PRIZM Software v3.0 Configuration Worksheet

Completing the tables in this worksheet will prepare you for configuring a PRIZM LED Lighting System controller. If your system installation includes more than one controller, you will want to complete a worksheet for each controller in the system. For additional information any part of the worksheet, please reference the corresponding section of this manual for more detailed explanations.

Step 1 – General System Settings

In the table to the right, please list the aircraft manufacturer, model number, and serial number in the first row. Then, circle the type of number in the second row that will serve as the configuration identification for this installation. Finally, enter that number on the right side of the second row.

Aircraft Make/Model/Serial			
Configuration Identification	Project Number	Serial Number	Tail Number

PWM Limitation – The duty-cyle of the pulse-width modulated signal supplied to the LED lighting can be limited to a percentage of its maximum output.

PWM Limitation	☐ 10%	☐ 20%	☐ 30%	☐ 40%	☐ 50%
	☐ 60%	☐ 70%	☐ 80%	☐ 90%	☐ 100%

SVS EWS Control – Enable this if your system includes the optional Prizm Aircraft Products SVS electronic window shades control board.

SVS EWS Control	☐ On	☐ Off

Network Config – Basic network configuration settings can be set here. These settings will take full effect after a system restart.

Network Config	Wired IP Address
	Wired Gateway
	Wired Subnet
	Wireless IP

Multi-Unit Config – The static IP addresses of every other controller in the system need to be listed here. If this controller is to connect to another PRIZM controller via wireless, then that information should be listed here also.

Multi-Unit Config	IP Address(es)		
	Wireless Client Mode	☐ On	☐ Off
	SSID		

Bright/Dim Config – The overall expected behavior when using any BRIGHT or DIM input for *any* location is determined by these settings.

Bright/Dim Config	Increments	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐ 9	☐ 10
	Bright-to-Off Wraparound Behavior							☐ On		☐ Off
	Bright-to-On Behavior							☐ On		☐ Off
	Dim-to-Off Behavior							☐ On		☐ Off
	Dim-to-On Wraparound Behavior							☐ On		☐ Off

Step 2 – Build a List of Outputs

Make a list of locations that that will require lighting. Then, add channels to each location. Try to add as many channels to a location as will need to be controlled. For example, an existing CMS may have connections specifically called out for LH and RH wash lighting—which is perfectly acceptable; however, if there is no reason to control the LH and RH wash lighting separately, the two channels should be combined into a single location sharing the same Option ID.

Specify a user-friendly label for the location that will be used in the app. If desired, labels can be organized to appear as a tree structure within the app. To do this, the containing (outside) label precedes the more specific (inside) label. The two need only be separated by a colon (:) without any spaces. As long as another labels shares the same containing (outside) label, they will be shown as nested items under that label. For example, `Forward Cabin:Upwash` and `Forward Cabin:Downwash` would result in the `Upwash` and `Downwash` locations being listed together under a shared heading of `Forward Cabin`.

If a location is to be considered part of the VIP, cup holder, floor, or startup lighting pseudo-groups, circle the corresponding label. Defining a group is entirely optional. If you would like to control multiple locations that don't already share a circled pseudo-group, then a group number (1-4) can be entered into the Group box. (default is none)

The lighting output can be limited per location. In terms of a percentage (10-100), enter the maximum brightness that the specific location can be set to in the PWM box below. The app will still show full brightness capability; however, it will scale so that at its brightest setting, it will be the value you set here. (Default is 100)

Option ID	Label				Channel(s)	
	VIP	Cup	Floor	Startup	Group	PWM
1						
	VIP	Cup	Floor	Startup		
2						
	VIP	Cup	Floor	Startup		
3						
	VIP	Cup	Floor	Startup		
4						
	VIP	Cup	Floor	Startup		
5						
	VIP	Cup	Floor	Startup		

Option ID	Label				Channel(s)	
	VIP	Cup	Floor	Startup	Group	PWM
6						
	VIP	Cup	Floor	Startup		
7						
	VIP	Cup	Floor	Startup		
8						
	VIP	Cup	Floor	Startup		
9						
	VIP	Cup	Floor	Startup		
10						
	VIP	Cup	Floor	Startup		

Important Notes: There are ten Option IDs per controller regardless of whether it is a 10-channel or 20-channel controller. Channels cannot be assigned to more than one Option ID (location). Option IDs (locations) cannot be assigned to more than one Group.

Step 3 – Build a List of Inputs

Make a list of all the inputs used to be used by the system.

Descriptions are for your reference only and will not be entered into the configuration utility.

Circle the appropriate switch type indicator: latching (L), momentary (M), or held momentary (HM). For latching switch types, the behavior can be inverted. This means that the function's behavior with respect to ground and floating conditions on the input will be reversed.

Enter the function and argument to be associated with each input. A reference list of functions can be found on the following page.

Input ID	J1 Pin	Description		Switch Type
		Function	Argument(s)	Invert
Startup Event				
1	7			L M HM
2	8			L M HM
3	9			L M HM
4	10			L M HM
5	11			L M HM
6	12			L M HM
7	13			L M HM
8	14			L M HM
9	15			L M HM
10	23			L M HM
11	24			L M HM
12	25			L M HM
13	26			L M HM
14	27			L M HM
15	28			L M HM
16	29			L M HM
17	30			L M HM
18	39			L M HM
19	40			L M HM
20	41			L M HM
21	42			L M HM
22	43			L M HM
23	44			L M HM

If your system configuration requires that a lighting condition be determined by the combination of latching states of two different input pins, that will be handled by Linked Inputs. When inputs are linked, they are assumed to be latching and when either pin state changes, the other pin state is checked to apply the appropriate output. An example of this would be if grounding two pins causes wash lighting to be at 100% brightness, grounding only one results in 50% brightness, and grounding neither results in the lights being turned off.

Write the Input IDs from the previous page in the boxes labeled #1 and #2 respectively for each linked input pair below. Then, cross out the inputs on the previous page. When this configuration is entered into system, it will be in the format shown below.

Linked Input Pair #1			
#1:	#2:	Function	Arguments
GND	GND		
FLOAT	GND		
FLOAT	FLOAT		
GND	FLOAT		

Linked Input Pair #2			
#1:	#2:	Function	Arguments
GND	GND		
FLOAT	GND		
FLOAT	FLOAT		
GND	FLOAT		

Linked Input Pair #3			
#1:	#2:	Function	Arguments
GND	GND		
FLOAT	GND		
FLOAT	FLOAT		
GND	FLOAT		

Linked Input Pair #4			
#1:	#2:	Function	Arguments
GND	GND		
FLOAT	GND		
FLOAT	FLOAT		
GND	FLOAT		

Below is a list of available functions and the number of arguments expected for each. The page number where more information can be found about function in this document is also listed. This list also indicates if the function is available to latching (L), momentary (M), and held momentary (HM) input switch types.

Function	Args	Page	L	M	HM
Bright	1-2	43	X	X	X
Dim	1-2	44	X	X	X
Toggle	1-2	44	X	X	
Discrete Off	1	44	X	X	
Discrete On	1	44	X	X	

Function	Args	Page	L	M	HM
Preset	0-1	45	X	X	
Mood	0, 2	45	X	X	
Flex-IO	1	45	X	X	
SVS Opaque	0	45	X	X	
SVS Clear	0	45	X	X	

Function	Args	Page	L	M	HM
Set LED	2	45	X	X	
Color Pulse	2	46	X	X	
NVIS Mode	0	46	X	X	

Step 4 – Discrete Settings

Discrete outputs (1-15) can each be configured as one of four output types:

- Reading Light – The discrete output functions as a standard reading light
- Momentary – The discrete output emits a momentary pulse when triggered
- Standard Latching – The discrete output reflects the state of the trigger
- Inverse Latching – The discrete output reflects the inverse state of the trigger

If any output type other than "Reading Light" is selected, then a corresponding trigger event must be specified. The list of possible triggers are:

- Turning any lights on when all are off
- The state of a specific output channel, option, or group changes
- The state of a specific pseudo-group changes (cup holders, floor lighting, or VIP lighting)
- An input is used

Discrete ID	Output Type	Trigger Event
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Please note that only discretes 1-15 are user configurable. In a two-board system, discretes 16-30 default to standard reading light functionality.

Step 5 – App Settings

The App Settings tab of the PRIZM LED Lighting Admin System Setup utility allows you to better define the appearance of the app as well as which features are visible and which will be hidden.

Custom Logo – Custom logos are displayed prominently on the main menu. Custom logos can only be loaded by Prizm Aircraft Products. If a custom logo will be used in the app, be sure to contact Prizm Aircraft Products support for further assistance.

Custom Logo	☐ On	☐ Off

Custom Mood PIN – Custom mood creation and deletion can be limited in the app so that only those individuals with knowledge of the specified PIN can perform these tasks. If you want to limit access to this functionality, please enable the Custom Mood PIN feature and specify a four-digit numeric PIN here.

Custom Mood PIN	☐ On	☐ Off
PIN		

App Features – Any of the app features shown below can be hidden from the app. Please note that this doesn't necessarily disable the features; however, it does prevent it from being directly accessed within the app interface. To indicate that a feature is to be hidden, cross out its name in the list below.

All Lights Control	Option 7	Movie Mood	All Group Control
All Options	Option 8	Random Mood	Group 1 Control
Option 1	Option 9	Relaxation Mood	Group 2 Control
Option 2	Option 10	Spectrum Mood	Group 3 Control
Option 3	Cycle Colors	Spring Mood	Group 4 Control
Option 4	All Moods	Sunset Mood	Window Shade Control
Option 5	Aurora Mood	Twilight Mood	NVIS Mode
Option 6	Morning Mood	Work Mood	

Please note the following:

- Any options that have no channels assigned to them will automatically be hidden.
- Any groups that have no options assigned to them will automatically be hidden.
- If no options have been designated as cup holders or floor lighting, the Movie Mood will automatically be hidden.
- If the SVS EWS Control option on the System Settings tab is set to Off, then the Window Shade Control feature will be automatically hidden.

Step 6 – Advanced Settings

The Advanced Settings tab in the PRIZM LED Lighting Admin System Setup can be used to fine tune the system behavior and color output.

Installed Color Temperature – For the sake of color accuracy, the color temperature of the installed PRIZM LED lighting fixtures is required. Please circle the installed color temperature in the table to the right.

Installed Color Temperature	2700K	4000K	5500K

Optimized Color Gamut – This setting allows the system to use the white LED in place of colors where all three red, green, and blue LEDs would be used for less saturated colors. White LEDs produce a wider range of wavelengths than colored LEDs. This results in better color accuracy of illuminated objects.

Optimized Color Gamut	☐ On	☐ Off

Color Temperature Tuning – The PRIZM system can adjust the perceived color temperature of the white light generated by applying a color filter. The color filter feature allows the white component of a requested color to be converted into a scaled combination of the four component colors. Please note that color accuracy will vary based on many factors include fixture color temperature, diffuser type, and additional ambient lighting. Indicate in the table if this feature is to be enabled and then what the target color temperature is. (Valid target temperatures range from 2400 K to 7000 K in increments of 100 K.)

Enable Filter	☐ On	☐ Off
Target Color Temperature		

NVIS Mode – Provides compatibility support for Night Vision Imaging Systems (NVIS). When NVIS mode is engaged, only green light is produced by the system. (All reading lights are turned off.) This feature can be controlled via a configured input as well as through the app interface. Please indicate if this feature is to be enabled.

Enable NVIS Mode	☐ On	☐ Off
NVIS Maximum Brightness		

Due to variations in cabin layout and PRIZM fixture installation locations, illumination levels can vary widely from aircraft to aircraft. Use the NVIS Maximum Brightness slider in the utility to set the percentage of maximum output for your application. Enabling the NVIS Preview option will cause all configured output channels to display the green light that will be used by NVIS Mode at its maximum brightness. This feature can be used during initial setup to ensure that NVIS Mode will illuminate at levels compatible with your intended application. When the NVIS Maximum Brightness level is determined, record it here.