

PRODUCT SPECIFICATION



IR RGB LED Controller

Model: UN1 (3x5A 12/24VDC DMX RF)

Compatible with DMX512/1990
3RGB Channel, 5A max. each
IR Remote control
5 presaved programs inside

PRODUCT SPECIFICATION

V1.4

Led&Led

SUMMARIZE

Thank you for using UN1 Controller. With advanced micro-computer control technology, UN1 convert the widely used DMX512/1990 signal to analog signal. Can choose 1~3 output channel, 256-level brightness control. For connecting of light console and analog device, or lighting & building lamps controlling. Easily chose programs by IR controller or DMX controller.

FEATHERS

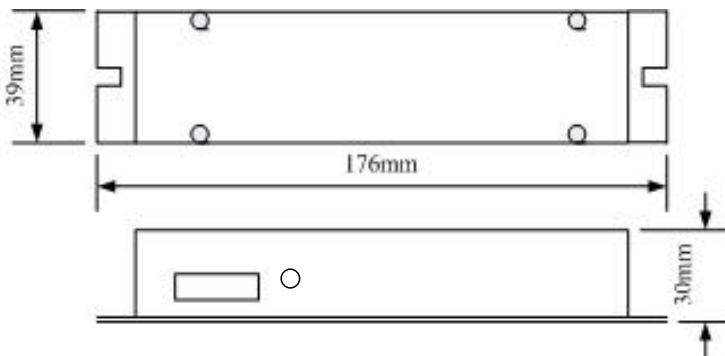
- ◆ Compatible with DMX512/1990
- ◆ 256-level brightness, full-color control
- ◆ 3RGB Channel, 5A max. each
- ◆ 256 grey level, can express perfect effect
- ◆ 5 presaved color-changing programs
- ◆ Support IR remote control
- ◆ Can drive 1~3 channel of each lamp
- ◆ DMX address setting freely
- ◆ Modularizing, can be combined with LED module neatly
- ◆ Can supply OEM board

Electrical Specifications

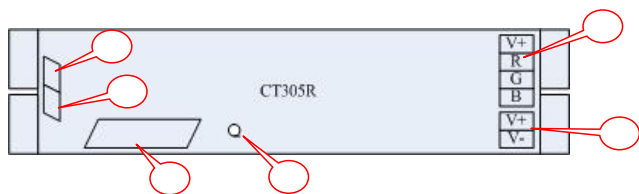
Channel.: 3
Input Signal: DMX-512/1990 digital signal
Output Signal: 0~100% PWM dimming signal, can drive 5A(Each CH.)
Power Supply: DC12V~25V

Power Output: 12V: <200W; 24V: <400W
Remote Control Range: $\leq 10\text{m}$
Operating Temp.: 0~70°C
Size: 175(mm)*45(mm)*35(mm), can be custom-made
Weight: $\leq 300\text{g}$

DIMENSION



Appearance

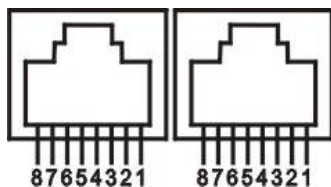


- (1) DMX signal input connector(RJ45)
- (2) DMX signal output connector(RJ45)
- (3) Address setting pannel
- (4) Output connector
- (5) Power supply input connector
- (6) IR receiver
- (7) Remote control panel(reference page 5 for detail)



Connector Introduction

- ◆ DMX signal input connector RJ45

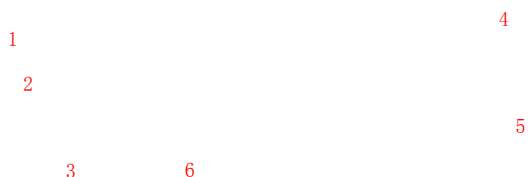


Pin1: Data+
 Pin2: Data-
 Pin7: GND
 Pin8: GND

- ◆ Address setting connector
 Please find the detailed instruction for Address setting at Page 6.
- ◆ Power input connector
 DC 12V~25V input
- ◆ Driver output connector
 Common line V+ and R,G,B connector, can drive all kinds of RGB LED module or single-color LED module,
 Can regulate output current according to the actual load

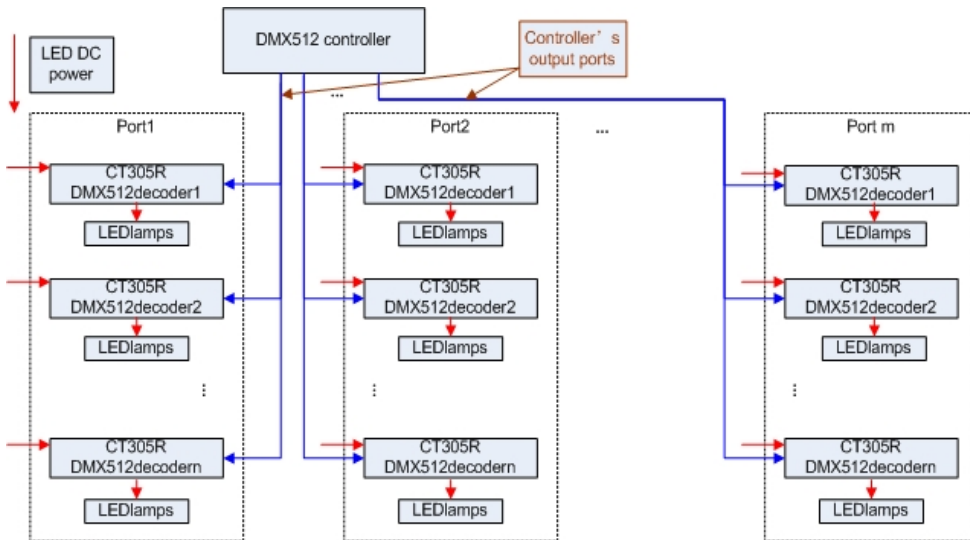
Power calculation

UN1 has a wide range of input and output voltage which is between DC12V~25V, so it will has a different output power with its rated current 5A. So we can calculate the output power as below:
 When the input and output voltage is 12VDC : $12V \times 5A \times 3 \text{ channels} = 180 \text{ W}$
 When the input and output voltage is 24VDC : $24V \times 5A \times 3 \text{ channels} = 360 \text{ W}$



How To Use

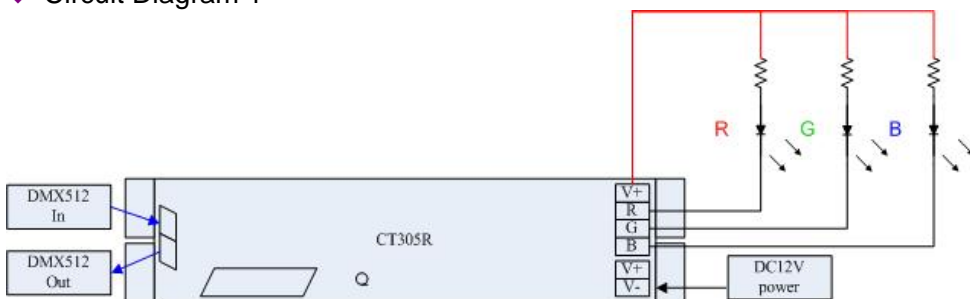
CT305R can be controlled by DMX-512 console, or color changing as the presaved program. Following diagram is the wiring for controlled by DMX-512 console:



Notes:
 1.m is the amount of controller output port
 2.n is the max. amount of terminals for each port
 The upwards is according to controller

TYPICAL APPLICATIONS

◆ Circuit Diagram 1



Connection of DMX-512 Signal

- ◆ The signal cable is STP, the DMX signal is Data+, Data- and GND.
- ◆ Connect a signal terminal at the end of the whole connetion.

IR controller function

DMX: Press this to turn to DMX state,decoder will receive DMX512 signal

P1-P5: 5 presaved programs

P1: 7 colors, press to change color(7colors: RED,ORANGE,YELLOW,GREEN,CYAN,BLUE,PURPLE)

P2: Full color change,color sequence: R->RG->G->GB->B->RG->R

P3: Full color change,color sequence: R->RGB->B->RB->RGB->RG->G->RGB->RB->R

P4: Full color change,color sequence: B->R->G->B

P5: Full color change,color sequence: Black->R->Black->G->Black->B->Black

LOCK: Stop at current color

FADE: Shift color changing programs for fade or flash mode (P2-P5 only)

BRIGHTNESS: 16-level brightness adjust for presaved program

+: Brightness increase 1 level

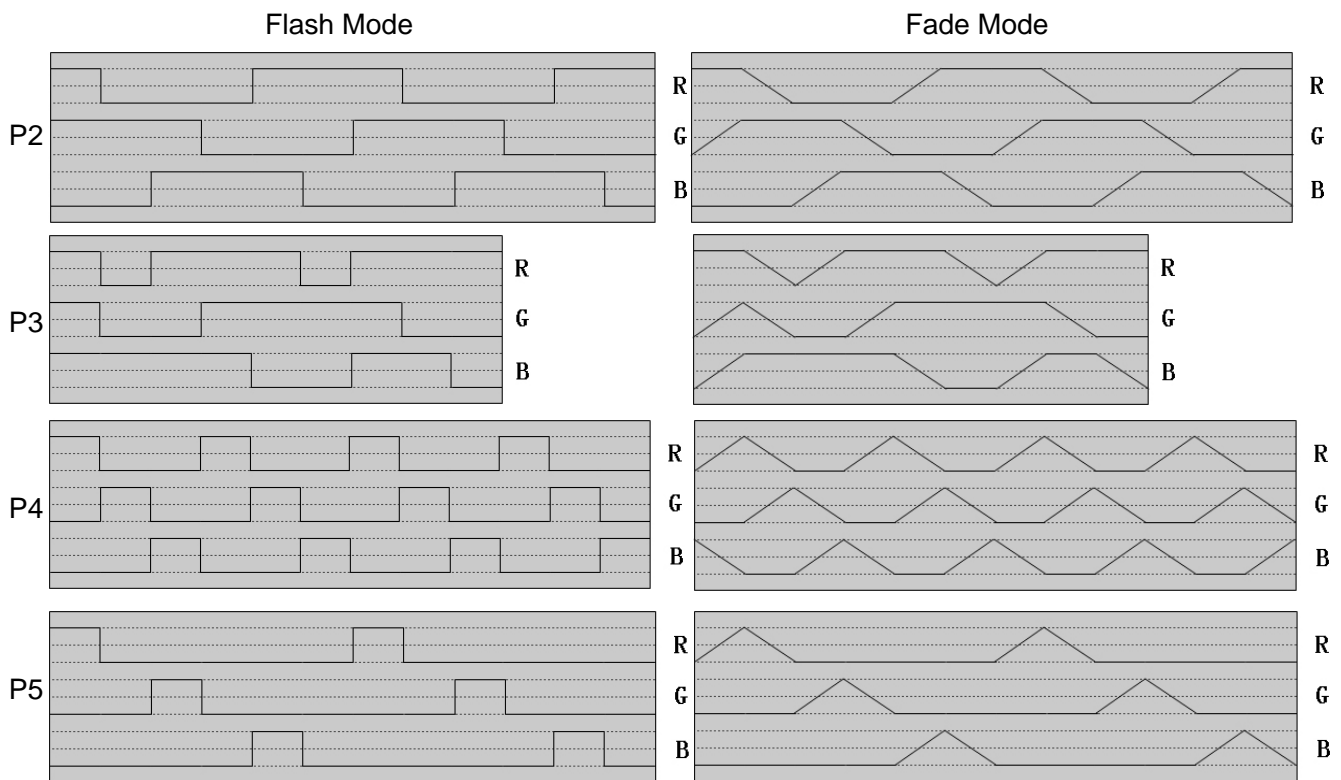
-: Brightness decrease 1 level

SPEED: 16-level speed adjust for presaved program

+: Speed increase 1 level

-: Speed decrease 1 level

Presaved colorchange diagram(P2-P5)



DMX-512 Address Setting

DMX512 address can be set by the dip switch. The address will be calculated by binary system. The correlative bits is the 1-9 bits of the DIP switch,the 1st bit is LSB,the 9th bit MSB 512 addresses totally.The start address is the no. of the first channel of the decoder , the second channel will receive the data of start address+1,and the third channel will receive the data of start address+2.There are two way to find out the relation between the DIP switch and DMX address.

calculational method:

calculational formula: [the sum of 1~9 bit of the DIP switch] = DMX start address

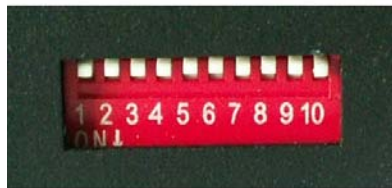
Set the n(th) bit of the DIP switch up (set to“1”) to get the value of such bit;

Set the n(th) bit of the DIP switch down “0”) , so the value of this bit is 0.

Note: the 10th bit is not use.

Value of each DIP:

DIP	1	2	3	4	6	7	8	9
Value	1	2	4	8	32	64	128	256



Example 1: Set to 38

Set the 6th,3rd,1st bit of the DIP switch to“1”, others set to“0”, then the sum of the 1~9 is 32+4+2, is the start address 38.

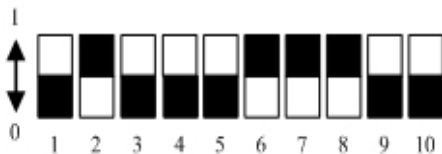
That is: [32 + 4 + 2] = 38



Example 2: Set to 226

Set the 8th,7th,6th,1st bit to “1”, others set to“0”, then the sum of the 1~9 is 128+64+32+2, is the start address 226.

That is: [128 + 64 + 32 + 2] = 226



DMX Address Setting Table

DIP SWITCH	DMX ADDR	DIP SWITCH	DMX ADDR	DIP SWITCH	DMX ADDR	DIP SWITCH	DMX ADDR
123456789	NUMBER	123456789	NUMBER	123456789	NUMBER	123456789	NUMBER
10000000	001	001101000	044	111010100	087	010000010	130
01000000	002	101101000	045	000110100	088	110000010	131
11000000	003	011101000	046	100110100	089	001000010	132
00100000	004	111101000	047	010110100	090	101000010	133
10100000	005	000011000	048	110110100	091	011000010	134
01100000	006	100011000	049	001110100	092	111000010	135
11100000	007	010011000	050	101110100	093	000100010	136
00010000	008	110011000	051	011110100	094	100100010	137
10010000	009	001011000	052	111110100	095	010100010	138
01010000	010	101011000	053	000001100	096	110100010	139
11010000	011	011011000	054	100001100	097	001100010	140
00110000	012	111011000	055	010001100	098	101100010	141
10110000	013	000111000	056	110001100	099	011100010	142
01110000	014	100111000	057	001001100	100	111100010	143
11110000	015	010111000	058	101001100	101	000010010	144
00001000	016	110111000	059	011001100	102	100010010	145
10001000	017	001111000	060	111001100	103	010010010	146
01001000	018	101111000	061	000101100	104	110010010	147
11001000	019	011111000	062	100101100	105	001010010	148
00101000	020	111111000	063	010101100	106	101010010	149
10101000	021	000000100	064	110101100	107	011010010	150
01101000	022	100000100	065	001101100	108	111010010	151
11101000	023	010000100	066	101101100	109	000110010	152
00011000	024	110000100	067	011101100	110	100110010	153
10011000	025	001000100	068	111101100	111	010110010	154
01011000	026	101000100	069	000011100	112	110110010	155
11011000	027	011000100	070	100011100	113	001110010	156
00111000	028	111000100	071	010011100	114	101110010	157
10111000	029	000100100	072	110011100	115	011110010	158
01111000	030	100100100	073	001011100	116	111110010	159
11111000	031	010100100	074	101011100	117	000001010	160
00000100	032	110100100	075	011011100	118	100001010	161
10000100	033	001100100	076	111011100	119	010001010	162
01000100	034	101100100	077	000111100	120	110001010	163
11000100	035	011100100	078	100111100	121	001001010	164
00100100	036	111100100	079	010111100	122	101001010	165
10100100	037	000010100	080	110111100	123	011001010	166
01100100	038	100010100	081	001111100	124	111001010	167
11100100	039	010010100	082	101111100	125	000101010	168
00010100	040	110010100	083	011111100	126	100101010	169
10010100	041	001010100	084	111111100	127	010101010	170
01010100	042	101010100	085	000000010	128	110101010	171
11010100	043	011010100	086	100000010	129	001101010	172

DIP SWITCH 123456789	DMX ADDR NUMBER	DIP SWITCH 123456789	DMX ADDR NUMBER	DIP SWITCH 123456789	DMX ADDR NUMBER	DIP SWITCH 123456789	DMX ADDR NUMBER
101101010	173	000110110	216	110000001	259	011101001	302
011101010	174	100110110	217	001000001	260	111101001	303
111101010	175	010110110	218	101000001	261	000011001	304
000011010	176	110110110	219	011000001	262	100011001	305
100011010	177	001110110	220	111000001	263	010011001	306
010011010	178	101110110	221	000100001	264	110011001	307
110011010	179	011110110	222	100100001	265	001011001	308
001011010	180	111110110	223	010100001	266	101011001	309
101011010	181	000001110	224	110100001	267	011011001	310
011011010	182	100001110	225	001100001	268	111011001	311
111011010	183	010001110	226	101100001	269	000111001	312
000111010	184	110001110	227	011100001	270	100111001	313
100111010	185	001001110	228	111100001	271	010111001	314
010111010	186	101001110	229	000010001	272	110111001	315
110111010	187	011001110	230	100010001	273	001111001	316
001111010	188	111001110	231	010010001	274	101111001	317
101111010	189	000101110	232	110010001	275	011111001	318
011111010	190	100101110	233	001010001	276	111111001	319
111111010	191	010101110	234	101010001	277	000000101	320
000000110	192	110101110	235	011010001	278	100000101	321
100000110	193	001101110	236	111010001	279	010000101	322
010000110	194	101101110	237	000110001	280	110000101	323
110000110	195	011101110	238	100110001	281	001000101	324
001000110	196	111101110	239	010110001	282	101000101	325
101000110	197	000011110	240	110110001	283	011000101	326
011000110	198	100011110	241	001110001	284	111000101	327
111000110	199	010011110	242	101110001	285	000100101	328
000100110	200	110011110	243	011110001	286	100100101	329
100100110	201	001011110	244	111110001	287	010100101	330
010100110	202	101011110	245	000010001	288	110100101	331
110100110	203	011011110	246	100001001	289	001100101	332
001100110	204	111011110	247	010001001	290	101100101	333
101100110	205	000111110	248	110001001	291	011100101	334
011100110	206	100111110	249	001001001	292	111100101	335
111100110	207	010111110	250	101001001	293	000010101	336
000010110	208	110111110	251	011001001	294	100010101	337
100010110	209	001111110	252	111001001	295	010010101	338
010010110	210	101111110	253	000101001	296	110010101	339
110010110	211	011111110	254	100101001	297	001010101	340
001010110	212	111111110	255	010101001	298	101010101	341
101010110	213	000000001	256	110101001	299	011010101	342
011010110	214	100000001	257	001101001	300	111010101	343
111010110	215	010000001	258	101101001	301	000110101	344

DIP SWITCH 123456789	DMX ADDR NUMBER	DIP SWITCH 123456789	DMX ADDR NUMBER	DIP SWITCH 123456789	DMX ADDR NUMBER	DIP SWITCH 123456789	DMX ADDR NUMBER
100110101	345	001000011	388	111101011	431	010110111	474
010110101	346	101000011	389	000011011	432	110110111	475
110110101	347	011000011	390	100011011	433	001110111	476
001110101	348	111000011	391	010011011	434	101110111	477
101110101	349	000100011	392	110011011	435	011110111	478
011110101	350	100100011	393	001011011	436	111110111	479
111110101	351	010100011	394	101011011	437	000001111	480
000001101	352	110100011	395	011011011	438	100001111	481
100001101	353	001100011	396	111011011	439	010001111	482
010001101	354	101100011	397	000111011	440	110001111	483
110001101	355	011100011	398	100111011	441	001001111	484
001001101	356	111100011	399	010111011	442	101001111	485
101001101	357	000010011	400	110111011	443	011001111	486
011001101	358	100010011	401	001111011	444	111001111	487
111001101	359	010010011	402	101111011	445	000101111	488
000101101	360	110010011	403	011111011	446	100101111	489
100101101	361	001010011	404	111111011	447	010101111	490
010101101	362	101010011	405	000000111	448	110101111	491
110101101	363	011010011	406	100000111	449	001101111	492
001101101	364	111010011	407	010000111	450	101101111	493
101101101	365	000110011	408	110000111	451	011101111	494
011101101	366	100110011	409	001000111	452	111101111	495
111101101	367	010110011	410	101000111	453	000011111	496
000011101	368	110110011	411	011000111	454	100011111	497
100011101	369	001110011	412	111000111	455	010011111	498
010011101	370	101110011	413	000100111	456	110011111	499
110011101	371	011110011	414	100100111	457	001011111	500
001011101	372	111110011	415	010100111	458	101011111	501
101011101	373	000001011	416	110100111	459	011011111	502
011011101	374	100001011	417	001100111	460	111011111	503
111011101	375	010001011	418	101100111	461	000111111	504
000111101	376	110001011	419	011100111	462	100111111	505
100111101	377	001001011	420	111100111	463	010111111	506
010111101	378	101001011	421	000010111	464	110111111	507
110111101	379	011001011	422	100010111	465	001111111	508
001111101	380	111001011	423	010010111	466	101111111	509
101111101	381	000101011	424	110010111	467	011111111	510
011111101	382	100101011	425	001010111	468	111111111	511
111111101	383	010101011	426	101010111	469		
000000011	384	110101011	427	011010111	470		
100000011	385	001101011	428	111010111	471		
010000011	386	101101011	429	000110111	472		
110000011	387	011101011	430	100110111	473		

REMARK: The area in shadow is 3-channel decoder's DIP set, for example,decoder for RGB controlling is 3 channels,each color uses one channel.