Light-O-Rama

CF50D **Cosmic Color Flood** shown
(UF50D is identical except for LED chip)

CF50D & UF50D DMX

50W RGB and Black Light LED Floods

User Manual

November 20, 2014

V1.01

Table of Contents

Introduction

The Light-O-Rama (LOR) RGB CF50D Cosmic Color Flood and the UV UF50D Black Light Flood are LED lighting systems that have the controller built into the flood head with a separate DC power supply. The controller understands and automatically detects both LOR and DMX protocols. It has two weatherproof RJ45 dangles that can be jumpered for LOR or DMX (E1.27-2) network wiring.

The RGB is capable of producing sixteen million colors. The Black Light (UV) flood head produces approximately a 390 nm color. The entire system is weatherproof and UV resistant.

Both floods have five channels, R, G & B for the color flood and brightness, n/a, n/a for the UV flood. These channels are followed by two strobe effect channels. The strobe effect channels give precise control over strobing with the RGB/UV channels permitting any color/brightness to be strobed.

The Windows Showtime software is used to design and build *Sequences* (controller commands that may be choreographed to audio/music.) These user created sequences and/or pre-programmed musical sequences available from LOR and other companies are then arranged into *Shows*. These shows are played by your PC or one of the LOR Show Directors.

What's in the Box

- Flood head
- 60w DC power supply
- User manual
- Rubber plugs for weatherproof connectors

The only item needed to daisy chain the flood controller into your network is a Cat5 cable.

This manual is also available at www.lightorama.com ► Support ►Documentation ► CF50D/UF50D User's Manual.

Optional Input Cable

This cable allows you to connect 1, 2 or 3 input triggers to the flood. It also brings the 10vdc 300ma power out to supply accessories like motion detectors.

There is a small rubber plug on the bottom of the flood's rear cover. You must remove this plug to route this cable into the flood head. You will have to seal the opening with silicone. Be sure to leave enough cable inside the flood head so that should you need to remove the rear cover, you will be able to move it away from the flood head.

Hardware Utility Version

The version of the Hardware Utility appears in the title bar to the right of "Light-O-Rama Hardware." If the version number is less than 3.1.xxx, then you

should download a new Hardware Utility if your license permits. Download the latest version of the Showtime software from this location: www.lightorama.com ►Support ►S3 Software. This is a full ShowTime Software download that includes the latest Hardware Utility.

Firmware Version

This document reflects CF50D/UF50D firmware version 1.00. The firmware version is determined by using the Refresh button in the Hardware Utility.

Flood Head Description

The flood head is black painted metal with a glass front. The screws/bolts are stainless steel. The bracket is painted steel.

There are 6 rows of LEDs, for the RGB flood, the top two rows are blue, the next two down are green and the last two are red. For the UV flood, all rows are the same. The flood does not produce a hot spot, just a very uniform, rectangular band of light.

Because of the space between the LED color rows in the RGB flood, there will be slight banding on the top and bottom of the flood pattern.

Flood DC Power Supply

The power supply is a separate unit with about 1.5' of cable between it and the flood.

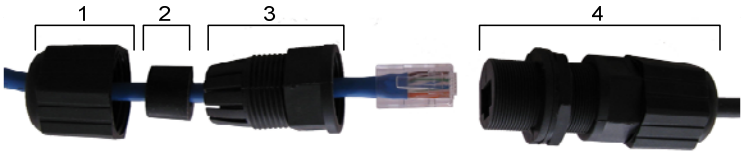
Important Considerations

The flood heads dissipate a fair amount of heat so care should be taken to make sure there is adequate air flow around the flood head and power supply.

Hardware Configuration

Weatherproof Connectors

The flood is equipped with two weatherproof RJ45 connectors to allow it to be daisy chained into your LOR or DMX network. The picture below show how to attach your network cables to the flood.



1. Take care not to loosen any of part [4] which goes to the flood head.
2. Remove end cap [1] first.
3. Remove part [3] next.
4. Remove split rubber washer [2] from part [3]
5. Feed the Cat5 cable through the parts as shown.
6. Plug your Cat5 cable into part [4].
7. Tighten part 3 on to part [4].
8. Push part [2] into part [3].
9. Tighten end cap [1] on to part [3].

There are two cable diameter rubber plugs that should be installed in unused connectors to prevent water from reaching the RJ45 jack(s).

Removing the Back Cover

The back cover should only be removed if absolutely necessary. Re-assembly may result in the flood not being weatherproof and may result in damage to the internal cabling. The Unit ID or DMX Start Address should be set using the Hardware Utility.

To remove the rear cover, remove the 4 screws. The silicone gasket is glued to the flood head and should stay with it when the back cover is removed. You may want to disconnect the RJ45 network cables to gain easier access, but this is not normally necessary. When re-installing the back cover, make sure no cables are pinched by the cover and that the cover sits flat on the silicone gasket. Tighten the screws in an X pattern (upper left, lower right, upper right, lower left.) The screws must be snug, but be careful not to over tighten because you may strip the screws or distort the case/cover causing leaks.

Assigning a Unit ID / DMX address

See warning about back cover removal in the *Removing the Back Cover* section.

The Unit ID and DMX address can be set two ways; via the internal DIP switches or via the Hardware Utility. The flood is shipped with the Unit ID DIP switches set to 0 and the Unit ID set to 01.

When the Unit ID/DMX address DIP switches are set to zero, these parameters are set by the Hardware Utility and retained in the microprocessor's permanent memory. In this case, the DMX address is set to ((Unit ID – 1) * 5) + 1.

Using the DIP switches will allow you to override the memory Unit ID. In this case you can set any DMX start address. See Appendix A for switch settings. Note that switch 1 is the most significant bit and switch 9 is the least significant bit. Switch 1 is only used for the DMX address.

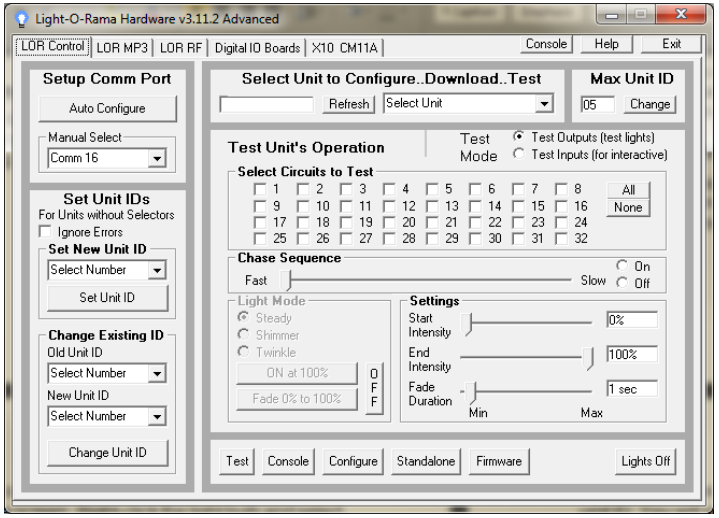
Using the Hardware Utility

If you have not installed the Light O Rama Windows Showtime Software, do it now. You will also need one of the RS485 adapters installed. See the *Connecting the Flood to a PC* section for more information.

Plug the flood power supply into AC power. If you have the rear cover removed, the Status LED will blink about twice/second. This means that the controller has booted and is waiting for the PC to talk to it.

See the **Weatherproof Connectors** section for information on connecting the CAT5 cable from the RS485 adapter to the flood.

Start the Hardware Utility – click ***start ► All Programs ► Light-O-Rama ► Light-O-Rama Control Panel.*** There will be a light bulb with a red halo on the right side of the task bar at the bottom of the screen. Right-click the light bulb and select *Hardware Utility* from the menu. Make sure the *LOR Control* tab is selected. You will see this window:.



Click the *Auto Configure* button in the *Setup Comm Port* section. The Hardware Utility will search for the COM port that your RS485 adapter is plugged into and select it.

When assigning a unit ID, only one controller may be plugged into the RS485 adapter on the PC. Be sure you do not have more than one controller connected.

Steps to set/change unit ID:

1. In the *Change Existing ID* section, use the *Old Unit ID* drop-down menu to select *Any Unit*, then click *OK* in the warning box for changing all unit IDs, there should only be one unit attached.
2. Use the *New Unit ID* drop down menu to select "01" or whatever Unit ID you want.
3. Click the *Change Unit ID* button to set your flood's unit ID. You will see a *Unit ID Changed* box – click OK.

Software Control

The flood appears in a LOR/DMX Network at the address set by the DIP switches or Hardware Utility. It is configured in the Sequence Editor as 5 regular channels; for the RGB flood, the first 3 channels should be combined into an RGB channel.

The following tables show the channel assignments on a LOR network or in a DMX universe.

LOR Channels DMX Addresses	**Controls**
1	R or UV
2	G or na
3	B or na
4	Strobe on time
5	Strobe off time

Strobe Channels

The “Strobe on time” channel selects the amount of time the flood head is turned on while strobing. This on time varies from 8.33ms to 83.3ms. Higher intensities result in a longer flash.

The “Strobe off time” channel selects the amount of time the flood head is off while strobing. This off time varies from 2 seconds to 8.33ms. Higher intensities result in a faster flash.

Setting the “Strobe off time” channel to 1% intensity is a special case. This puts the flood head in strobe mode but does not allow it to flash. Using this

feature allows the RGB/UV channel(s) and strobe on time channel to be set without an uncontrolled flash occurring. This can be useful to create realistic lightning by varying the “strobe off time” channel from 1% intensity to 2% intensity and back to 1% intensity to get a single flash.

Remember to set the “strobe off time” to 1% at least $1/20^{th}$ of a second before manipulating the other flood control channels to avoid an unwanted flash.

Stand Alone Operation

A standalone animation sequence (sequence with no accompanying audio) can be downloaded into the flash memory of the CF50D and UF50D controllers.

Stand-alone memory is external to the microprocessor and survives power cycling.

Stand-alone sequence storage can hold approximately 10,000 commands. These commands can also be for controllers other than this controller, so this controller can direct a network of controllers. There are no restrictions on the types of LOR controllers in this network.

The sequence is designed and tested using the Showtime Software Sequence Editor. When you are happy with the sequence, save it and stop the Sequence Editor.

Start the Hardware Utility and click the *Refresh* button to find the flood controller. Use the drop down menu next to the *Refresh* button to select the controller.

Click the *Standalone* button at the bottom of the window. Select one of “Run when power is on,”

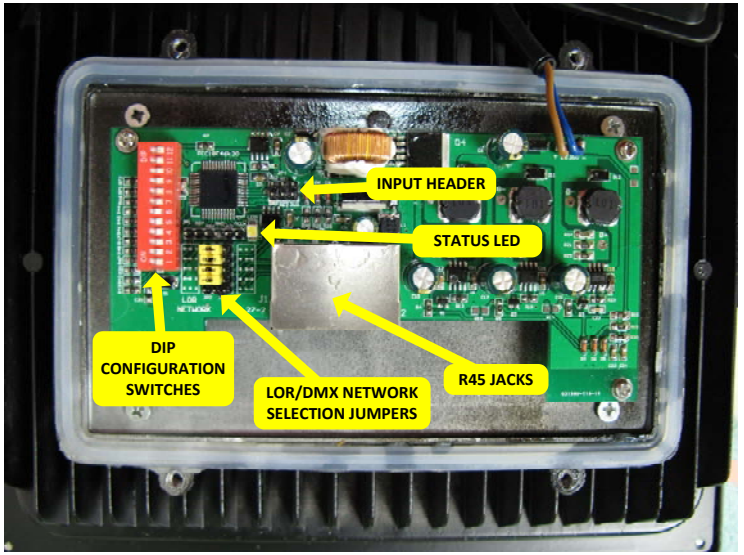
"Input (norm open switch)" or "Input (norm closed switch.)" Click the *Send Trigger info to Unit* button. Only trigger input 1 can be used for this purpose.

Finally, Use the *Open* button to browse to your sequence and click the *Download* button.

You also use this screen to remove downloaded standalone sequences. Note that all downloaded sequences are removed. You can also remove standalone sequences by turning the controller off, turning on DIP switch 12 and then powering it up. Because you must remove the cover to do this, it is recommended that you use the Hardware Utility. You must power the controller off to completely wipe out the sequence.

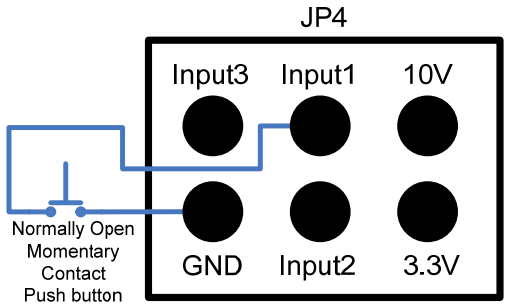
Hardware Description

The following picture shows the inside of the flood head.



Input Header

The input header provides three inputs that can be sensed by the PC or used to trigger a standalone sequence. 10vdc at 300ma is also available for accessories like motion sensors. Here's how to wire a switch to input 1:



All inputs must be simple switches that connect Input1/2/3 to GND.

Input 1 is used to trigger a standalone sequence or as an interactive input for shows. Inputs 2 and 3 are used as interactive inputs for shows. Input 2 is inverted, meaning that it is on when the switch is open. Use input 2 for devices like motion sensors that open the circuit when activated.

LOR/DMX Network Jumpers

These 4 jumpers select how the RJ45 jacks are wired, either standard LOR network wiring or E1.27-2 DMX wiring. These jumpers have no effect on the floods ability to automatically detect the attached LOR or DMX network; they only affect the pin-out of the jacks.

Network Jacks

Two RJ45 jacks used to daisy chain this controller into a LOR or DMX network. These are normally extended outside the flood head through the included weatherproof RJ45 connectors.

Reset/Self-test DIP Switch 12

Power the flood off, set DIP switch 12 to on and power the flood up. This will reset the flood and remove any standalone sequence. After resetting, the flood will run a simple test program to show that it is functioning properly.

Status LED

- Blinks twice per second if the flood has booted correctly
- Solid on if the flood sees a network director – PC, Show Director or DMX source
- Blinks one long on and a short off repeatedly if in the bootloader. This means that the firmware is not loaded or corrupted. See the *Updating the Flood Firmware* section to load firmware
- Flashing rapidly indicates resetting because DIP switch 12 is on.

In a darkened environment, the status LED can be seen without removing the back cover by prying out the input cable rubber plug on the bottom of the back cover. Remember to replace it.

Unit ID or DMX Start Address

Positions 1 through 9 on the DIP switch are used to set the Unit ID and/or DMX address. The flood is normally shipped with all set to off which means the Unit ID and DMX address are set via the Hardware Utility. If any of these switches are on, the Unit ID and/or DMX start address is specified by these switches.

Position 9 is the least significant bit. See Appendix A for values.

UV/RGB Selection DIP Switch

DIP switch 11 must be ON for the UF50D and OFF for the CF50D.

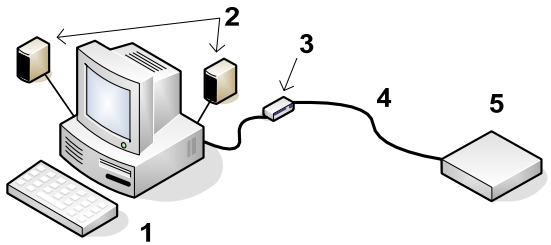
Connecting the Flood to a PC

You will need the following to connect your Flood light to a PC:

- Showtime Windows Software
- USB RS485 Adapter
- CAT5 LAN cable
- Your flood
- Windows PC running Windows XP, Vista or Win7 or 8

The first three items are available in the LOR SPK-ST Generic Starter Package. www.lightorama.com ► *On-line Store* ► *Components*. You will have to choose an RS485 adapter type. Choose the USB485 if you have no intention of going wireless from your PC to the controller. If wireless is desired, get the USB485B.

The following diagram shows how the pieces fit together:



1. Your PC running the Showtime Windows Software
2. Your PC speakers to play the music
3. RS485 Adapter to convert short distance USB to long distance RS485
4. CAT5 LAN cable
5. Flood

If your USB adapter has more than one jack, you can use either.

Open the weatherproof RJ45 connector. Use a Cat5 LAN cable routed through the grommets as shown in the *Weatherproof Connectors* section to connect your RS485 adapter to the flood controller. You can use either RJ45 connector on the flood.

Connecting to a Show Director

You will need the following to connect your controller to a Show Director:

- LOR1602MP3 Show-in-a-Box controller (has an internal Show Director), mini or standard Show Director
- CAT5 cable
- Your controller

You can use either of the larger jacks on the show director and either weatherproof connector on the flood.

Connecting to another Controller

You can go from either large jack on one controller to either large jack on the other controller.

Updating the Flood Firmware

You must have:

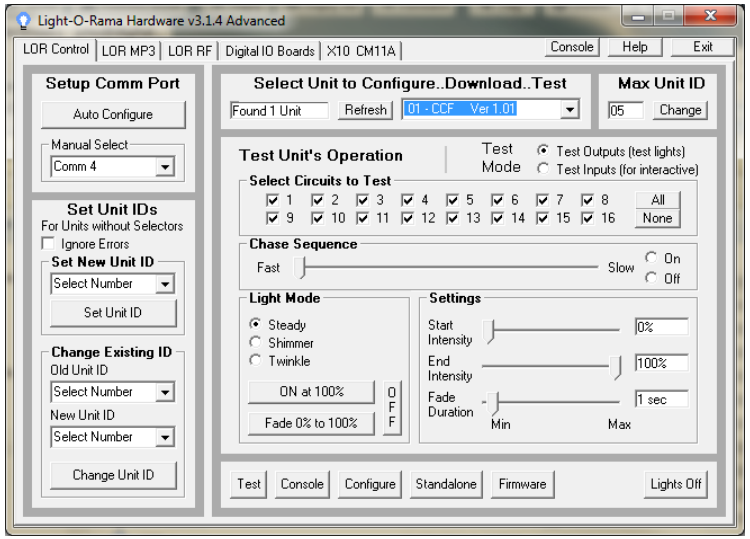
- Hardware Utility version 2.3.6 or later, see the section *Hardware Utility Version*
- The Flood light powered and connected to the PC via one of the RS485 adapters – Do not use wireless

Get the latest firmware. www.lightorama.com ► *Support* ►*Firmware* section. Click the **Firmware** button in the CF50D line and save the firmware file on your PC. The same firmware is used for the CF50D and the UF50D. Note the name of the firmware .lhx file. The normal location of firmware files is C:\Program Files\Light-O-Rama\Firmware.

Start the LightORama Control Panel if it is not running by clicking ***start ► All Programs ► Light-O-Rama ► Light-O-Rama Control Panel***. The Light-O-Rama light bulb icon will appear in the system tray on the lower right of your screen.

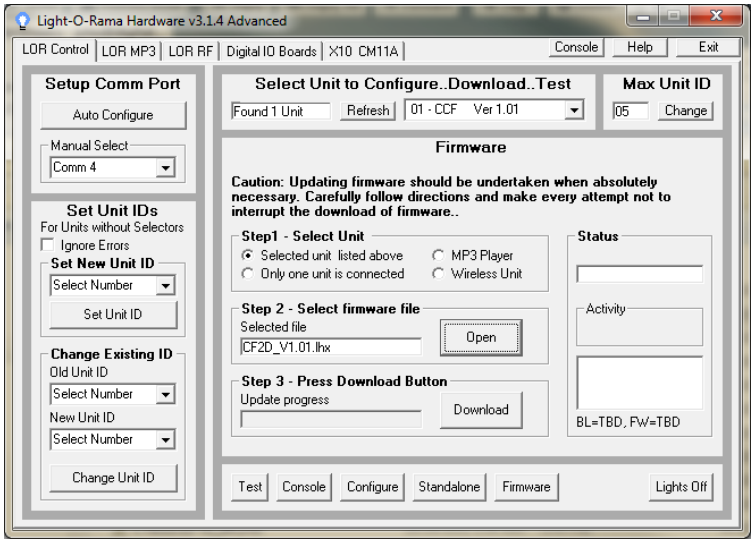
Start the **Hardware Utility** by right-clicking the Light-O-Rama Control Panel light bulb and selecting ***Hardware Utility*** from the menu. You can click the **Refresh** button to search for connected controllers. Select the flood controller.

Click the **Firmware** button in the **LOR Control** tab and you will see this window:



In **Step 1 – Select Unit**, Choose *Selected unit listed above* or *Only one unit is connected* as appropriate.

In **Step 2 – Select firmware file**, click the **Open** button. Use the *Open* file box to select the firmware file. This is the .lhx file you saved in the Firmware folder. Click the **Open** button. The window will look like this:



In **Step 3 – Press Download Button**, click the **Download** button – the firmware download will start automatically.

The *Update progress* bar will fill from left to right. When the new firmware is loaded, the *Status* will change to “Successful” and the flood will reboot. You can check the firmware version using the Refresh button.

Appendix A

DIP Switch Address Settings

'1' means On and '0' means Off.

DMX Start	LOR ID	Switch 1-9	DMX Start	Switch 1-9
1	01	0 0000 0001	257	1 0000 0001
2	02	0 0000 0010	258	1 0000 0010
3	03	0 0000 0011	259	1 0000 0011
4	04	0 0000 0100	260	1 0000 0100
5	05	0 0000 0101	261	1 0000 0101
6	06	0 0000 0110	262	1 0000 0110
7	07	0 0000 0111	263	1 0000 0111
8	08	0 0000 1000	264	1 0000 1000
9	09	0 0000 1001	265	1 0000 1001
10	0A	0 0000 1010	266	1 0000 1010
11	0B	0 0000 1011	267	1 0000 1011
12	0C	0 0000 1100	268	1 0000 1100
13	0D	0 0000 1101	269	1 0000 1101
14	0E	0 0000 1110	270	1 0000 1110
15	0F	0 0000 1111	271	1 0000 1111
16	10	0 0001 0000	272	1 0001 0000
17	11	0 0001 0001	273	1 0001 0001
18	12	0 0001 0010	274	1 0001 0010
19	13	0 0001 0011	275	1 0001 0011
20	14	0 0001 0100	276	1 0001 0100
21	15	0 0001 0101	277	1 0001 0101
22	16	0 0001 0110	278	1 0001 0110
23	17	0 0001 0111	279	1 0001 0111
24	18	0 0001 1000	280	1 0001 1000
25	19	0 0001 1001	281	1 0001 1001
26	1A	0 0001 1010	282	1 0001 1010
27	1B	0 0001 1011	283	1 0001 1011
28	1C	0 0001 1100	284	1 0001 1100
29	1D	0 0001 1101	285	1 0001 1101
30	1E	0 0001 1110	286	1 0001 1110
31	1F	0 0001 1111	287	1 0001 1111
32	20	0 0010 0000	288	1 0010 0000
33	21	0 0010 0001	289	1 0010 0001
34	22	0 0010 0010	290	1 0010 0010
35	23	0 0010 0011	291	1 0010 0011
36	24	0 0010 0100	292	1 0010 0100

37	25	0 0010 0101	293	1 0010 0101
38	26	0 0010 0110	294	1 0010 0110
39	27	0 0010 0111	295	1 0010 0111
40	28	0 0010 1000	296	1 0010 1000
41	29	0 0010 1001	297	1 0010 1001
42	2A	0 0010 1010	298	1 0010 1010
43	2B	0 0010 1011	299	1 0010 1011
44	2C	0 0010 1100	300	1 0010 1100
45	2D	0 0010 1101	301	1 0010 1101
46	2E	0 0010 1110	302	1 0010 1110
47	2F	0 0010 1111	303	1 0010 1111
48	30	0 0011 0000	304	1 0011 0000
49	31	0 0011 0001	305	1 0011 0001
50	32	0 0011 0010	306	1 0011 0010
51	33	0 0011 0011	307	1 0011 0011
52	34	0 0011 0100	308	1 0011 0100
53	35	0 0011 0101	309	1 0011 0101
54	36	0 0011 0110	310	1 0011 0110
55	37	0 0011 0111	311	1 0011 0111
56	38	0 0011 1000	312	1 0011 1000
57	39	0 0011 1001	313	1 0011 1001
58	3A	0 0011 1010	314	1 0011 1010
59	3B	0 0011 1011	315	1 0011 1011
60	3C	0 0011 1100	316	1 0011 1100
61	3D	0 0011 1101	317	1 0011 1101
62	3E	0 0011 1110	318	1 0011 1110
63	3F	0 0011 1111	319	1 0011 1111
64	40	0 0100 0000	320	1 0100 0000
65	41	0 0100 0001	321	1 0100 0001
66	42	0 0100 0010	322	1 0100 0010
67	43	0 0100 0011	323	1 0100 0011
68	44	0 0100 0100	324	1 0100 0100
69	45	0 0100 0101	325	1 0100 0101
70	46	0 0100 0110	326	1 0100 0110
71	47	0 0100 0111	327	1 0100 0111
72	48	0 0100 1000	328	1 0100 1000
73	49	0 0100 1001	329	1 0100 1001
74	4A	0 0100 1010	330	1 0100 1010
75	4B	0 0100 1011	331	1 0100 1011
76	4C	0 0100 1100	332	1 0100 1100
77	4D	0 0100 1101	333	1 0100 1101
78	4E	0 0100 1110	334	1 0100 1110
79	4F	0 0100 1111	335	1 0100 1111
80	50	0 0101 0000	336	1 0101 0000
81	51	0 0101 0001	337	1 0101 0001

82	52	0 0101 0010	338	1 0101 0010
83	53	0 0101 0011	339	1 0101 0011
84	54	0 0101 0100	340	1 0101 0100
85	55	0 0101 0101	341	1 0101 0101
86	56	0 0101 0110	342	1 0101 0110
87	57	0 0101 0111	343	1 0101 0111
88	58	0 0101 1000	344	1 0101 1000
89	59	0 0101 1001	345	1 0101 1001
90	5A	0 0101 1010	346	1 0101 1010
91	5B	0 0101 1011	347	1 0101 1011
92	5C	0 0101 1100	348	1 0101 1100
93	5D	0 0101 1101	349	1 0101 1101
94	5E	0 0101 1110	350	1 0101 1110
95	5F	0 0101 1111	351	1 0101 1111
96	60	0 0110 0000	352	1 0110 0000
97	61	0 0110 0001	353	1 0110 0001
98	62	0 0110 0010	354	1 0110 0010
99	63	0 0110 0011	355	1 0110 0011
100	64	0 0110 0100	356	1 0110 0100
101	65	0 0110 0101	357	1 0110 0101
102	66	0 0110 0110	358	1 0110 0110
103	67	0 0110 0111	359	1 0110 0111
104	68	0 0110 1000	360	1 0110 1000
105	69	0 0110 1001	361	1 0110 1001
106	6A	0 0110 1010	362	1 0110 1010
107	6B	0 0110 1011	363	1 0110 1011
108	6C	0 0110 1100	364	1 0110 1100
109	6D	0 0110 1101	365	1 0110 1101
110	6E	0 0110 1110	366	1 0110 1110
111	6F	0 0110 1111	367	1 0110 1111
112	70	0 0111 0000	368	1 0111 0000
113	71	0 0111 0001	369	1 0111 0001
114	72	0 0111 0010	370	1 0111 0010
115	73	0 0111 0011	371	1 0111 0011
116	74	0 0111 0100	372	1 0111 0100
117	75	0 0111 0101	373	1 0111 0101
118	76	0 0111 0110	374	1 0111 0110
119	77	0 0111 0111	375	1 0111 0111
120	78	0 0111 1000	376	1 0111 1000
121	79	0 0111 1001	377	1 0111 1001
122	7A	0 0111 1010	378	1 0111 1010
123	7B	0 0111 1011	379	1 0111 1011
124	7C	0 0111 1100	380	1 0111 1100
125	7D	0 0111 1101	381	1 0111 1101
126	7E	0 0111 1110	382	1 0111 1110

127	7F	0 0111 1111	383	1 0111 1111
128	80	0 1000 0000	384	1 1000 0000
129	81	0 1000 0001	385	1 1000 0001
130	82	0 1000 0010	386	1 1000 0010
131	83	0 1000 0011	387	1 1000 0011
132	84	0 1000 0100	388	1 1000 0100
133	85	0 1000 0101	389	1 1000 0101
134	86	0 1000 0110	390	1 1000 0110
135	87	0 1000 0111	391	1 1000 0111
136	88	0 1000 1000	392	1 1000 1000
137	89	0 1000 1001	393	1 1000 1001
138	8A	0 1000 1010	394	1 1000 1010
139	8B	0 1000 1011	395	1 1000 1011
140	8C	0 1000 1100	396	1 1000 1100
141	8D	0 1000 1101	397	1 1000 1101
142	8E	0 1000 1110	398	1 1000 1110
143	8F	0 1000 1111	399	1 1000 1111
144	90	0 1001 0000	400	1 1001 0000
145	91	0 1001 0001	401	1 1001 0001
146	92	0 1001 0010	402	1 1001 0010
147	93	0 1001 0011	403	1 1001 0011
148	94	0 1001 0100	404	1 1001 0100
149	95	0 1001 0101	405	1 1001 0101
150	96	0 1001 0110	406	1 1001 0110
151	97	0 1001 0111	407	1 1001 0111
152	98	0 1001 1000	408	1 1001 1000
153	99	0 1001 1001	409	1 1001 1001
154	9A	0 1001 1010	410	1 1001 1010
155	9B	0 1001 1011	411	1 1001 1011
156	9C	0 1001 1100	412	1 1001 1100
157	9D	0 1001 1101	413	1 1001 1101
158	9E	0 1001 1110	414	1 1001 1110
159	9F	0 1001 1111	415	1 1001 1111
160	A0	0 1010 0000	416	1 1010 0000
161	A1	0 1010 0001	417	1 1010 0001
162	A2	0 1010 0010	418	1 1010 0010
163	A3	0 1010 0011	419	1 1010 0011
164	A4	0 1010 0100	420	1 1010 0100
165	A5	0 1010 0101	421	1 1010 0101
166	A6	0 1010 0110	422	1 1010 0110
167	A7	0 1010 0111	423	1 1010 0111
168	A8	0 1010 1000	424	1 1010 1000
169	A9	0 1010 1001	425	1 1010 1001
170	AA	0 1010 1010	426	1 1010 1010
171	AB	0 1010 1011	427	1 1010 1011

172	AC	0 1010 1100	428	1 1010 1100
173	AD	0 1010 1101	429	1 1010 1101
174	AE	0 1010 1110	430	1 1010 1110
175	AF	0 1010 1111	431	1 1010 1111
176	B0	0 1011 0000	432	1 1011 0000
177	B1	0 1011 0001	433	1 1011 0001
178	B2	0 1011 0010	434	1 1011 0010
179	B3	0 1011 0011	435	1 1011 0011
180	B4	0 1011 0100	436	1 1011 0100
181	B5	0 1011 0101	437	1 1011 0101
182	B6	0 1011 0110	438	1 1011 0110
183	B7	0 1011 0111	439	1 1011 0111
184	B8	0 1011 1000	440	1 1011 1000
185	B9	0 1011 1001	441	1 1011 1001
186	BA	0 1011 1010	442	1 1011 1010
187	BB	0 1011 1011	443	1 1011 1011
188	BC	0 1011 1100	444	1 1011 1100
189	BD	0 1011 1101	445	1 1011 1101
190	BE	0 1011 1110	446	1 1011 1110
191	BF	0 1011 1111	447	1 1011 1111
192	C0	0 1100 0000	448	1 1100 0000
193	C1	0 1100 0001	449	1 1100 0001
194	C2	0 1100 0010	450	1 1100 0010
195	C3	0 1100 0011	451	1 1100 0011
196	C4	0 1100 0100	452	1 1100 0100
197	C5	0 1100 0101	453	1 1100 0101
198	C6	0 1100 0110	454	1 1100 0110
199	C7	0 1100 0111	455	1 1100 0111
200	C8	0 1100 1000	456	1 1100 1000
201	C9	0 1100 1001	457	1 1100 1001
202	CA	0 1100 1010	458	1 1100 1010
203	CB	0 1100 1011	459	1 1100 1011
204	CC	0 1100 1100	460	1 1100 1100
205	CD	0 1100 1101	461	1 1100 1101
206	CE	0 1100 1110	462	1 1100 1110
207	CF	0 1100 1111	463	1 1100 1111
208	D0	0 1101 0000	464	1 1101 0000
209	D1	0 1101 0001	465	1 1101 0001
210	D2	0 1101 0010	466	1 1101 0010
211	D3	0 1101 0011	467	1 1101 0011
212	D4	0 1101 0100	468	1 1101 0100
213	D5	0 1101 0101	469	1 1101 0101
214	D6	0 1101 0110	470	1 1101 0110
215	D7	0 1101 0111	471	1 1101 0111
216	D8	0 1101 1000	472	1 1101 1000

217	D9	0 1101 1001	473	1 1101 1001
218	DA	0 1101 1010	474	1 1101 1010
219	DB	0 1101 1011	475	1 1101 1011
220	DC	0 1101 1100	476	1 1101 1100
221	DD	0 1101 1101	477	1 1101 1101
222	DE	0 1101 1110	478	1 1101 1110
223	DF	0 1101 1111	479	1 1101 1111
224	E0	0 1110 0000	480	1 1110 0000
225	E1	0 1110 0001	481	1 1110 0001
226	E2	0 1110 0010	482	1 1110 0010
227	E3	0 1110 0011	483	1 1110 0011
228	E4	0 1110 0100	484	1 1110 0100
229	E5	0 1110 0101	485	1 1110 0101
230	E6	0 1110 0110	486	1 1110 0110
231	E7	0 1110 0111	487	1 1110 0111
232	E8	0 1110 1000	488	1 1110 1000
233	E9	0 1110 1001	489	1 1110 1001
234	EA	0 1110 1010	490	1 1110 1010
235	EB	0 1110 1011	491	1 1110 1011
236	EC	0 1110 1100	492	1 1110 1100
237	ED	0 1110 1101	493	1 1110 1101
238	EE	0 1110 1110	494	1 1110 1110
239	EF	0 1110 1111	495	1 1110 1111
240	F0	0 1111 0000	496	1 1111 0000
241		0 1111 0001	497	1 1111 0001
242		0 1111 0010	498	1 1111 0010
243		0 1111 0011	499	1 1111 0011
244		0 1111 0100	500	1 1111 0100
245		0 1111 0101	501	1 1111 0101
246		0 1111 0110	502	1 1111 0110
247		0 1111 0111	503	1 1111 0111
248		0 1111 1000	504	1 1111 1000
249		0 1111 1001	505	1 1111 1001
250		0 1111 1010	506	1 1111 1010
251		0 1111 1011	507	1 1111 1011
252		0 1111 1100	508	1 1111 1100
253		0 1111 1101	509	1 1111 1101
254		0 1111 1110	510	1 1111 1110
255		0 1111 1111	511	1 1111 1111
256		1 0000 0000	512	n/a

Specifications

Configuration	Flood head with internal controller and external power supply
CF Control Channels	5: R, G, B and 2 strobe control channels
UV Control Channels	5: UV brightness, n/a, n/a and 2 strobe control channels
Supported LOR Network Speeds	19.2K, 57.6K, 115.2K and 500K
Operating temperature	-20º F to 140º F
Operating environment	Outdoor, UV resistant
Power supply	100 to 240 VAC, 60 watts
Flood head dimensions	Without bracket or bracket parallel to front of flood: 11⅛”w x 9⅛”h x 5⅜”d With bracket perpendicular to front of flood: 11⅛”w x 9⅛”h x 7¾d
Power supply dimensions	7⅜” w x 1½”h x 1¾”d (including bracket)

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