DMX 1-Channel Servo Driver

Version 1.1 -2010
WD1561

Overview

The DMX 1- Channel Servo Driver board is designed to provide
1- consecutive channel of standard or extended range movements for analog type R/C Servos with output control pulses from a DMX control signal. The board Base Address may be set between 1 and 511.
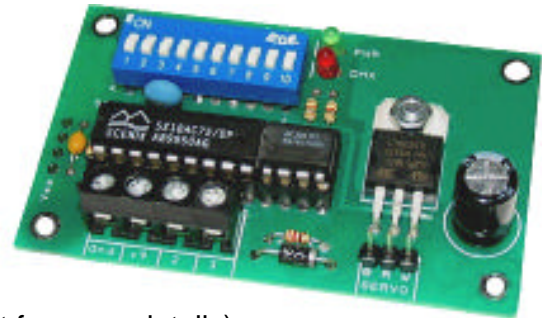
Board Requires a power supply of 9 VDC @ 1 Amp for onboard electronics and power to the servo.

Setup

DMX connection terminal block.
Data + = 3 (Connector-3) *(optional - White Wire)*
Data - = 2 (Connector-2) *(optioal - Black Wire)*

DMX Address Settings - (See DMX 512 Address Chart for more details)
The board address may be set between 1 and 511 using the onboard DIP switches 1 through 9. Set the address of the 1-Channel Servo Board as follows: Select a valid DMX number (address range 1 to 511). Look up the DMX switch settings for the selected value from the DMX addressing chart and then move the onboard DIP switches to the correct matching position (On / Off) for the selected DMX value. Example: DIP switch (5)=value 16 and DIP Switch (7)= value 64 set to **ON** position, the address is now 80 for the board, (Add the value of the address DIP switches set to the **ON** position to calculate the board address (16+64=80), this value is the new address of the DMX 1-Channel Servo Driver Board.

DMX Fault LED:
DMX LED- **ON** when a valid DMX signal is being received or a flashing LED when **NO** valid DMX signal stream is being received by the 1-Channel DMX Servo Driver board.

Servo Connections:
3 wire header pins @ 0.1 pitch servo connection.
Standard Servo connector, **Ground (-B)**, **+5VDC (R)** and **Signal (W/Y)**.
Supports Servos with maximum current draw up to **500mA**
(*See servo setup guide and application example pages for servo details*)

Servo Movement Range selection:
DIP Switch 10 ON = Standard 90 degree servo range. **DIP Switch 10 OFF** = Extended 180 degree servo range (Servo permitting, check servo date to see that servo is able to move 180 degree without servo damages)

Power Supply:
Power supply wire connection terminal block (GND, +9) with power indicator - ON LED.
Board Electronics and Servo Motor power supply required = **9 VDC at 1 Amp**.
(Be sure to observe the polarity + / - on the board when connecting power supply)
Note: If the Servo chatters or acts randomly check the maximum current draw from the servo to see if it is not being exceeded and if exceeded then separate the Servo + supply from the driver board positive supply. *(Use caution - See servo power guide for more details on changing power setup to R/C servomotor)*

DMX 1-Channel Servo Driver Board

Board Layout

DIP Switches (Addressing)

NOTE:
DIP Switch Numbers
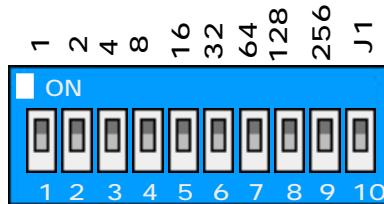
DMX 1-Ch Servo Driver Board

DIP Switch		Value
10	=	J1
9	=	256
8	=	128
7	=	64
6	=	32
5	=	16
4	=	8
3	=	4
2	=	2
1	=	1

SWITCH Values

1 2 4 8 16 32 64 128 256 J1

ON

1 2 3 4 5 6 7 8 9 10

DMX- Board Address DIP Switches

Board Power LED

DMX- Signal LED

ON = DMX Signal Present
Flashing = No DMX Signal

Manufacture Board Test Connector (Not Used)

Power Connection
Controller / Servo

9 VDC

9VDC
1 Amp

DMX Signal

DMX-Network Wire Connections

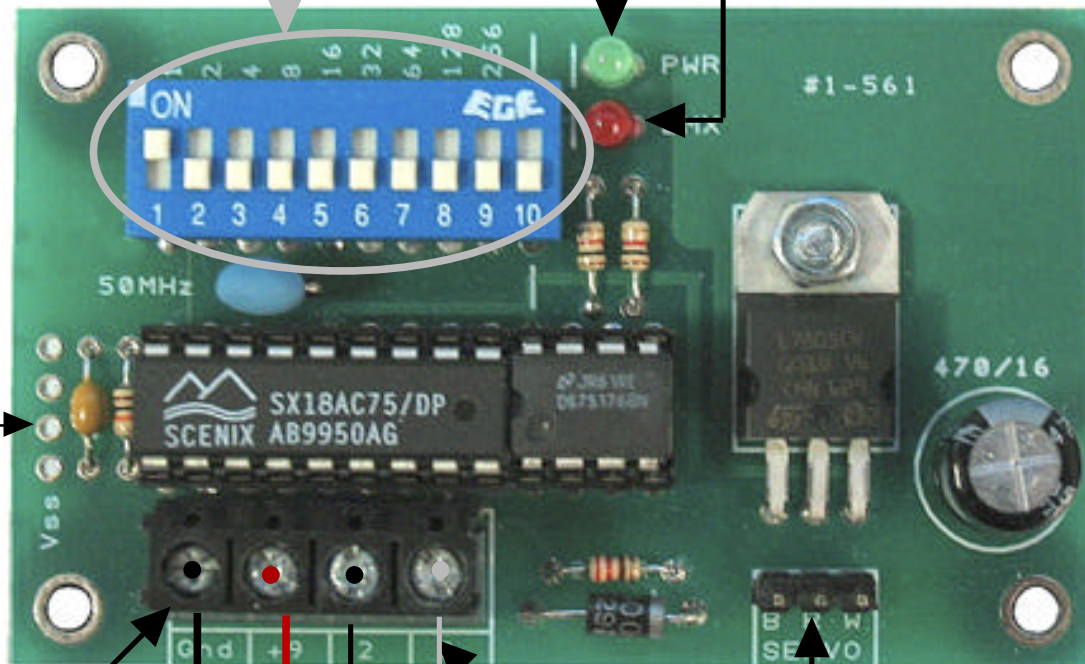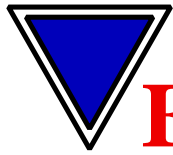Servo Connection Header Pins
B R S

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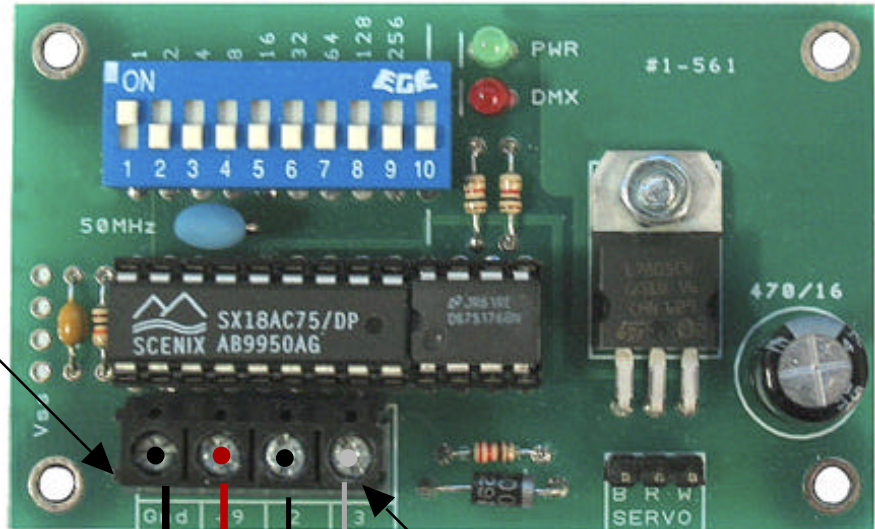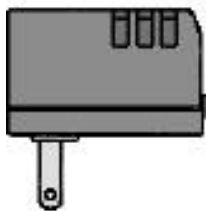*Phone (303) 651-3794 (MST)*
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DMX 1-Channel Servo Driver Board

Power Connection

Be sure to observe the polarity of **+ / -** on the board when connecting the power supply to the wire terminal block.

Power Connection

Wall Plug Power Supply 9 Vdc @ 1 Amp

− **+** **2** **3**

DMX -Network Wire Terminal Block

#1-561

PWR

DMX

50MHz

SX18AC75/DP
SCENIX AB9950AG

470/16

B R W
SERVO

DMX Network Connection

5- Pin XLR Cable

F
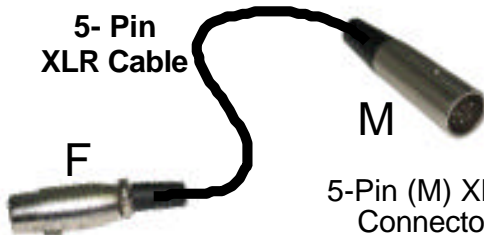
5-Pin (F) XLR Connector

To Next DMX Device
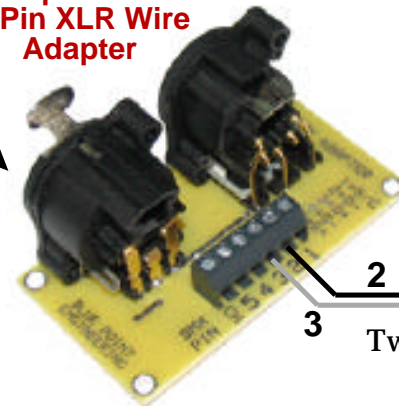
M

5-Pin (M) XLR Connector

Optional 5 Pin XLR Wire Adapter

XLR Connection
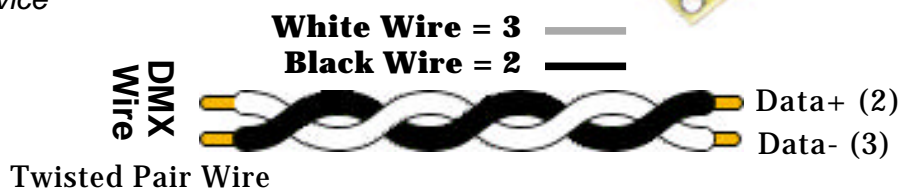
2

3

Twisted Pair Wire

White Wire = 3

Black Wire = 2

DMX Wire

Twisted Pair Wire

Data+ (2)

Data- (3)

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DMX 1-Channel Servo Driver Board

DMX Network Setup - 5 Pin

Overview

Software

USB PORT

Computer

Control Software (VSA)

USB to DMX Interface

USB Cable

- OR -

- OR -

USB Cable

USB PORT

Laptop Computer

- OR -

DMX Control Console

5-Pin (F) XLR Connector

- OR -

5-Pin (M) XLR Connector

DMX - XLR Cables

R/C Servo

5-Pin (F) XLR Connector

- OR -

5-Pin (M) XLR Connector

DMX - XLR Cables

DMX- 8 Ch Servo Board

5-Pin (M) XLR Connector

- OR -

5-Pin (F) XLR Connector

5-Pin (M) XLR Connector

2

3

5-Pin (M) XLR Connector

Optional 5 Pin XLR Wire Adapter

White Wire

Black Wire

To Next DMX Device or DMX-8 Ch Servo Driver Board Number 2

White / Yellow

Red **Servo Connection**

Black

2 **3**

Power Supply **-**

+

9VDC 1 Amp

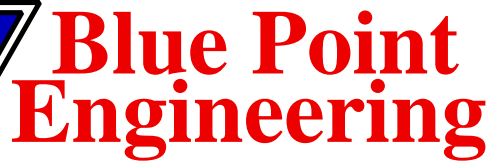Network Connection Wires - Twisted Pair

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DMX 1-Channel Servo Driver Board

Servo Connection
Overview

**SW 10 OFF: =
Standard 90 degree
servo range**

**SW 10 ON: =
Extended 180
degree servo range**

9 VDC
1 Amp

positions

A 0
B
90
C
90

Standard +5 Vdc
R/C Servo

Servo

Black -
Red -
Yellow / White -

**Servo
Connector
3 Pin Header**

(s) WHITE
YELLOW

(+) RED

(-) BLACK

Connection

Black -
Red -
Yellow / White -

**Servo Connector
3 Pin Header**

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DMX 1-Channel Servo Driver

Board Address DMX - Values

TOP VIEW

Positions

127   B 255
0 C   A

R/C Servo

Switch Value
Switch Position (ON or OFF)
Switch Number

OFF	ſl	J1
256		9
128		8
64		7
32		6
16		5
8		4
4		3
2		2
1		1

16+32 = 48

ON
ON

ON   OFF

DIP Switches (Addressing)

CH1

Example

(Board Address CH=48)
(Value= 255)- (Servo move to Position B)
(Value= 0) - (Servo move to Position C)
(Value= 127) - (Servo move to Center Position A)
Values between 0-126 and128-255 = Various Servo
Positions C - B

DMX Value 255 = Servo Position C/B
DMX Value 127 = Servo Position A - Center
DMX Value 0 = Servo Position C/B

Base address selectable between 1 and 511

Setting the base address of the 1-Channel Servo Board
Add the value of the address DIP switches set to the **ON** position to calculate the base address.
Example: DIP switches 5-(value 16) and 6-(value 32) set to **ON** position, the board base address is now 48, (16+32) this setting is used to determine the starting address output of Servo Channel-1.

Example: **Output Servo Channel-1**

DIp Switch 5 and 6 ON = **Base Address = 48**
Switch 10 = OFF (90 Degree Standard Servo Rotation output)
DMX Channel-1 at value 255 = Servo to position C
DMX Channel-1 at value 0 = Servo to position B
DMX Channel-1 at value 127 = Servo to position Center
Values between 0-126 and128-255 = Various Servo Positions

90   **Right B**
255
127 to 255
127 A Center
0 to 127
C 0 Left
90

DMX Channel-1	Servo Control		
	Servo Position	**LEFT** **C**	**Center** **A**	**RIGHT** **B**
	Value	0 to 127	127 (+/-)	127 to 255
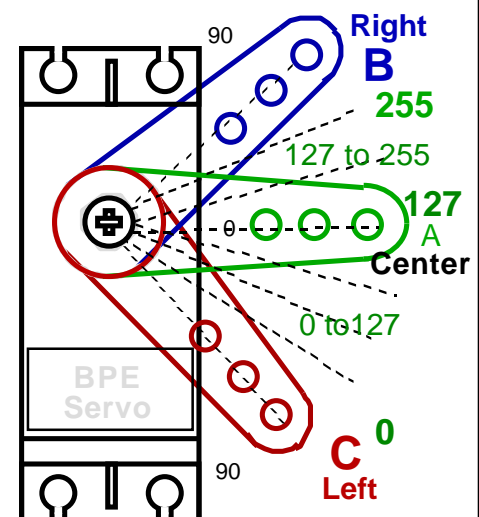
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DMX 1-Channel Servo Driver Board

**DMX Servo Driver Board
to Optional
DMX XLR- Adapter**
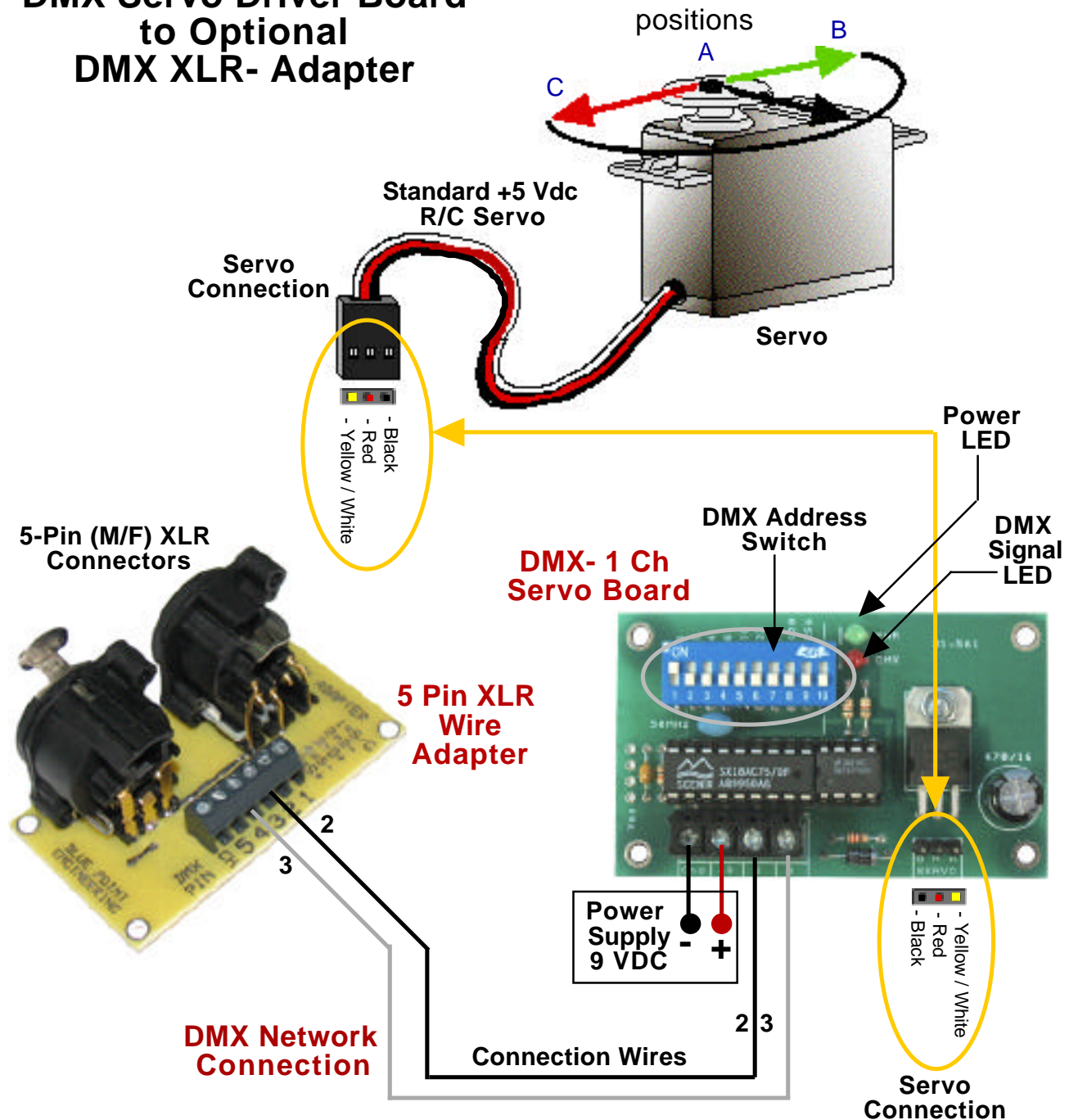
positions
A
B
C

**Standard +5 Vdc
R/C Servo**

**Servo
Connection**

Servo

- Black
- Red
- Yellow / White

**Power
LED**

**5-Pin (M/F) XLR
Connectors**

**DMX Address
Switch**

**DMX
Signal
LED**

**DMX- 1 Ch
Servo Board**

**5 Pin XLR
Wire
Adapter**

2

3

**Power
Supply
9 VDC**

− +

**DMX Network
Connection**

Connection Wires

2 3

- Yellow / White
- Red
- Black

**Servo
Connection**

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DMX 1-Channel Servo Driver Board

Servo Application   *Animatronics*

Animatronic Character

Other Characters

Servos

Servo Movement

Servo Movement (U / D)

Servo Movement (O / C)

Servo Movement (L / R)

Animatronic Character

Mechanical Movement Module

DMX- 1 Ch Servo Board

POWER Connection ◄

DMX Network Connection ◄
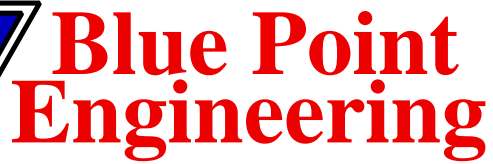
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DMX 1-Channel Servo Driver Board

Large Servo Connection

Powering Largr Servo from Separate Power Supply Setup

6-12 VDC
3- 5 Amp

- Black (-)
- Red (+)

POWER SUPPLY

LARGE SERVO

- Red (+)

Fuse

- Black (-)

Clip Connector

CUT

White or Yellow

Optional Servo Power Connection

CAUTION

Servo Red wires must not be connected to controller board

Red (+)

- Black

- White / Yellow

Black (-)

Red
No Connection

DO NOT Connect

CAUTION
Servo must be able to handle voltage greater than 5 Vdc

Optional Power Set-up Large Servo Motors 6-12 Vdc

Servo Connection

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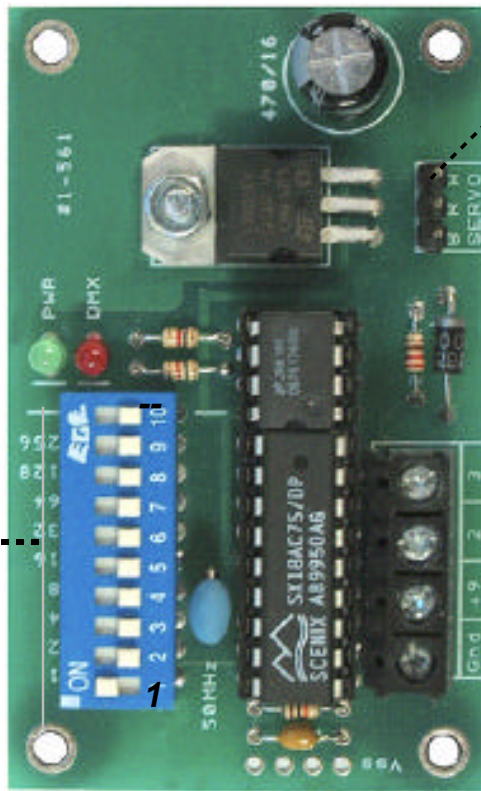
DMX 512 Address Chart

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

DMX 512 Address Chart Cont.

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	
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	

Example

BYTE — 256, 128, 64, 32, 16, 8, 4, 2, 1

2 + 4 + 32 + 128 + 256 = 422

Address 422

Address = 422
Switch ON = 2, 3, 6, 8, 9

US Standard DMX 512

OFF / ON

BYTE — 256, 128, 64, 32, 16, 8, 4, 2, 1

DIP Switches (Addressing)

Switch Value ⟶
Switch Position (ON or OFF) ⟶
Switch Number ⟶
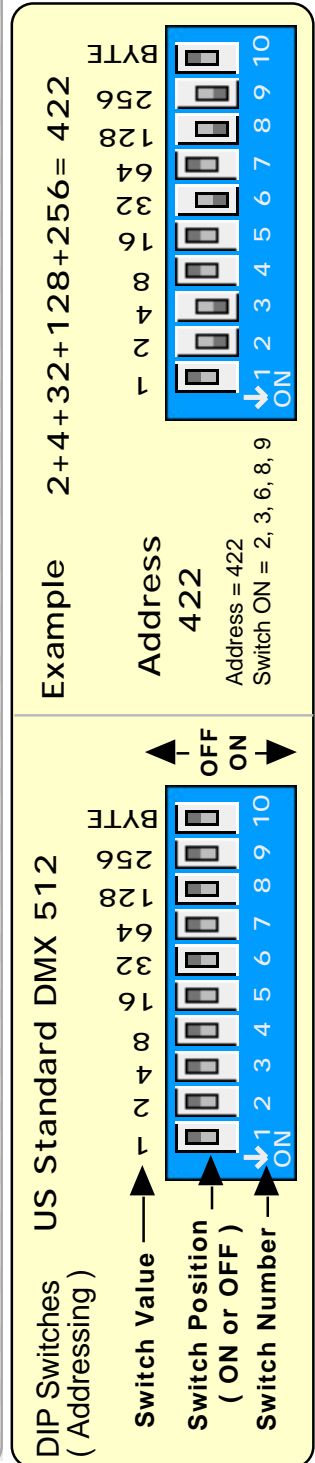
DMX 1-Channel Servo Driver Board

**DMX- Hybrid Example
Optional Servo Application**

Servo Output to Analog Converter
Will Operate Solid State 110 AC Dimming Controller

Servo to Analog Controller No-1

**0-10 Vdc
Output**

Servo Jumper Wire
(3 Wire - Black, Red, White (Yellow)
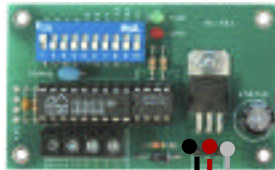
**DMX 1-Ch Servo
Driver Board**

*Servo
Output
Ch-1*

Ch-1
Ch-2

+

-

GND
Output

Caution

**110 AC
Wall Plug in**

AC V

Caution

2

- DC

+ DC

*Servo
Input*

+3

+

DC

- DC

**110 AC
Light Effects Unit
(Plug In)
Dimming 0-100%
Max - 15 Amp**

1

4 -

**Solid State Dimmer Module
Crydom (10PCV2415)**
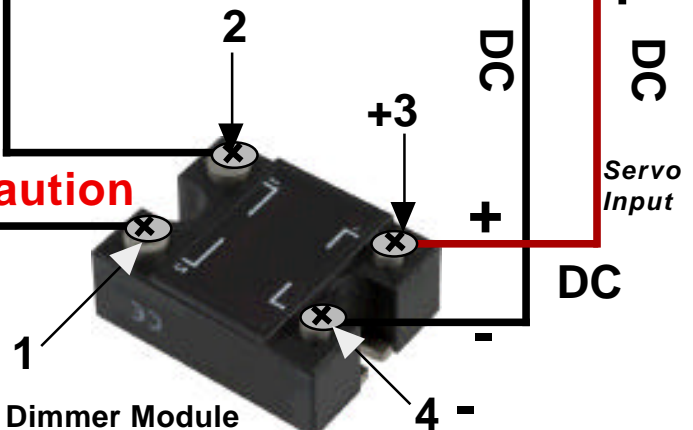
Caution: AC Voltage

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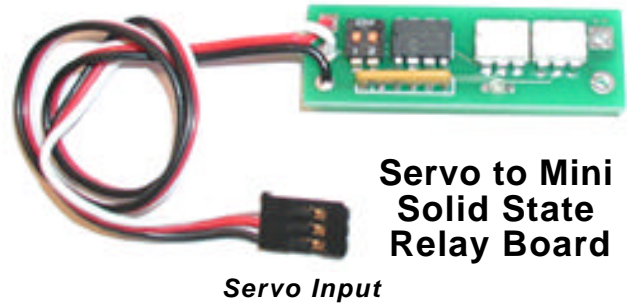serious personal injury or damage to equipment.**

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DMX 1-Channel Servo Driver Board

Optional Servo Application DMX- Hybrid Example

Servo Output to Solid State Relays

DMX 1-Ch Servo Driver Board

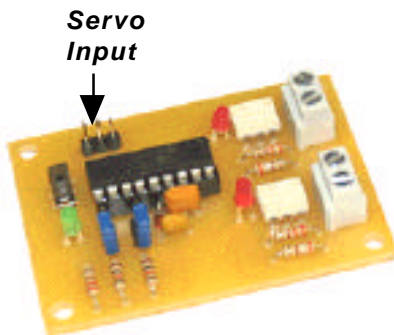**Servo to Mini Solid State Relay Board**

Servo Input

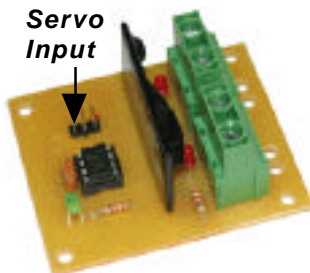**To Servo Output Channels**
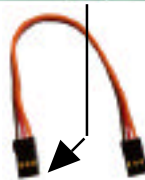
To Remote Boards

Servo Input

Devices / Loads

- Lighting
- SPX Equipment
- Sound Equipment
- DC Motors
- Pneumatic (Air) Valves
- Water Pumps - DC
- Solenoid Valves (Water / Air)

Servo to Duo 1Amp or Single 2Amp Solid State Relay

Servo to 2 Channel Solid State Relay

Servo Input

Servo Input

Servo to 10 Amp Solid State Relay

Jumper to Remote Devices / Boards from DMX Servo Driver Board

Servo to 10 Amp DC Motor Controller

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www.BPEsolutions.com
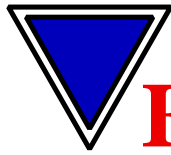
DMX 1-Channel Servo Driver Board

Optional Servo Application DMX- Hybrid Example

DMX 1-Ch Servo Driver Board

To Servo Output Channels

To Remote Boards

Servo Output to Devices

Servo to Voltage Output Driver

Servo Input

Servo Inputs 1-4

Servo Input

Servo to Micro Water Pump

4- Ch Servo to Analog Output (0-10 Vdc or 0-5 Vdc)

Servo Input

Servo to Pneumatic Valve (Air)

Servo Input

Servo Input to Special Effects Controller Board

Blue Point Engineering

DMX 1-Channel Servo Driver Board

**Optional Servo Application
DMX- Hybrid Example**

Servo Output to Video / Sound Switch

*DMX 1-Ch Servo
Driver Board*

**Servo to 4 Ch to 1Ch
Video Switch**

**To Remote
Boards**

**To Servo
Output
Channels**

*Servo
Input*

*Servo
Input*

**Servo Connection
from DMX Servo
Driver Board**

**Servo to Sound
Switch**

*Servo
Input*

**Servo to Video
Switch**

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