



# LightWild's Group Control Driver

I N S T R U C T I O N S

**LIGHTWILD**

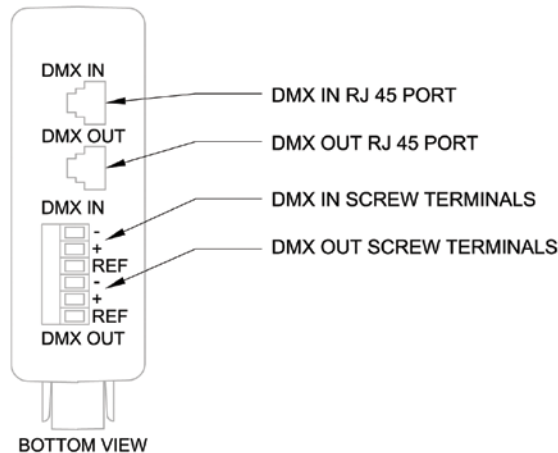
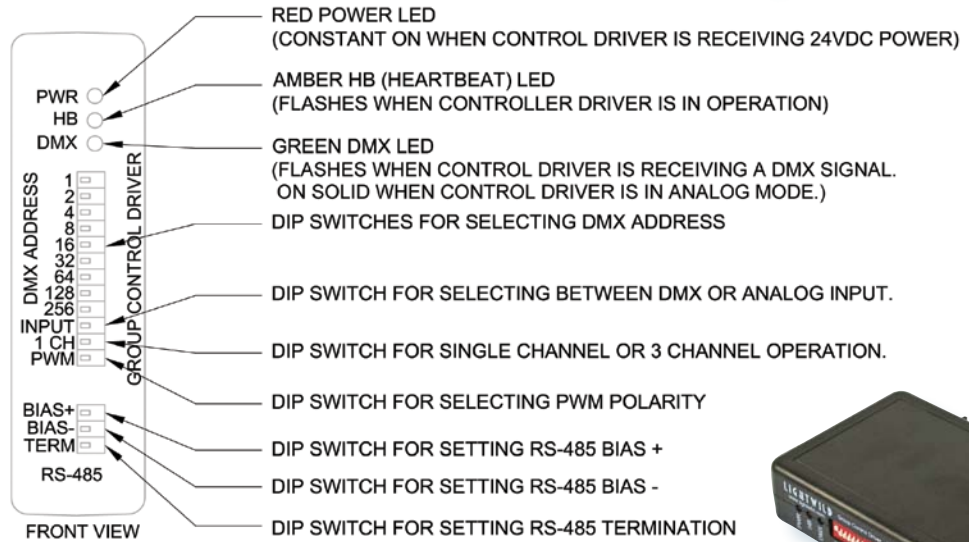
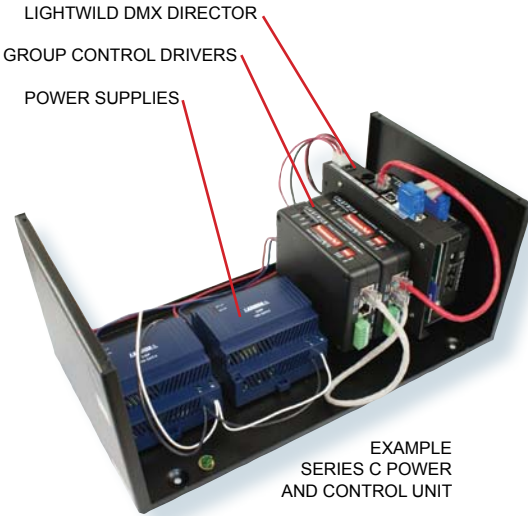
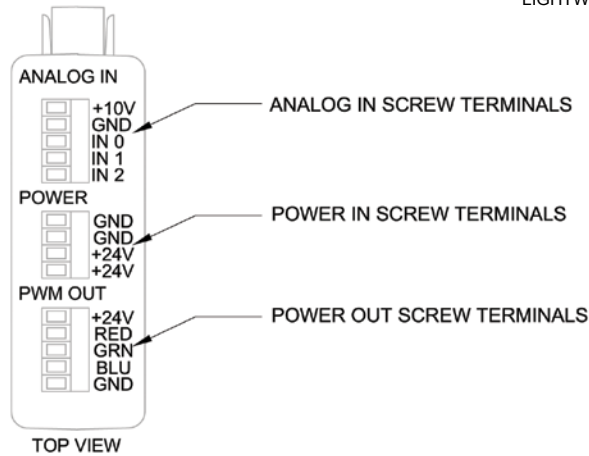
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## Theory of Operation

The LightWild Group Control Driver (“driver”) is a three-channel LED driver designed to control up to 90 watts of RGB or single color LED fixtures (LightWild or other manufacturer). The driver can be controlled by DMX or by analog inputs. Connected LED fixtures are driven by the PWM output from the driver.

## Features



## CONFIGURATION

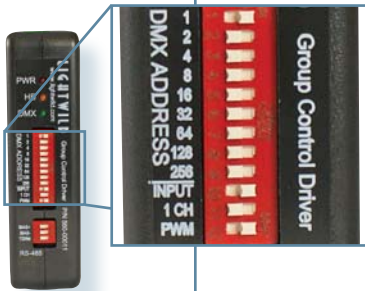
### DIP Switch Summary



Switch	Description	On	Off
1-9	DMX ADDRESS	Included in address calculation	Not included in address calculation
10	INPUT	DMX	ANALOG IN
11	1 CH	1 Channel	3 Channels
12	PWM	Normal	Inverted

Switch	Description	On	Off
1	RS-485 BIAS+	BIAS+ resistor connected	BIAS+ resistor not connected
2	RS-485 BIAS-	BIAS- resistor connected	BIAS- resistor connected
3	RS-485 TERM	Termination resistor connected	Termination resistor not connected

### DMX Address Dip Switches



The DMX address dip switches set the starting DMX address. The starting DMX address can be set between 1 and 511 using binary dip switch settings. (Refer to the binary reference table at end of this document for more information.)

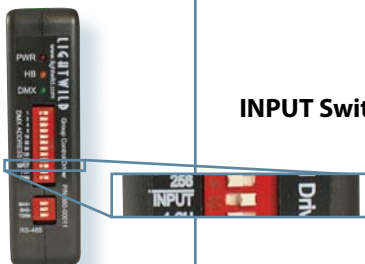
Set all switches to off to enter fixture test mode. In test mode, each output is repeatedly energized to 100% in order: RED, GREEN, BLUE.

Using the setting of the 1 CH dip switch, the driver can be set so each channel will have its own DMX address or all Channels use the same DMX address. (See example below). Typically when connecting color-changing RGB (red, green, blue) fixtures to the driver, three addresses will be required so each channel can be controlled independently. Typically when connecting white or single color fixtures to the driver, one address will be required so all channels are controlled together.

#### Example

Example DMX Address and Dip Switch Settings									
Starting DMX Address	Binary Number	Dip Switch Settings					Channel	1 CH Off	1 CH On
354	101100010	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Red	354	354
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Green	355	354
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Blue	356	354

### INPUT Switch

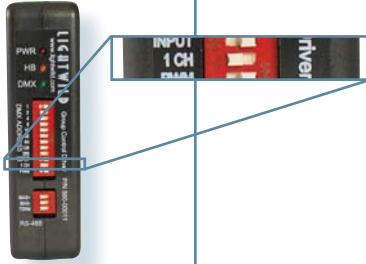


Place the INPUT switch in the ON position to select DMX mode. In this mode, the fixtures are controlled by the DMX port and the ANALOG IN port is ignored.

Place the INPUT switch in the OFF position to select ANALOG IN mode. In this mode, the fixtures are controlled by the ANALOG IN port and the DMX in port is ignored. The DMX out port will communicate based on the analog input, allowing multiple drivers to be controlled by a single analog input.

## CONFIGURATION (CONTINUED FROM PREVIOUS PAGE)

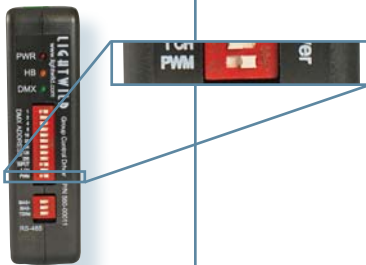
### 1 CH Switch



Place the 1 CH switch in the ON position to select single channel mode. In this mode, all three PWM outputs are controlled by either the first DMX address (DMX Mode) or by IN0 (ANALOG IN Mode). This is useful when the driver is controlling single color fixtures.

Place the 1 CH switch in the OFF position to select three channel mode. In this mode, each PWM output is controlled independently. This is useful when the group control driver is driving RGB fixtures. In DMX Mode, each DMX address controls a color channel (first DMX address=red, second DMX address = green, third DMX address = blue). In ANALOG IN Mode, each analog input controls a color channel (IN0 = red, IN1 = green, IN2 = blue).

### PWM (Pulse Width Modulation) Switch

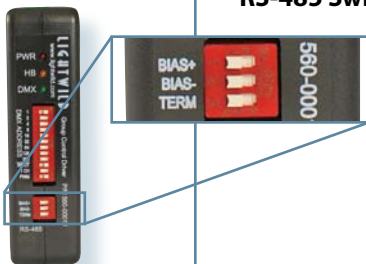


When using LightWild fixtures, the PWM switch is typically turned to the ON position. (Some exceptions may apply. Consult LightWild for details.)

Place the PWM switch in the ON position for normal operation. In this mode, a high PWM signal turns a fixture on and a low PWM signal turns a fixture off.

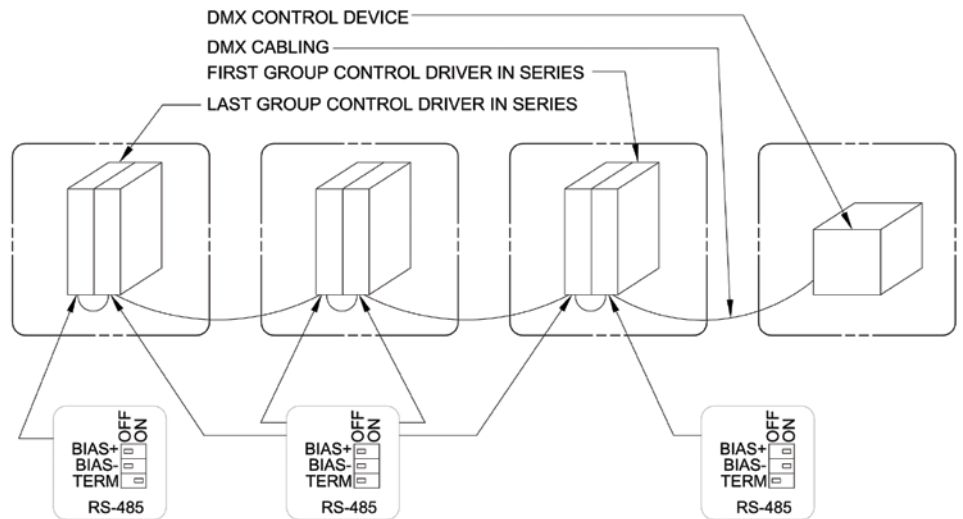
Place the PWM switch in the OFF position for inverted operation. In this mode, a low PWM signal turns a fixture on and a high PWM signal turns a fixture off.

### RS-485 Switches: RS-485 TERM switch / RS-485 BIAS+ switch / RS-485 BIAS- switch



For most installations, these switches will be turned OFF.

When multiple drivers are connected over a long distance, these switches are used to improve the DMX signal between the drivers. In these instances, the switches should be set as shown below:

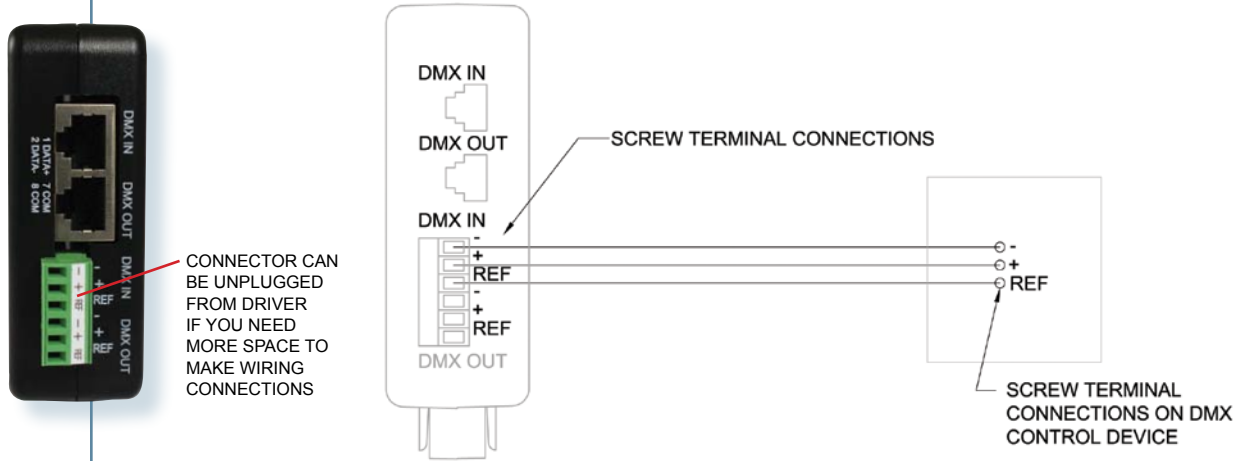


## INSTALLATION: Wiring Connections

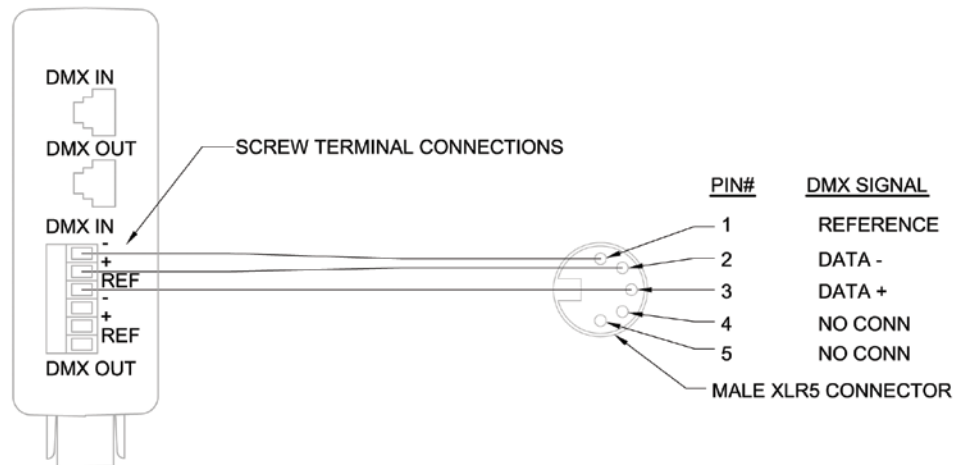
### DMX IN/OUT

If necessary, a third party DMX control device can be used to drive the fixtures connected to the driver. The third party DMX device connects to the driver via RJ-45 connector or screw terminals. The connection options for third party DMX control devices vary depending on manufacturer. Typically it will use an XLR5 or screw terminal connections. These diagrams show the possible cross wiring connections.

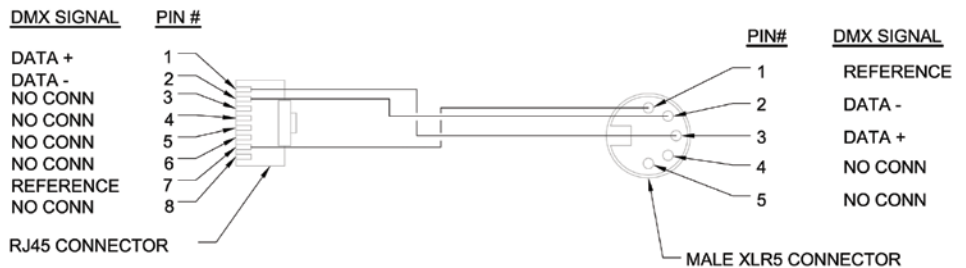
#### Screw Terminal to Screw Terminal



#### XLR5 to Screw Terminal



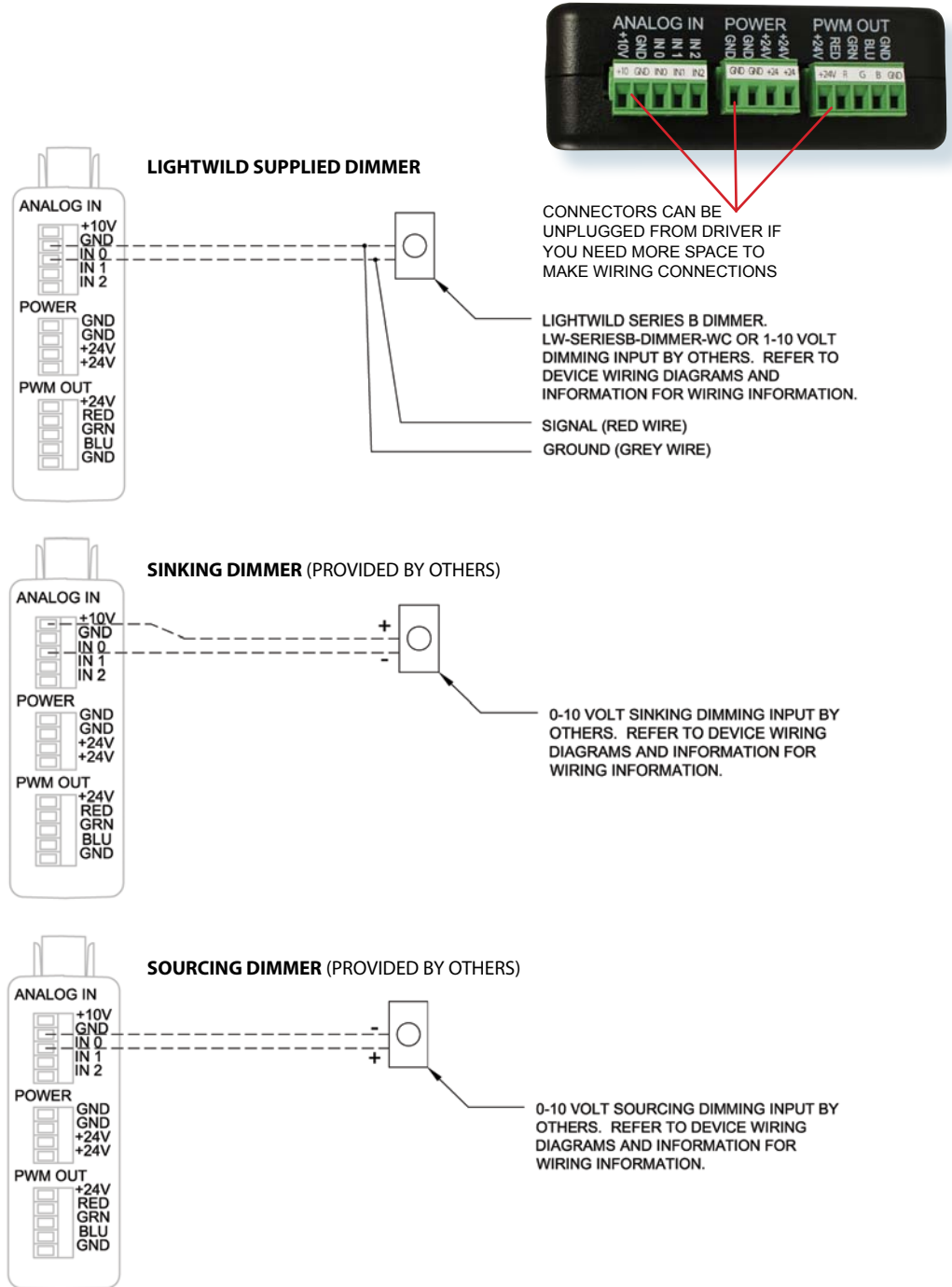
#### XLR5 to RJ-45



## INSTALLATION: Wiring Connections (CONTINUED FROM PREVIOUS PAGE)

### ANALOG IN

If the fixtures will be controlled using LightWild's Wall Dimmer (LW-SERIESB-DIMMER-WC), connect as shown. When connecting to a 3rd party 1-10V control device, refer to that device's installation information.



### PWM OUT

Connect fixture wiring to the PWM OUT connector. Refer to product-specific wiring diagrams for additional information.

## BINARY REFERENCE TABLE FOR DRIVER DMX ADDRESS DIP SWITCHES

ADDRESS	BINARY NUMBER	ADDRESS	BINARY NUMBER	ADDRESS	BINARY NUMBER	ADDRESS	BINARY NUMBER	ADDRESS	BINARY NUMBER	ADDRESS	BINARY NUMBER	ADDRESS	BINARY NUMBER	ADDRESS	BINARY NUMBER
1	00000001	65	001000001	129	010000001	193	011000001	257	100000001	321	101000001	385	110000001	449	111000001
2	00000010	66	001000010	130	010000010	194	011000010	258	100000010	322	101000010	386	110000010	450	111000010
3	00000011	67	001000011	131	010000011	195	011000011	259	100000011	323	101000011	387	110000011	451	111000011
4	00000100	68	001000100	132	010000100	196	011000100	260	100000100	324	101000100	388	110000100	452	111000100
5	00000101	69	001000101	133	010000101	197	011000101	261	100000101	325	101000101	389	110000101	453	111000101
6	00000110	70	001000110	134	010000110	198	011000110	262	100000110	326	101000110	390	110000110	454	111000110
7	00000111	71	001000111	135	010000111	199	011000111	263	100000111	327	101000111	391	110000111	455	111000111
8	00001000	72	001001000	136	010001000	200	011001000	264	100001000	328	101001000	392	110001000	456	111001000
9	00001001	73	001001001	137	010001001	201	011001001	265	100001001	329	101001001	393	110001001	457	111001001
10	00001010	74	001001010	138	010001010	202	011001010	266	100001010	330	101001010	394	110001010	458	111001010
11	00001011	75	001001011	139	010001011	203	011001011	267	100001011	331	101001011	395	110001011	459	111001011
12	00001100	76	001001100	140	010001100	204	011001100	268	100001100	332	101001100	396	110001100	460	111001100
13	00001101	77	001001101	141	010001101	205	011001101	269	100001101	333	101001101	397	110001101	461	111001101
14	00001110	78	001001110	142	010001110	206	011001110	270	100001110	334	101001110	398	110001110	462	111001110
15	00001111	79	001001111	143	010001111	207	011001111	271	100001111	335	101001111	399	110001111	463	111001111
16	000010000	80	001010000	144	010010000	208	011010000	272	100010000	336	101010000	400	110010000	464	111010000
17	000010001	81	001010001	145	010010001	209	011010001	273	100010001	337	101010001	401	110010001	465	111010001
18	000010010	82	001010010	146	010010010	210	011010010	274	100010010	338	101010010	402	110010010	466	111010010
19	000010011	83	001010011	147	010010011	211	011010011	275	100010011	339	101010011	403	110010011	467	111010011
20	000010100	84	001010100	148	010010100	212	011010100	276	100010100	340	101010100	404	110010100	468	111010100
21	000010101	85	001010101	149	010010101	213	011010101	277	100010101	341	101010101	405	110010101	469	111010101
22	000010110	86	001010110	150	010010110	214	011010110	278	100010110	342	101010110	406	110010110	470	111010110
23	000010111	87	001010111	151	010010111	215	011010111	279	100010111	343	101010111	407	110010111	471	111010111
24	000011000	88	001011000	152	010011000	216	011011000	280	100011000	344	101011000	408	110011000	472	111011000
25	000011001	89	001011001	153	010011001	217	011011001	281	100011001	345	101011001	409	110011001	473	111011001
26	000011010	90	001011010	154	010011010	218	011011010	282	100011010	346	101011010	410	110011010	474	111011010
27	000011011	91	001011011	155	010011011	219	011011011	283	100011011	347	101011011	411	110011011	475	111011011
28	000011100	92	001011100	156	010011100	220	011011100	284	100011100	348	101011100	412	110011100	476	111011100
29	000011101	93	001011101	157	010011101	221	011011101	285	100011101	349	101011101	413	110011101	477	111011101
30	000011110	94	001011110	158	010011110	222	011011110	286	100011110	350	101011110	414	110011110	478	111011110
31	000011111	95	001011111	159	010011111	223	011011111	287	100011111	351	101011111	415	110011111	479	111011111
32	000100000	96	001100000	160	010100000	224	011100000	288	100100000	352	101100000	416	110100000	480	111100000
33	000100001	97	001100001	161	010100001	225	011100001	289	100100001	353	101100001	417	110100001	481	111100001
34	000100010	98	001100010	162	010100010	226	011100010	290	100100010	354	101100010	418	110100010	482	111100010
35	000100011	99	001100011	163	010100011	227	011100011	291	100100011	355	101100011	419	110100011	483	111100011
36	000100100	100	001100100	164	010100100	228	011100100	292	100100100	356	101100100	420	110100100	484	111100100
37	000100101	101	001100101	165	010100101	229	011100101	293	100100101	357	101100101	421	110100101	485	111100101
38	000100110	102	001100110	166	010100110	230	011100110	294	100100110	358	101100110	422	110100110	486	111100110
39	000100111	103	001100111	167	010100111	231	011100111	295	100100111	359	101100111	423	110100111	487	111100111
40	000101000	104	001101000	168	010101000	232	011101000	296	100101000	360	101101000	424	110101000	488	111101000
41	000101001	105	001101001	169	010101001	233	011101001	297	100101001	361	101101001	425	110101001	489	111101001
42	000101010	106	001101010	170	010101010	234	011101010	298	100101010	362	101101010	426	110101010	490	111101010
43	000101011	107	001101011	171	010101011	235	011101011	299	100101011	363	101101011	427	110101011	491	111101011
44	000101100	108	001101100	172	010101100	236	011101100	300	100101100	364	101101100	428	110101100	492	111101100
45	000101101	109	001101101	173	010101101	237	011101101	301	100101101	365	101101101	429	110101101	493	111101101
46	000101110	110	001101110	174	010101110	238	011101110	302	100101110	366	101101110	430	110101110	494	111101110
47	000101111	111	001101111	175	010101111	239	011101111	303	100101111	367	101101111	431	110101111	495	111101111
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56	000111000	120	001111000	184	010111000	248	011111000	312	100111000	376	101111000	440	110111000	504	111111000
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