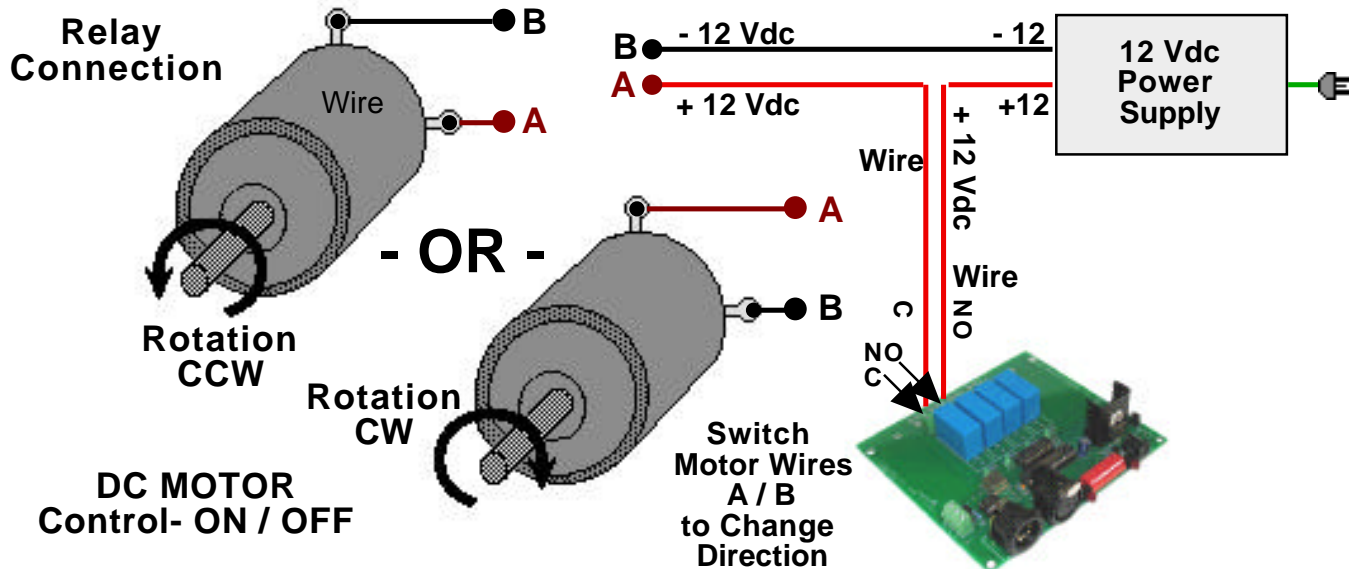
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## DMX 4-Channel Relay Board

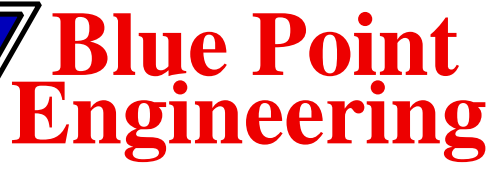


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## DMX 4-Channel Relay Board

### Application

MP3 / Sound Board Playback

Audio  
Amp & Speaker

### OPTIONAL PLAYBACK

Speaker and  
Amplifier  
(Stereo Output)



MP3  
Player  
Board

SD Card

PLAYBACK

- OR -

MP3 Player  
Board Power

MP3 Player  
No 1

MP3 Player  
No 2

SD  
Card

Duo MP3  
Player Board

Ch-4

Ch-2

Ch-1

C NO

C NO

MP3 Player  
Board Power

DMX-4-Ch Relay

Audio MP3  
Player No 1  
(Stereo Output)

Audio MP3  
Player No 2

Stereo Sound System

Speaker and  
Amplifier

Audio  
Amp & Speaker

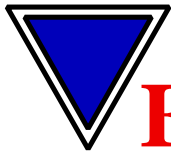
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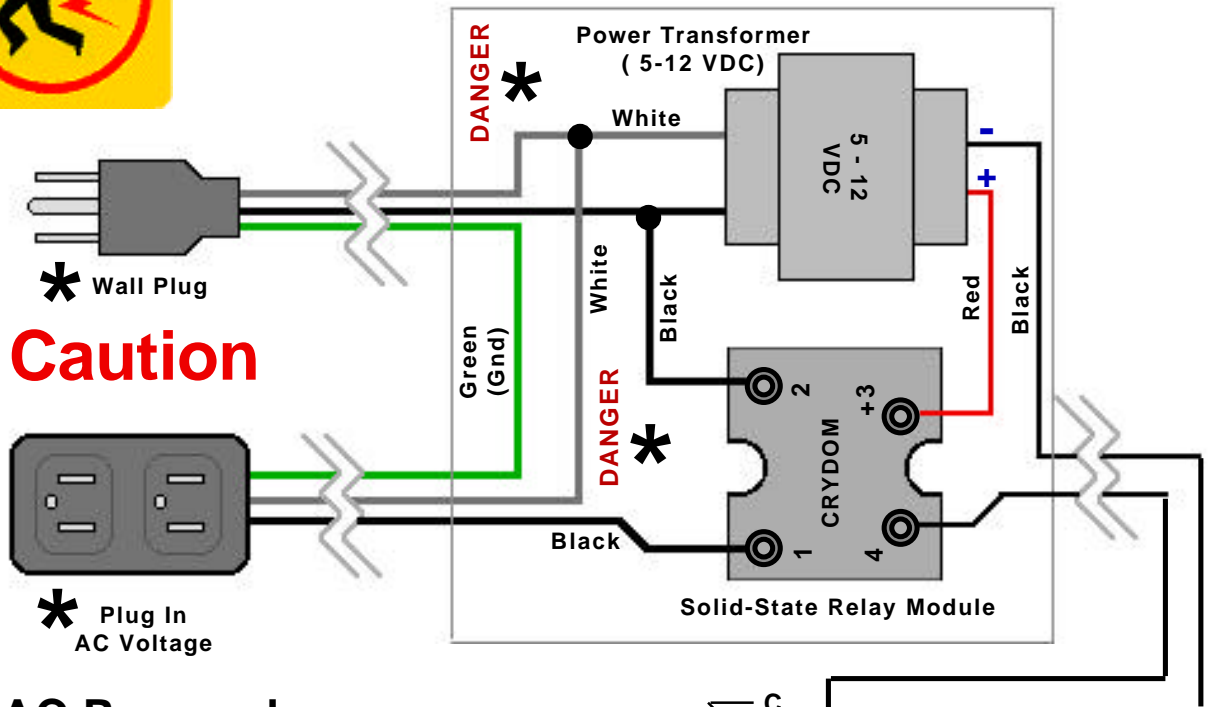


## DMX 4-Channel Relay Board

### Large AC Power Control

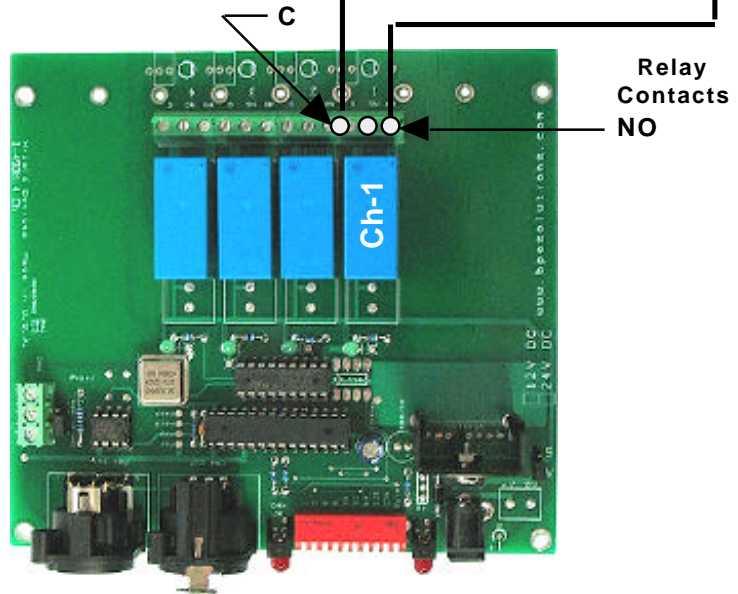


**\* Use caution when working with AC Voltage. Touching or incorrectly wiring this circuit could cause serious personal injury or damage to equipment.**



**AC Powered Devices**

**DMX 4-Ch Relay Board**

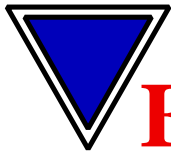


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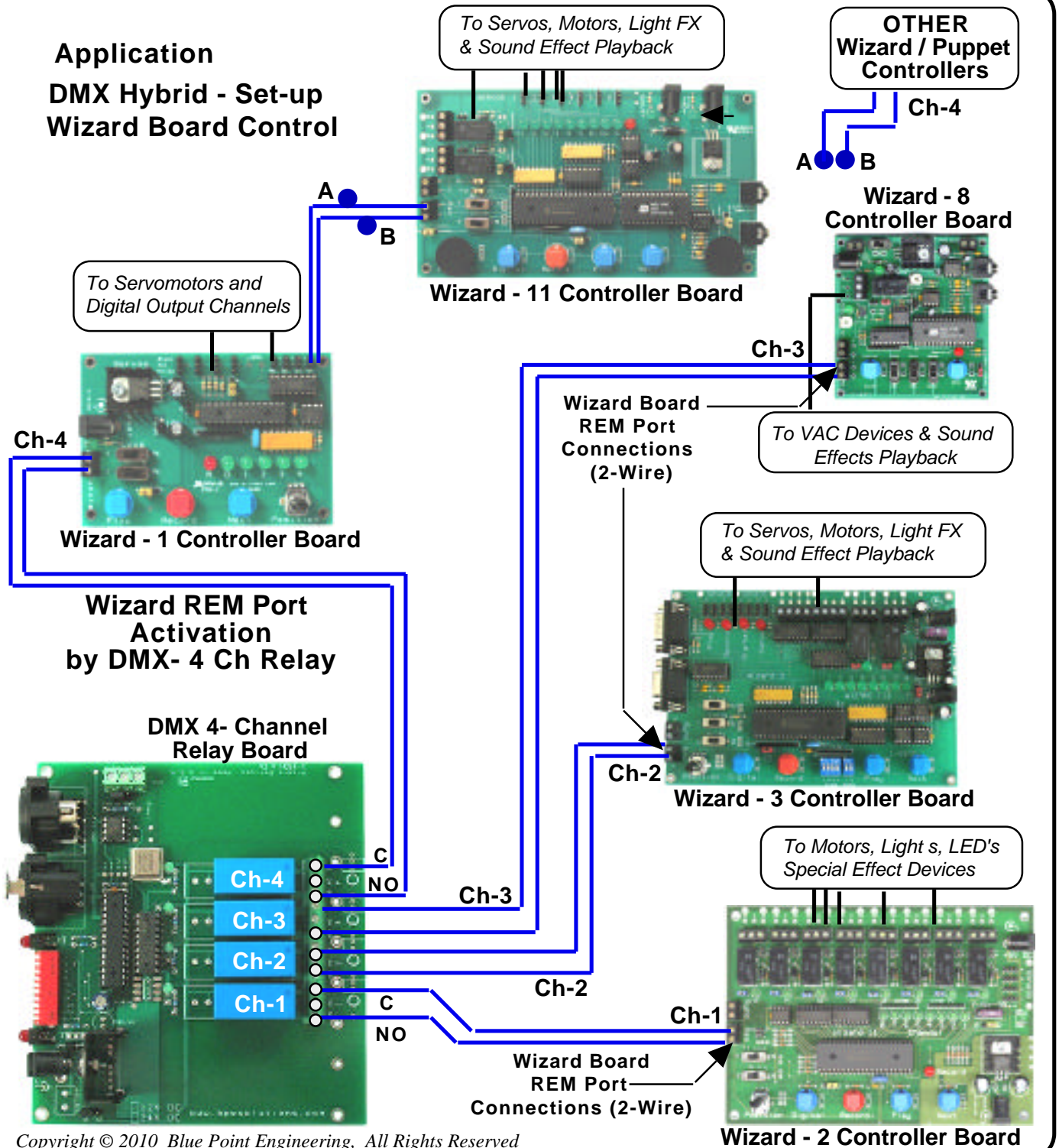
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## DMX 4-Channel Relay Board

### Application

DMX Hybrid - Set-up  
Wizard Board Control



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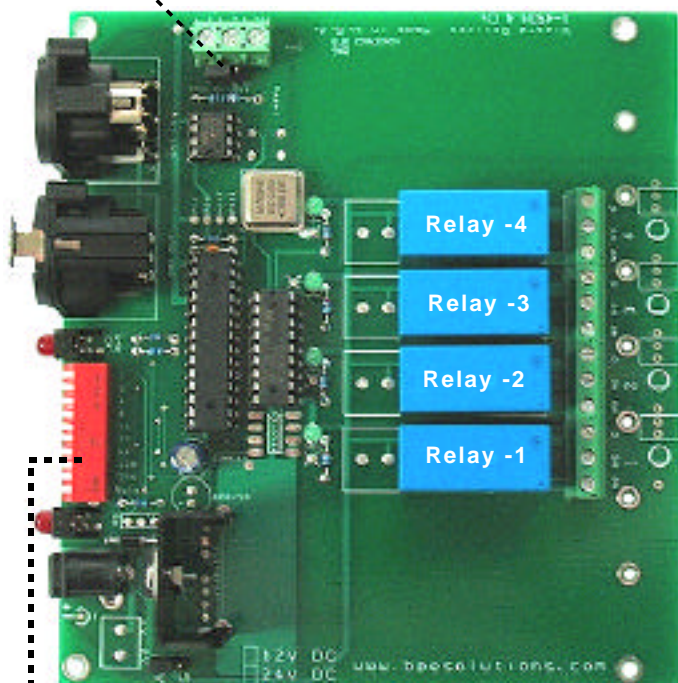
## DMX 4-Channel Relay Board

### Notes / Work Sheet:

DMX RELAY BOARD NO: \_\_\_\_\_

DMX RELAY BOARD Application: \_\_\_\_\_

TRM = (ON /OFF) \_\_\_\_\_



**Addressing**

**Out Put Application**

Relay -4

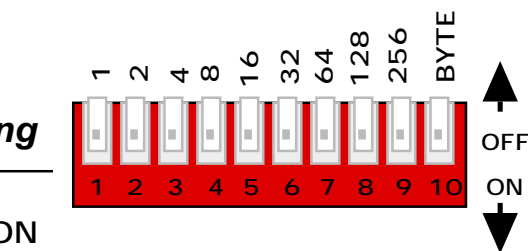
Relay -3

Relay -2

Relay -1

**Addressing**

1 = Relay ON  
0 = Relay OFF



R4	R3	R2	R1	Binary
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

Value	0 OFF	1 ON
-------	----------	---------

SW-1	<input type="checkbox"/>	<input type="checkbox"/>
SW-2	<input type="checkbox"/>	<input type="checkbox"/>
SW-3	<input type="checkbox"/>	<input type="checkbox"/>
SW-4	<input type="checkbox"/>	<input type="checkbox"/>
SW-5	<input type="checkbox"/>	<input type="checkbox"/>
SW-6	<input type="checkbox"/>	<input type="checkbox"/>
SW-7	<input type="checkbox"/>	<input type="checkbox"/>
SW-8	<input type="checkbox"/>	<input type="checkbox"/>
SW-9	<input type="checkbox"/>	<input type="checkbox"/>
SW-10	<input type="checkbox"/>	<input type="checkbox"/>

**Addressing**

**DMX Binary**