Save File Documentation

Phaser Configurator

The Phaser Configurator Save Files store information about a single bar designed in the Configurator (as well as some supporting documentation). It consists of three Compound Tags and three List Tags inside of the Root Compound Tag:

The ordr Compound Tag contains metadata on the order itself – the name of the customer (as the String Tag name), the order number (as the String Tag num), and any notes on the order itself (as the String Tag note).

The opts Compound Tag contains information regarding selections for each accessory:

* Byte size – The size of the bar, in number of center sections.
* Byte tdop – The traffic director option that the bar is using. The values correspond to the values of the TDOption enumeration in the LightDict file:

NONE = 0, LG\_SEVEN = 1, SM\_EIGHT = 2, SM\_SIX = 3, LG\_EIGHT = 4, LG\_SIX = 5[[1]](#footnote-1)?

* Byte can – 0 if the bar does not use the CAN Module, 1 if it does.
* Byte cabt – Applies only if they do not use the CAN Module. 0 if the bar uses the single-cable option, 1 if it uses the dual-cable option.
* Byte cabl – The index of the cable length array this bar uses.
* Byte mkit – The mounting kit this bar uses. 0 means no kit, other values minus one is the index from the mounting kit array.

The lite List Tag is of type Compound, and contains information about every light the bar uses, including optics and styles. Every element follows this format:

* String path – The Unity path used to reach the LightHead’s GameObject. Used as an identifier.
* String optc – If the head is not fully defined, this Tag does not exist. Otherwise, this Tag contains the part prefix of the optic the head uses.
* String styl – If the head is not fully defined, this Tag does not exist. Otherwise, this Tag contains the style name of the optic the head uses.
* Byte func – This is a bit field of every Basic Function this head uses. The corresponding bits are these:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Least Significant Bit | | | | Most Significant Bit | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Flashing | Steady Burn | Emitter | Cali T13 Steady | Cruise | Stop Tail Turn | Traffic | Block Off |

The soc List Tag is of type Compound, and contains information about the size of the lights, by manipulating the SizeOptionControl Components on the Bar. Each element only contains two Tags: a String Tag called path that contains the Unity path used to reach the SizeOptionControl’s GameObject (used as an identifier like the lite Tag’s elements), and a Byte Tag called isLg that contains a 0 if that specific Component should show small heads, or a 1 if that Component should show large heads.

The lens List Tag is of type Compound, and contains information about the lenses or domes on the bar. Each element only contains two Tags: a String Tag called path that contains the Unity path used to reach the BarSegment GameObject (as that’s the Component that manages the lenses), and a String Tag called part that holds the part suffix of the lens.

The pats Compound Tag contains information about the patterns all of the light heads use for each of the individual functions. It contains 19 Compound Tags, an IntArray Tag, and typically a Byte Tag.

The IntArray Tag is called map, and contains the input mapping for the bar – every element in the Tag corresponds to an individual input (in the same order as the bar’s bytes), and the value of the element corresponds to what function is assigned to that input (as a bit field). The possible values are:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 0  None | 1  Takedown | 2  Priority 1 | 4  Priority 2 | 8  Priority 3 |
| 16  Direct Left | 32  Direct Right | 64  Left Alley | 128  Right Alley | 256  ICL |
| 512  Dimmer | 1024  Flashing Pursuit | 2048  Flashing Alley | 3072  Both Flash funcs | 4096  Pattern |
| 8192  Cruise | 16384  Turn Left | 32768  Turn Right | 65536  Brake Lights | 131072  Cali T13 Steady |
| 262144  Priority 4 | 524288  Priority 5 | 1048576  Emitter |  |  |

The Byte Tag that could potentially be in the pats Tag is called prog, and contains the default program that the pats Tag represents. While this tag is not necessary for programming, it is used when exporting to the PDF, indicating that a default program can be used rather than needing to install it from this file.

Finally, the 19 Compound Tags each contain details for the definition of the individual functions. The names of the Compound Tags themselves indicate what function they define:

|  |  |  |  |
| --- | --- | --- | --- |
| td – Takedown | lall – Left Alley | rall – Right Alley | ltai – Turn Left |
| rtai – Turn Right | cru – Cruise | cal – Cali T13 Steady | emi – Emitter |
| l1 – Prio 1 | l2 – Prio 2 | l3 – Prio 3 | l4 – Prio 4 |
| l5 – Prio 5 | tdp – Flashing Pursuit | icl – ICL | afl – Flashing Alley |
| dcw – DC Warn (unused) | dim – Dimmer | traf – Traffic Director |  |

Each of these Compound Tags contain at least three of the following Tags:

* Short ef1 – Bit Field for the front, color 1 enables. ***Not used by traf.***
* Short ef2 – Bit Field for the front, color 2 enables. ***Not used by traf.***
* Short er1 – Bit Field for the rear, color 1 enables.
* Short er2 – Bit Field for the rear, color 2 enables.
* Short pf1 – Bit Field for the front, color 1 phases. ***Only used by flashing functions.***
* Short pf2 – Bit Field for the front, color 2 phases. ***Only used by flashing functions.***
* Short pr1 – Bit Field for the rear, color 1 phases. ***Only used by flashing functions.***
* Short pr2 – Bit Field for the rear, color 2 phases. ***Only used by flashing functions.***
* Short dimp – The percentage to dim the lights by. Unused. ***For the dim Compound Tag only.***
* Short patt – The Traffic Director pattern to use. ***For the traf Compound Tag only.***
* Compound pat1 – Contains pattern information for color 1. ***Only used by flashing functions.***
  + Short fcen – The pattern ID used by the front center heads.
  + Short finb – The pattern ID used by the front inboard heads.
  + Short foub – The pattern ID used by the front outboard heads.
  + Short ffar – The pattern ID used by the front far heads.
  + Short fcor – The pattern ID used by the front corner heads.
  + Short rcen – The pattern ID used by the rear center heads.
  + Short rinb
  + Short roub
  + Short rfar
  + Short rcor
* Compound pat2 – Contains pattern information for color 2. Follows same layout as pat1. ***Only used by flashing functions.***

1. ? I’m aware these aren’t in any specific order. There was order originally, then we added LG\_EIGHT and LG\_SIX after the fact, and changing things around in an enumeration could have some wider consequences. [↑](#footnote-ref-1)