CITY THEATRICAL

NEW YORK • LONDON

D4 Dimmer
User's Manual

Rev 0.14

US HEADQUARTERS
475 BARELL AVENUE
CARLSTADT, NEW JERSEY 07072
TEL 800 230 9497 / 201 549 1160
FAX 201 549 1161

www.citytheatrical.com

LONDON OFFICE
UNIT 1-3 WYVERN ESTATE, BEVERLEY WAY
NEW MALDEN, SURREY KT3 4PH
TEL +44 (0) 20 8949 5051
FAX +44 (0) 20 7183 6061

System Compliance Information (pending)

This product is in review and has not yet been fully certified

The D4 Dimmer is CE Certified
Standards applied:

EN 55203-1: 2009
EN 55203-2: 2009
EN 301 489-1 V1.8.1
EN 301 489-3 V1.4.1
EN 60950-1:2006 / A1:2010
FCC Rules, Part 15, Subpart B, Sections 15.107 and 15.109

Products Conform to CE Marking Directive 93/68/EEC

All models are RoHS compliant

Safety Notices, Ratings and Power Requirements

Please read this entire manual before using your new equipment. Please keep the manual in a safe place so you can refer to it in the future as required.

The D4 Dimmer is intended for use only by qualified professionals. Connection, installation and hanging of this equipment must be performed in accordance with all pertinent local, regional and national safety codes and regulations.

The D4 Dimmer is intended for indoor use.

The unit enclosure is rated NEMA 1 / IP20.

Rated operating voltage; 7.5-30VDC, 10A max

Maximum operating temperature: 0°C - 40°C.

Introduction

Thank you for using City Theatrical's D4 Dimmer. The D4 Dimmer represents new benchmarks for control features and affordability in a miniature wireless dimmer for use with LEDs, incandescent fixtures, relays or other devices.

The D4 Dimmer features include:

- Screw terminal DMX512 Input
- Miniature size
- NEMA 1 / IP 20 rated enclosure (indoor use)
- Four channel DC Dimmer with 4 dimming curves (10 Amp maximum total load)
- FCC and CE Certified

Every effort has been made to anticipate your questions in this manual, but if you have any questions that are not answered here, or you want to discuss a special application, please feel free to contact us directly at City Theatrical.

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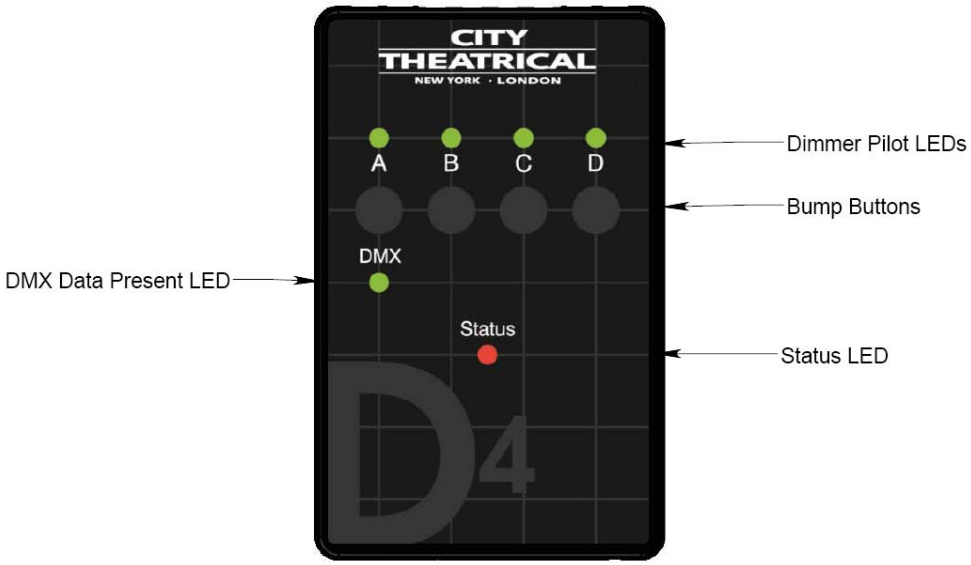
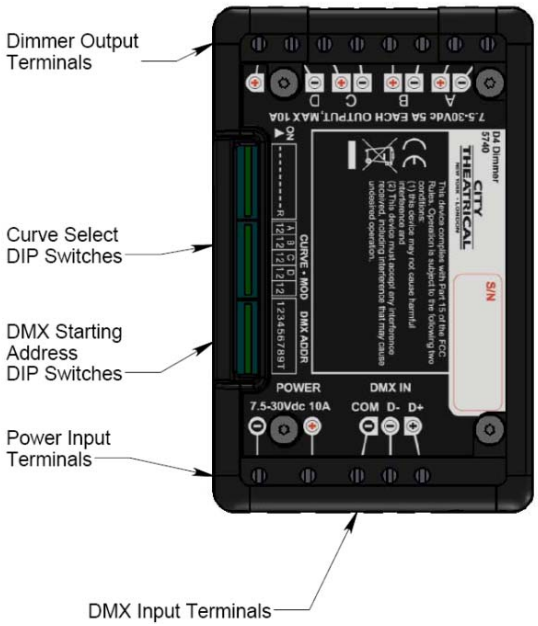
D4 Top Panel View



D4 Bottom Panel View



Setting up the D4 Dimmer

Installation

Install the D4 Dimmer in a suitable location, following the instructions below. When selecting a mounting location, note that for best results the antennas in your system must be within sight of each other and polarized the same way (see below).

Power Connections
Connect +7.5 ~ 30VDC DC Power to the Dimmer using the two provided screw terminals. Connect +VDC to the + (plus) Terminal and – (minus) VDC to the – Terminal. These terminals will accommodate up to 14 AWG / 1.5mm^2 wire. This DC power input is rated for 10A.

Be aware that the power supply voltage must match the rated voltage of the load. If you are using 12V LED tape, use 12VDC power.

Dimmer Output Connections
The four dimmer channels are labeled "A", "B", "C", and "D". Connect the load wiring using the provided screw terminals. There is a screw terminal pair provided for each dimmer. Connect +VDC to the + (plus) Terminal and – (minus) VDC to the – Terminal. These terminals will accommodate up to 14 AWG / 1.5mm^2 wire.

Over-current Protection
The D4 Dimmer is provided with an internal 25A fuse for input protection. This fuse is not user service-able. Each dimmer output is provided with fuse-less hardware-based over-current protection that functions automatically when an over-current condition exists. When overload condition is removed, normal operation resumes.

Wired DMX512 Input
This is a PLASA/ANSI compliant DMX512-A Input. You may connect this Input in a daisy chain to additional down-stream DMX512 devices using suitable cable such as Cat5 UTP or approved DMX512 Cable. Short runs may be connected with neatly twisted 24AWG hookup wire. A single position DIP switch is provided as a DMX termination switch if the unit is at the end of the DMX line. The Termination switch is located at the far right of the DMX Address DIP Switch array and is marked "T".

The DMX512 Input is labeled Com, D- and D+, corresponding to standard DMX512 connections of Common, Data – and Data +. You can build an XLR or RJ45 cable adapter using the table below, which shows connection to 5 pin and 3 pin XLR and RJ45 connectors:

Signal	D Series Terminal	5 Pin XLR Female	3 Pin XLR Female	RJ45
Common	COM	Pin 1	Pin 1	Pin 7 (white/brown)
Data -	D-	Pin 2	Pin 2	Pin 2 (orange)
Data +	D+	Pin 3	Pin 3	Pin 1 (white / orange)

Note that as this is an input, the XLR connector should normally be male.

User interface
The D4 Dimmer is provided with a set of switches and LED indicators for configuration and status monitoring:

(Top Panel)
1. DMX Present LED: Indicates DMX512 Data is being received
2. Dimmer Pilot Light LEDs: Fade up and down with the dimmer to permit easy monitoring and testing
3. Status LED: Indicates the following error/fault conditions:

Condition	Blink Pattern	Blinks followed by 1sec pause
UNDER VOLTAGE	. . .	1
INVALID DMX ADDRESS	.. .. ..	2
INVALID SHOW ID	… … …	3
OUTPUT OVER CURRENT	…. …. ….	4
INPUT OVER CURRENT	….. ….. …..	5
OVER TEMP	…… …… ……	6
OVER VOLTAGE	……. ……. …….	7

4. Bump Buttons: A bump button is provided for each dimmer output

(Bottom Panel)

5. DMX Addressing DIP Switch (9 position): Set the starting DMX address for the unit
6. Curve Selection DIP Switch (8 position): Select the dimming curve for each of the individual dimmer outputs in the unit
7. MOD Selection DIP Switch (2 position): Select the PWM modulation frequency for dimmer channels set to the LED Curve.
8. R DIP Switch (1 position): Setting this Reset switch to ON resets the Dimmer and holds in reset until set to OFF.
9. T Dip Switch (1 position): Setting this termination switch to ON connects end-of-line DMX termination.

D4 Dimmer RDM Parameter IDs

The D4 Dimmer supports the all mandatory RDM Parameter IDs (PIDs) plus to following PIDs:

PROXIED_DEVICE_COUNT
PROXIED_DEVICES_ENHANCED
SUPPORTED_PARAMETERS
PARAMETER_DESCRIPTION
DEVICE_MODEL_DESCRIPTION
MANUFACTURER_LABEL
DEVICE_LABEL
FACTORY_DEFAULTS
SOFTWARE_VERSION_LABEL
DMX_BLOCK_ADDRESS
SENSOR_DEFINITION
SENSOR_VALUE
RECORD_SENSORS
OUTPUT_RESPONSE_TIME
OUTPUT_RESPONSE_TIME_DESCRIPTION
MODULATION_FREQUENCY
MODULATION_FREQUENCY_DESCRIPTION
DMX_START_ADDRESS
SLOT_INFO

SLOT_DESCRIPTION
SENSOR_DEFINITION
SENSOR_VALUE
RECORD_SENSORS
CURVE
CURVE_DESCRIPTION
IDENTIFY_DEVICE

To learn more about RDM, a good place to start is the Wikipedia article on RDM (lighting) at: http://en.wikipedia.org/wiki/RDM_(lighting)

Dimmer Configuration

The D4 Dimmer has four independent Pulse Width Modulated (PWM) VDC dimmer outputs. Each output responds to a separate DMX512 slot; these slots are addressed contiguously with the first slot being the Starting Address. Each output can be configured individually with one of three dimming curves or as a NON-DIM.

DMX addressing

Set the starting address for the D4 Dimmer using the DMX Address DIP switch. The nine switch positions set the starting DMX address (this is a binary value). A complete DMX Starting Address DIP Switch Table is provided in Appendix A.

DMX addressing may be set manually using the DMX Starting Address DIP switches or using RDM. When RDM is used, the individual dimmer channels may be set independently to any DMX address. When the DIP switched are used, the channels are addressed contiguously form the base address set by the switch. The highest address that can be set by the DIP switch is limited to 509 in the D4 Dimmer and 511 in the D2 Dimmer.

Whichever method is used last takes precedence. The unit maintains the last used setting over power cycles, and checks on power up to see if switches have been changed while the unit was off.

Selecting Dimmer Curves

The dimming curve can be set individually for each 5A Dimmer output. The D4 Dimmer has an eight position DIP Switch with two positions for each dimmer output.

Dimmer	Switch 1	Switch 2	Switch 3	Switch 4	Switch 5	Switch 6	Switch 7	Switch 8	Function
A	OFF	OFF	#						Normal Dimming, ISL Curve
	OFF	ON	#						NON - DIM
	ON	OFF	#						Linear Dimming Curve
	ON	ON	#						LED Curve
B			OFF	OFF	#				Normal Dimming, ISL Curve
			OFF	ON	#				NON - DIM
			ON	OFF	#				Linear Dimming Curve
			ON	ON	#				LED Curve
C					OFF	OFF	#		Normal Dimming, ISL Curve
					OFF	ON	#		NON - DIM
					ON	OFF	#		Linear Dimming Curve
					ON	ON	#		LED Curve
D						#	OFF	OFF	Normal Dimming, ISL Curve
						#	OFF	ON	NON - DIM
						#	ON	OFF	Linear Dimming Curve
						#	ON	ON	LED Curve

The ISL (Inverse Square Law) Curve is intended for incandescent lamp dimming and is similar to a conventional mains-powered lighting dimmer curve. The PWM period for ISL is 60Hz. The NON-DIM function is intended for relays and other devices requiring switched power without PWM dimming.

The Linear Curve is a simple linear scale that can be used to drive DC integrators or other devices where linear response needed. The Linear PWM period is 60Hz.

The LED Curve is intended for controlling LEDs but may be used for other specialized loads.

The LED Curve Modes have been optimized for flicker free performance in TV and Film applications. All settings have been camera tested with motion picture film and digital cameras. The settings are different to allow compensation for variations in shutter speed and shutter angle. A camera test is recommended to confirm the correct setting has been selected.

The Mode Settings include TV/Film Mode 1 - 4 which are DIP selectable, and TV/Film Mode 5 which is selectable via RDM only using the MODULATION_FREQUENCY RDM parameter.

The SHoW DMX Neo D4 Dimmer has a two position DIP switch for setting the TV/Film Mode:

OFF	OFF	TV/Film Mode 1
ON	OFF	TV/Film Mode 2
OFF	ON	TV/Film Mode 3
ON	ON	TV/Film Mode 4

The settings are also provided to allow control of other specialized loads (see below).

Dimmer curves and Modes may be set manually using the Dimmer Curve and Mode DIP switches or using RDM. Whichever method is used last takes precedence. The unit maintains the last used setting over power cycles, and checks on power up to see if switches have been changed while the unit was off.

Using D Series Dimmers with CTI Flicker Candles

City Theatrical Flicker Candles may be used with the D Series Dimmers in TV/Film Mode 4 or 5 without need for a candle adapter. Up to 50 CTI Flicker candles can be powered and dimmed with a D Series Dimmer.

The D4 Dimmer is a constant voltage PWM dimmer and so will work with any size LED load that is within the Dimmer's 5A current and 7.5-30VDC voltage range. Note that constant voltage dimmers do not compensate for voltage drop in load wiring so care should be taken to optimize load wiring designs by minimizing run length, assuring termination quality, and assuring adequately sized wire is used.

Dimmer curves may be set manually using the Dimmer Curve DIP switches or using RDM. Whichever method is used last takes precedence. The unit maintains the last used setting over power cycles, and checks on power up to see if switches have been changed while the unit was off.

Appendix A: DMX512 Starting Address DIP Switch Tables

Start Address	DIP Setting 123456789	Start Address	DIP Setting 123456789	Start Address	DIP Setting 123456789	Start Address	DIP Setting 123456789
1	100000000	51	110011000	101	101001100	151	111010010
2	010000000	52	001011000	102	011001100	152	000110010
3	110000000	53	101011000	103	111001100	153	100110010
4	001000000	54	011011000	104	000101100	154	010110010
5	101000000	55	111011000	105	100101100	155	110110010
6	011000000	56	000111000	106	010101100	156	001110010
7	111000000	57	100111000	107	110101100	157	101110010
8	000100000	58	010111000	108	001101100	158	011110010
9	100100000	59	110111000	109	101101100	159	111110010
10	010100000	60	001111000	110	011101100	160	000001010
11	110100000	61	101111000	111	111101100	161	100001010
12	001100000	62	011111000	112	000011100	162	010001010
13	101100000	63	111111000	113	100011100	163	110001010
14	011100000	64	000000100	114	010011100	164	001001010
15	111100000	65	100000100	115	110011100	165	101001010
16	000010000	66	010000100	116	001011100	166	011001010
17	100010000	67	110000100	117	101011100	167	111001010
18	010010000	68	001000100	118	011011100	168	000101010
19	110010000	69	101000100	119	111011100	169	100101010
20	001010000	70	011000100	120	000111100	170	010101010
21	101010000	71	111000100	121	100111100	171	110101010
22	011010000	72	000100100	122	010111100	172	001101010
23	111010000	73	100100100	123	110111100	173	101101010
24	000110000	74	010100100	124	001111100	174	011101010
25	100110000	75	110100100	125	101111100	175	111101010
26	010110000	76	001100100	126	011111100	176	000011010
27	110110000	77	101100100	127	111111100	177	100011010
28	001110000	78	011100100	128	000000010	178	010011010
29	101110000	79	111100100	129	100000010	179	110011010
30	011110000	80	000010100	130	010000010	180	001011010
31	111110000	81	100010100	131	110000010	181	101011010
32	000001000	82	010010100	132	001000010	182	011011010
33	100001000	83	110010100	133	101000010	183	111011010
34	010001000	84	001010100	134	011000010	184	000111010
35	110001000	85	101010100	135	111000010	185	100111010
36	001001000	86	011010100	136	000100010	186	010111010
37	101001000	87	111010100	137	100100010	187	110111010
38	011001000	88	000110100	138	010100010	188	001111010
39	111001000	89	100110100	139	110100010	189	101111010
40	000101000	90	010110100	140	001100010	190	011111010
41	100101000	91	110110100	141	101100010	191	111111010
42	010101000	92	001110100	142	011100010	192	000000110
43	110101000	93	101110100	143	111100010	193	100000110
44	001101000	94	011110100	144	000010010	194	011000010
45	101101000	95	111110100	145	100010010	195	110000110
46	011101000	96	000001100	146	010010010	196	001000110
47	111101000	97	100001100	147	110010010	197	101000110
48	000011000	98	010001100	148	001010010	198	011000110
49	100011000	99	110001100	149	101010010	199	111000110
50	010011000	100	001001100	150	011010010	200	000100110

Start Address	DIP Setting 123456789	Start Address	DIP Setting 123456789	Start Address	DIP Setting 123456789	Start Address	DIP Setting 123456789
201	100100110	251	110111110	301	101101001	351	111110101
202	010100110	252	101111110	302	011101001	352	000001101
203	110100110	253	101111110	303	111101001	353	100001101
204	001100110	254	011111110	304	000011001	354	010001101
205	101100110	255	111111110	305	100011001	355	110001101
206	011100110	256	000000001	306	010011001	356	001001101
207	111100110	257	100000001	307	110011001	357	101001101
208	000010110	258	010000001	308	001011001	358	011001101
209	100010110	259	110000001	309	101011001	359	111001101
210	010010110	260	001000001	310	011011001	360	000101101
211	110010110	261	101000001	311	111011001	361	100101101
212	001010110	262	011000001	312	000111001	362	010101101
213	101010110	263	111000001	313	100111001	363	110101101
214	011010110	264	000100001	314	010111001	364	001101101
215	111010110	265	100100001	315	110111001	365	101101101
216	000110110	266	010100001	316	001111001	366	011101101
217	100110110	267	11100001	317	101111001	367	111101101
218	010110110	268	001100001	318	011111001	368	000011101
219	110110110	269	101100001	319	111111001	369	100011101
220	001110110	270	011100001	320	000000101	370	010011101
221	101110110	271	111100001	321	100000101	371	110011101
222	011110110	272	000010001	322	010000101	372	001011101
223	111110110	273	100010001	323	110000101	373	101011101
224	000001110	274	010010001	324	001000101	374	011011101
225	100001110	275	110010001	325	101000101	375	111011101
226	010001110	276	001010001	326	011000101	376	000111101
227	110001110	277	101010001	327	111000101	377	100111101
228	001001110	278	011010001	328	000100101	378	010111101
229	101001110	279	111010001	329	100100101	379	110111101
230	011001110	280	000110001	330	010100101	380	001111101
231	111001110	281	100110001	331	110100101	381	101111101
232	000101110	282	010110001	332	001100101	382	011111101
233	100101110	283	110110001	333	101100101	383	111111101
234	010101110	284	001110001	334	011100101	384	000000011
235	110101110	285	101110001	335	111100101	385	100000011
236	001101110	286	011110001	336	000010101	386	010000011
237	101101110	287	111110001	337	100010101	387	110000011
238	011101110	288	000001001	338	010010101	388	001000011
239	111101110	289	100001001	339	110010101	389	101000011
240	000011110	290	010001001	340	001010101	390	011000011
241	100011110	291	110001001	341	101010101	391	111000011
242	010011110	292	001001001	342	011010101	392	000100011
243	110011110	293	101001001	343	111010101	393	100100011
244	001011110	294	011001001	344	000110101	394	010100011
245	101011110	295	111001001	345	100110101	395	110100011
246	011011110	296	000101001	346	010110101	396	001100011
247	111011110	297	100101001	347	110110101	397	101100011
248	000111110	298	010101001	348	001110101	398	011100011
249	100111110	299	110101001	349	101110101	399	111100011
250	010111110	300	001101001	350	011110101	400	000010011

Start Address	DIP Setting 123456789	Start Address	DIP Setting 123456789	Start Address	DIP Setting 123456789
401	100010011	451	110000111	501	101011111
402	010010011	452	001000111	502	011011111
403	110010011	453	101000111	503	111011111
404	001010011	454	011000111	504	000111111
405	101010011	455	111000111	505	100111111
406	011010011	456	000100111	506	010111111
407	111010011	457	100100111	507	110111111
408	000110011	458	010100111	508	001111111
409	100110011	459	110100111	509	101111111
410	010110011	460	001100111	510	011111111
411	110110011	461	101100111	511	111111111
412	001110011	462	011100111		
413	101110011	463	111100111		
414	011110011	464	000010111		
415	111110011	465	100010111		
416	000001011	466	010010111		
417	100001011	467	110010111		
418	010001011	468	001010111		
419	110001011	469	101010111		
420	001001011	470	011010111		
421	101001011	471	111010111		
422	011001011	472	000110111		
423	111001011	473	100110111		
424	000101011	474	010110111		
425	100101011	475	110110111		
426	010101011	476	001110111		
427	110101011	477	101110111		
428	001101011	478	011110111		
429	101101011	479	111110111		
430	011101011	480	000001111		
431	111101011	481	100001111		
432	000011011	482	010001111		
433	100011011	483	110001111		
434	010011011	484	001001111		
435	110011011	485	101001111		
436	001011011	486	011001111		
437	101011011	487	111001111		
438	011011011	488	000101111		
439	111011011	489	100101111		
440	000111011	490	010101111		
441	100111011	491	110101111		
442	010111011	492	001101111		
443	110111011	493	101101111		
444	001111011	494	011101111		
445	101111011	495	111101111		
446	011111011	496	000011111		
447	111111011	497	100011111		
448	000000111	498	010011111		
449	100000111	499	110011111		
450	010000111	500	001011111		

Appendix B: Using D series Dimmers with LED Tape

The CTI 5700 D series Dimmers have been optimized for use with LED tape. The D4 Dimmer can be used with three color (RGB) or four color (RGBW, RGBA) tape, or can be used to run up to four strips of single color tape. A D4 and D2 Dimmer can be combined to run two strips of three color tape.

How much Tape can I use with one D4 Dimmer?

LED tape load current varies by brand and style. Among 3/8" / 10mm wide tape styles with a single row of LEDs, single color tape is available that draws between 60mA to 99mA per foot, and RGB (three color) tape is available that draws between 124mA and 336mA per foot. LED products are constantly evolving, so be sure and check the tape you are using to confirm the load per foot/color.

There are currently some popular brands of RGB tape with 3 LED chips per 2" that are ~ 200mA per foot. This is the total load for all three colors, so each color is ~ 67mA per foot. You can drive up to 50 feet total of 200 mA tape with a D4, resulting in a total load of 10A and a per channel load of 3.33A. But remember that the ampacity of the tape can vary, so if you approach the Dimmer's maximum load limit, check that actual load carefully to confirm that you haven't exceeded the limit.

Note that there are limits to how long a single run of tape can be before tape performance is degraded, and this limit may not be equal to the maximum load the D4 Dimmer will drive. For very long runs of tape, you may need to cut the tape into pieces and feed them via separate home runs (see below).

For 200mA RGB tape, CTI recommends a maximum of 48 feet of tape be connected, and that you split this load into at least two 24 foot runs.
If you connect 48 feet of this 200mA per foot tape to a single D4 dimmer, resulting in a total load of 9.6A and a load per channel of 3.2A, you will have ~ 4 % head room.

Most manufacturers offer their longest tape in reels of ~ 16 feet/ 5 Meters, and some manufacturers recommend that single runs of tape should be limited to no more than the full length of the manufacturers reel. With some brands you may still notice a difference in brightness from one end to the other if the full reel is connected as a single run.

Remember that that the power supply voltage must match the rated voltage of the load. The D4 Dimmer outputs the voltage it receives. If you are using 12V LED tape, use 12VDC power.

Connecting Single Color Tape

12 Volt single color tape is provided with a single +VDC circuit and a –VDC circuit.

1. Connect the +VDC circuit to one of the four + output terminals and connect the -VDC circuit to the accompanying –output terminal. Up to four runs of single color tape can be driven and dimmed by a D4 Dimmer.
2. Select the LED Curve for each dimmer channel used.
3. If you wish to change the PWM frequency, use RDM or the MOD switch to select the frequency desired.

D4 Dimmer connected to RGB Tape

Connecting Three Color (RGB) or Four Color (RGBW, RGBA) LED Tape

12 Volt three color LED tape is provide with a single +12VDC circuit and a –VDC circuit for each color.

1. Connect the +12VDC circuit to any one of the four + output terminals. The + terminals are bussed, and provide constant voltage. Note that some tape comes pre-wired with Black wire for the +12VDC circuit while other tape comes pre-wire with White wire.
2. Connect the R, G and B circuits each to one the four – output terminals (in the case of four color tape, connect the A or W circuit to the fourth – output terminal). The – terminals are the PWM dimmed outputs of the D4 Dimmer. Note that some tape comes with the R, G and B (and A or W) circuits in a different order than others.
3. Select the LED Curve for each dimmer channel used.
4. If you wish to change the PWM frequency, use RDM or the MOD switch to select the frequency desired.

Adapted from City Theatrical Tech Bulletin 1003: Working with LED Tape

The structure and electrical properties of LED Tape pose some important challenges to system designers and production electricians that must be met to insure good performance.

1. Locate Dimmers as close to the connection end of the tape as possible
2. Be aware of all run length limitations and meet them or devise de-rated alternatives
3. Use the heaviest wire possible for long Line and Load connection wiring
4. Check all terminations to confirm they are tight and correctly formed
5. Minimize wire transitions and terminations whenever possible

LED Tape typically consists of a strip of flexible printed circuit board material, backed with peel-and-stick adhesive and populated with multiple LEDs (each with individual current-limiting resistors) wired in parallel. Single color tape has one +VDC buss trace and one –VDC buss trace. RGB Tape has one –VDC buss for each LED color and one common +VDC buss.

The copper in these buss traces must be adequate to carry the current needed for the maximum allowable run length of the tape, while staying as small as possible. It is important to note that the copper in the LED tape also serves as the heat sink for the LEDs and their current limiting resistors.

If the maximum run length of the tape is exceeded, the copper busses will be overloaded and will heat up more than they are supposed to. In the long run, this will defeat the heat-sinking function and so fatigue the mounted components. In the short run, the heat will raise the impedance of the copper and contribute to operating problems. Heat stressed-copper can increase in impedance permanently. As the copper is heat-corrupted, the added impedance increases the heat generated and the copper is damaged further, which increases the heat, which increases the impedance, which increases the heat, which increases the impedance,…

Exceeding tape run length with single color LED tape can result in the following problems:

1. Excessive heat from the overloaded busses on the tape
2. Heat based component failure
3. Loss of output
4. Difference in brightness between the beginning and the end of the Tape
5. Permanent damage of the tape

Exceeding Tape run length with RGB LED tape can result in the following problems:

6. Excessive heat from the overloaded busses on the tape
7. Heat based component failure
8. Loss of output
9. Difference in brightness between the beginning and the end of the Tape
    a. Interaction between the R,G and B Channels, resulting in flickering or strobing at dimmed levels
10. Permanent damage of the tape

D4 Dimmer Specifications

DMX Control Features

- 3P Screw Terminals for DMX Input
- Termination switch for end-of line DMX termination

Other Features

- Four dimmer output channels
- Max output per dimmer channel 5A
- Max total output per device 10A
- Screw terminal connections for power input and dimmed output
- Each channel individually protected against over-current
- Each channel individually protected against over-temperature
- PWM resolution 16-bit
- Dimming Curves
    - Linear, 60Hz
    - ISL, 60Hz
    - Non-Dim
    - LED
- LED Features:
    - Five variable LED smoothing rates
    - Four Film and Video Modes Individual DMX addresses
- Fully RDM enabled

Mechanical

- NEMA 1 ABS enclosure

Electronic/ Functional Features

- Individual Bump Buttons
- DIP Switch, DMX Addressing (9POS)
- DIP Switch, Curve Selection (8POS)
- DIP Switch, LED Curve PWM Frequency Selection (2POS)
- DIP Switch, DMX Termination (1POS)
- DIP Switch, Reset (1POS)
- LED indicators:
    - Dimmer pilot lights (one for each channel)
    - Data (data present)
    - Status

Compliance:

- RoHS Compliant
- CE Pending
- FCC Pending

CTI Part #s: 5740 D4 Dimmer

Power: 7.5-30VDC 10A Max Power Input

Weight: 0.15 lbs/.08Kg

Dimensions: 2.25”/57mm W x3.5”/60mmH x 0.56”/14mmD