

LT- 840

DMX512 CV DECODER

User's Manual



Pls kindly read through this manual before use

Forward

Thanks for choosing our LT-840 DMX512 decoder. Before installation and usage, we strongly recommend you to read through this manual carefully.

After-Sales

From the day you purchase our products within a year, if being used properly in accordance with the instruction, and quality problems occur, we provide free repair or replacement services except the following cases:

1. Any defects caused by wrong operations..
2. Any damages caused by inappropriate power supply or abnormal voltage.
3. Any damages caused by unauthorized removal, maintenance, modifying circuit, incorrect connections and replacing chips.
4. Any damages due to transportation, breaking, flooding water after the purchase.
5. Any damages caused by earthquake, fire, flood, lightning strike etc force majeure of natural disasters.
6. Any damages caused by negligence, inappropriate storing at high temperature and humidity environment or near harmful chemicals.
7. Product has been updated.

Safety warnings

1. Please don't install this controller in lightening, intense magnetic and high-voltage fields.
2. To reduce the risk of component damage and fire caused by short circuit, make sure correct connection
3. Always be sure to mount this unit in an area that will allow proper ventilation to ensure a fitting temperature.
4. Check if the voltage and power adapter suit the controller (**please select DC5-24V power supply with constant voltage**)
5. Don't connect cables with power on, make sure a correct connection and no short circuit checked with instrument before power on.
6. Please don't open controller cover and operate if problems occur.

The manual is only suitable for this model, any update is subject to change without prior notice.

Function Brief

Thanks for choosing LT-840 DMX512 Decoder,LT-840 Decoder is designed via advanced micro-electronic control technology to convert universal dmx512/1990 signal into pwm signal;this compact decoder can work with dmx512 console,256-level brightness control,0-100% brightness or different effect;can control single color,RGB,RGBW led light.

I Product Parameter

Input voltage	DC5V~DC24V
Max current load	5A/CH×4CH 20A Max
Output power max	100W/240W/480W(5V/12V/24V)
Output scale level	256levels
Input signal	DMX512/1990
Output signal	4channels constant voltage PWM
Output dmx channel	4CH or 5CH
DMX512 socke	Standard XLR-3
Working temperature	-30°C-65°C
Dimension	L163×W78×H40mm
Packing size	L180×W82×H50mm
Weight(G.W)	340g

II Basic functions

- 1、 4 output channels,can control single color,RGB,RGBW led light
- 2、 0-100% brightness,256-level brightness control;
- 3、 User addressable DMX interface,with easy dip-switch settings and testing modes
- 4、 Input voltage is DC5V~DC24V;

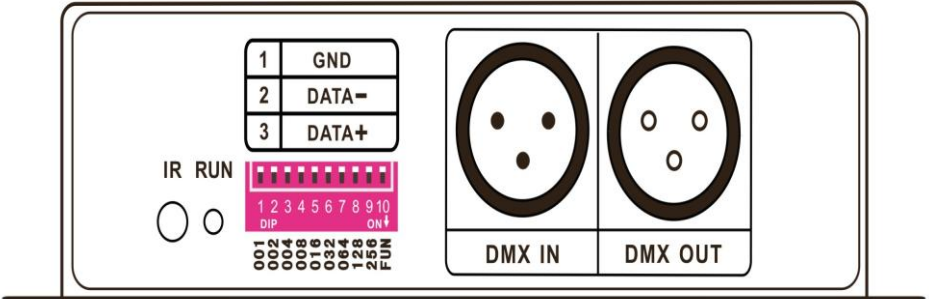
- 5、 Decoder comes with manual dimming,10 testing modes,8 the rate of change;
- 6、 With 4 DMX addresses or with 5 DMX addresses

III Two versions for LT-840 decoder

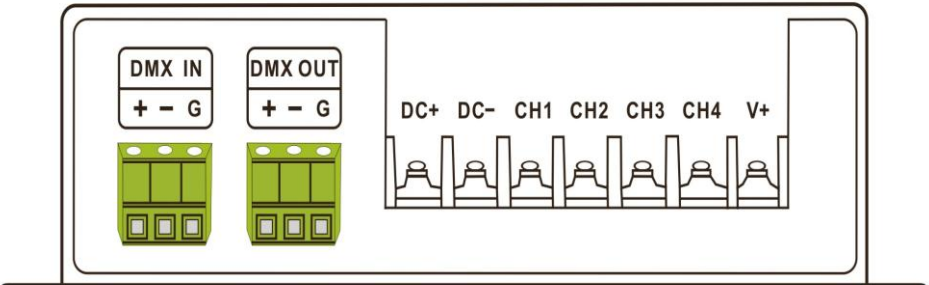
NO.	4 DMX ADD Version	5 DMX ADD Version
1	The 1 st address controls LEDs on CH1	The 1 st address controls LEDs on CH1
2	The 2nd address controls LEDs on CH2	The 2nd address controls LEDs on CH2
3	The 3th address controls LEDs on CH3	The 3th address controls LEDs on CH3
4	The 4th address controls LEDs on CH4	The 4th address controls LEDs on CH4
5	/	0-127 of the 5 th address controls the brightness,128-255 for strobe

Note: The default shipment is 4 addresses,pls inform in advance if need 5 addresses version.

IV Configuration Diagram



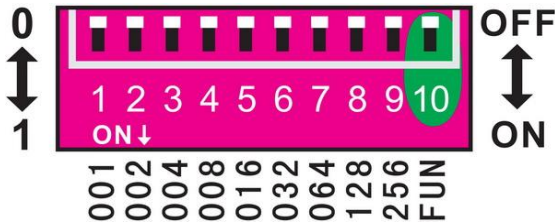
Input Port



Output Port

Decoder address setting

DMX512 Decoder works when FUN is at OFF, receiving DMX512 signals, Decoder testing mode works when FUN is at position ON.



Picture 1

1. Decoder first address setting

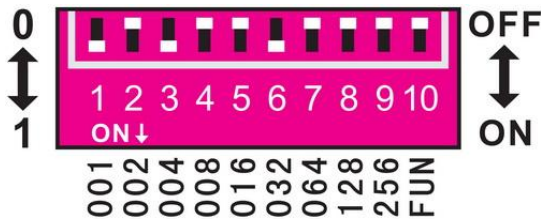
Accept DMX512 signal only when the DIP switch FUN=OFF

DIP switch	number	specification
1	001	This decoder occupies 3 addresses,adopted Dip switch to set the address,the Dip switches from 1 to 9 are a kind of binary value coding switches used to set DMX512 initial addresss code,the correlative bits in the 1-9 bits of the DIP switch,the 1 st bit is LSC,the 9 th bit MSC,511 addresses totally DMX512 initial address code is equal to the total amount of the Dip switches' number from 1 to 9,press Dip switch downward(ON:at position :”1”),user can get the number of its position,if pressing upward(at position”0”),the number of its position is 0.
2	002	
3	004	
4	008	
5	016	
6	032	
7	064	
8	128	
9	256	

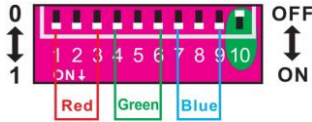


Example:Set to 37

Set the 6th,3rd,1st bit of the DIP switch downward to “1”,others to “0”,the total sum from 1 to 9 is 32+4+1,so the DMX512 initial address code is 37.



2. Manual control mode:



FUN=OFF(as picture'1"), manual control mode when there is no DMX512

Brightness	DIP1-3 (CH1)	DIP4-6 (CH2)	DIP7-9 (CH3)
0	000	000	000
14%	100	100	100
28%	010	010	010
43%	110	110	110
57%	001	001	001
71%	101	101	101
86%	011	011	011
100%	111	111	111

3. Testing function



As picture,the 10th DIP switch is FUN,acting as the function key

1-9DIP switch=OFF: BLACK

DIP1	DIP2	DIP3	DIP4	DIP5	DIP6	DIP7	DIP8	DIP9
RED	GREEN	BLUE	YELLOW	PURPLE	CYAN	WHITE	COLOR JUMPING	COLOR SMOOTH

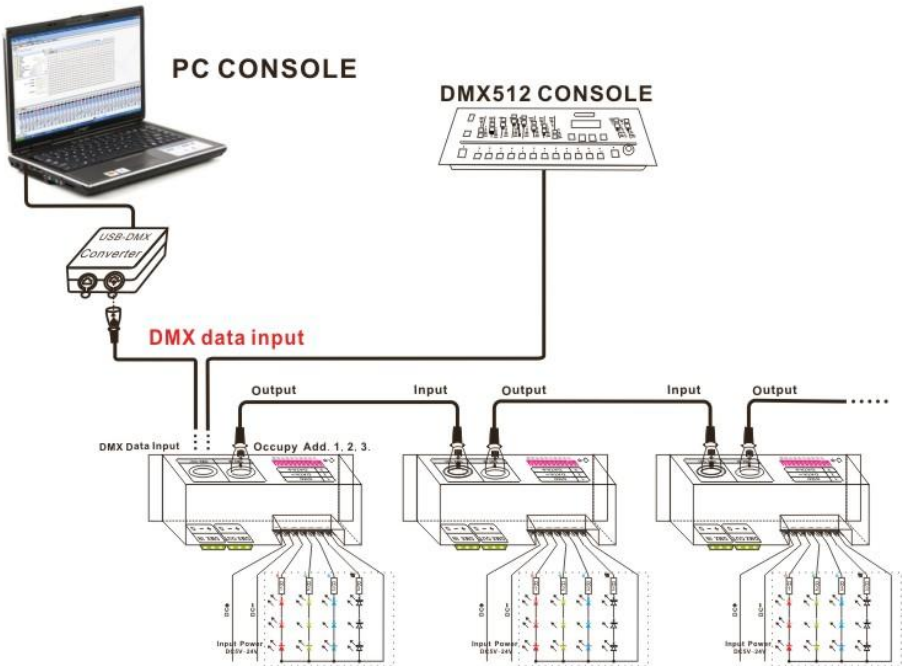


When decoder is at testing mode,DIP switch 8 is at "ON",it is the 7 color jumping,when DIP switch 9 is at "ON",it is the 7 color smooth,with 8 speed levels for each effect.

DIP1	DIP2	DIP3	DIP4	DIP5	DIP6	DIP7
SPEED	SPEED	SPEED	SPEED	SPEED	SPEED	SPEED
1	2	3	4	5	6	7

As picture,when several DIP SWITCH at "ON" at the same time,comply with the largest value switch,the testing function is when FUN=ON,DIP SWITCH 8&9 for the color changing function,DIP SWITCH 1-7 for the speed function,comply with the largest value switch,SPEED 7 is the fastest speed.

V Conjunction Diagram



NOTE:According to DMX512 protocol,in order to ensure a steady data transmission,you should add a metalster(Metal Thin Film resistor,90-120Ω 1/4W)at the end of each layout of DMX data cable(between Foot 2 and Foot 3,Data+and Data-),please also refer to your dmx console manual to select a correct resistor.

DMX Address Setting Table

DIP SWITCH	DMX ADDR	DIP SWITCH	DMX ADDR	DIP SWITCH	DMX ADDR
123456789	NUMBER	123456789	NUMBER	123456789	NUMBER
100000000	001	101110000	029	100111000	057
010000000	002	011110000	030	010111000	058
110000000	003	111110000	031	110111000	059
001000000	004	000001000	032	001111000	060
101000000	005	100001000	033	101111000	061
011000000	006	010001000	034	011111000	062
111000000	007	110001000	035	111111000	063
000100000	008	001001000	036	000000100	064
100100000	009	101001000	037	100000100	065
010100000	010	011001000	038	010000100	066
110100000	011	111001000	039	110000100	067
001100000	012	000101000	040	001000100	068
101100000	013	100101000	041	101000100	069
011100000	014	010101000	042	011000100	070
111100000	015	110101000	043	111000100	071
000010000	016	001101000	044	000100100	072
100010000	017	101101000	045	100100100	073
010010000	018	011101000	046	010100100	074
110010000	019	111101000	047	110100100	075
001010000	020	000011000	048	001100100	076
101010000	021	100011000	049	101100100	077
011010000	022	010011000	050	011100100	078
111010000	023	110011000	051	111100100	079
000110000	024	001011000	052	000010100	080
100110000	025	101011000	053	100010100	081
010110000	026	011011000	054	010010100	082
110110000	027	111011000	055	110010100	083
001110000	028	000111000	056	001010100	084

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DIP SWITCH	DMX ADDR	DIP SWITCH	DMX ADDR	DIP SWITCH	DMX ADDR
123456789	NUMBER	123456789	NUMBER	123456789	NUMBER
101010100	085	100011100	113	101100010	141
011010100	086	010011100	114	011100010	142
111010100	087	110011100	115	111100010	143
000110100	088	001011100	116	000010010	144
100110100	089	101011100	117	100010010	145
010110100	090	011011100	118	010010010	146
110110100	091	111011100	119	110010010	147
001110100	092	000111100	120	001010010	148
101110100	093	100111100	121	101010010	149
011110100	094	010111100	122	011010010	150
111110100	095	110111100	123	111010010	151
000001100	096	001111100	124	000110010	152
100001100	097	101111100	125	100110010	153
010001100	098	011111100	126	010110010	154
110001100	099	111111100	127	110110010	155
001001100	100	000000010	128	001110010	156
101001100	101	100000010	129	101110010	157
011001100	102	010000010	130	011110010	158
111001100	103	110000010	131	111110010	159
000101100	104	001000010	132	000001010	160
100101100	105	101000010	133	100001010	161
010101100	106	011000010	134	010001010	162
110101100	107	111000010	135	110001010	163
001101100	108	000100010	136	001001010	164
101101100	109	100100010	137	101001010	165
011101100	110	010100010	138	011001010	166
111101100	111	110100010	139	111001010	167
000011100	112	001100010	140	000101010	168

DMX Address Setting Table

DIP SWITCH	DMX ADDR	DIP SWITCH	DMX ADDR	DIP SWITCH	DMX ADDR
123456789	NUMBER	123456789	NUMBER	123456789	NUMBER
100101010	169	101000110	197	100001110	225
010101010	170	011000110	198	010001110	226
110101010	171	111000110	199	110001110	227
001101010	172	000100110	200	001001110	228
101101010	173	100100110	201	101001110	229
011101010	174	010100110	202	011001110	230
111101010	175	110100110	203	111001110	231
000011010	176	001100110	204	000101110	232
100011010	177	101100110	205	100101110	233
010011010	178	011100110	206	010101110	234
110011010	179	111100110	207	110101110	235
001011010	180	000010110	208	001101110	236
101011010	181	100010110	209	101101110	237
011011010	182	010010110	210	011101110	238
111011010	183	110010110	211	111101110	239
000111010	184	001010110	212	000011110	240
100111010	185	101010110	213	100011110	241
010111010	186	011010110	214	010011110	242
110111010	187	111010110	215	110011110	243
001111010	188	000110110	216	001011110	244
101111010	189	100110110	217	101011110	245
011111010	190	010110110	218	011011110	246
111111010	191	110110110	219	111011110	247
000000110	192	001110110	220	000111110	248
100000110	193	101110110	221	100111110	249
010000110	194	011110110	222	010111110	250
110000110	195	111110110	223	110111110	251
001000110	196	000001110	224	001111110	252

DMX Address Setting Table

DIP SWITCH	DMX ADDR	DIP SWITCH	DMX ADDR	DIP SWITCH	DMX ADDR
123456789	NUMBER	123456789	NUMBER	123456789	NUMBER
101111110	253	100110001	281	101011001	309
011111110	254	010110001	282	011011001	310
111111110	255	110110001	283	111011001	311
000000001	256	001110001	284	000111001	312
100000001	257	101110001	285	100111001	313
010000001	258	011110001	286	010111001	314
110000001	259	111110001	287	110111001	315
001000001	260	00001001	288	001111001	316
101000001	261	100001001	289	101111001	317
011000001	262	010001001	290	011111001	318
111000001	263	110001001	291	111111001	319
000100001	264	001001001	292	000000101	320
100100001	265	101001001	293	100000101	321
010100001	266	011001001	294	010000101	322
110100001	267	111001001	295	110000101	323
001100001	268	000101001	296	001000101	324
101100001	269	100101001	297	101000101	325
011100001	270	010101001	298	011000101	326
111100001	271	110101001	299	111000101	327
000010001	272	001101001	300	000100101	328
100010001	273	101101001	301	100100101	329
010010001	274	011101001	302	010100101	330
110010001	275	111101001	303	110100101	331
001010001	276	000011001	304	001100101	332
101010001	277	100011001	305	101100101	333
011010001	278	010011001	306	011100101	334
111010001	279	110011001	307	111100101	335
000110001	280	001011001	308	000010101	336

DMX Address Setting Table

DIP SWITCH	DMX ADDR	DIP SWITCH	DMX ADDR	DIP SWITCH	DMX ADDR
123456789	NUMBER	123456789	NUMBER	123456789	NUMBER
100010101	337	101101101	365	100100011	393
010010101	338	011101101	366	010100011	394
110010101	339	111101101	367	110100011	395
001010101	340	000011101	368	001100011	396
101010101	341	100011101	369	101100011	397
011010101	342	010011101	370	011100011	398
111010101	343	110011101	371	111100011	399
000110101	344	001011101	372	000010011	400
100110101	345	101011101	373	100010011	401
010110101	346	011011101	374	010010011	402
110110101	347	111011101	375	110010011	403
001110101	348	000111101	376	001010011	404
101110101	349	100111101	377	101010011	405
011110101	350	010111101	378	011010011	406
111110101	351	110111101	379	111010011	407
000001101	352	001111101	380	000110011	408
100001101	353	101111101	381	100110011	409
010001101	354	011111101	382	010110011	410
110001101	355	111111101	383	110110011	411
001001101	356	000000011	384	001110011	412
101001101	357	100000011	385	101110011	413
011001101	358	010000011	386	011110011	414
111001101	359	110000011	387	111110011	415
000101101	360	001000011	388	000001011	416
100101101	361	101000011	389	100001011	417
010101101	362	011000011	390	010001011	418
110101101	363	111000011	391	110001011	419
001101101	364	000100011	392	001001011	420

DMX Address Setting Table

DIP SWITCH	DMX ADDR	DIP SWITCH	DMX ADDR	DIP SWITCH	DMX ADDR
123456789	NUMBER	123456789	NUMBER	123456789	NUMBER
101001011	421	100001111	449	101110111	477
011001011	422	010000111	450	011110111	478
111001011	423	110000111	451	111110111	479
000101011	424	001000111	452	000001111	480
100101011	425	101000111	453	100001111	481
010101011	426	011000111	454	010001111	482
110101011	427	111000111	455	110001111	483
001101011	428	000100111	456	001001111	484
101101011	429	100100111	457	101001111	485
011101011	430	010100111	458	011001111	486
111101011	431	110100111	459	111001111	487
000011011	432	001100111	460	000101111	488
100011011	433	101100111	461	100101111	489
010011011	434	011100111	462	010101111	490
110011011	435	111100111	463	110101111	491
001011011	436	000010111	464	001101111	492
101011011	437	100010111	465	101101111	493
011011011	438	010010111	466	011101111	494
111011011	439	110010111	467	111101111	495
000111011	440	001010111	468	000011111	496
100111011	441	101010111	469	100011111	497
010111011	442	011010111	470	010011111	498
110111011	443	111010111	471	110011111	499
001111011	444	000110111	472	001011111	500
101111011	445	100110111	473	101011111	501
011111011	446	010110111	474	011011111	502
111111011	447	110110111	475	111011111	503
000000111	448	001110111	476	000111111	504

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DIP SWITCH	DMX ADDR	DIP SWITCH	DMX ADDR	DIP SWITCH	DMX ADDR
123456789	NUMBER	123456789	NUMBER	123456789	NUMBER
100111111	505				
010111111	506				
110111111	507				
001111111	508				
101111111	509				
011111111	510				
111111111	511				