

# LEGION

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## LIGHTBAR

User Manual

2021

**F4**  
Firmware



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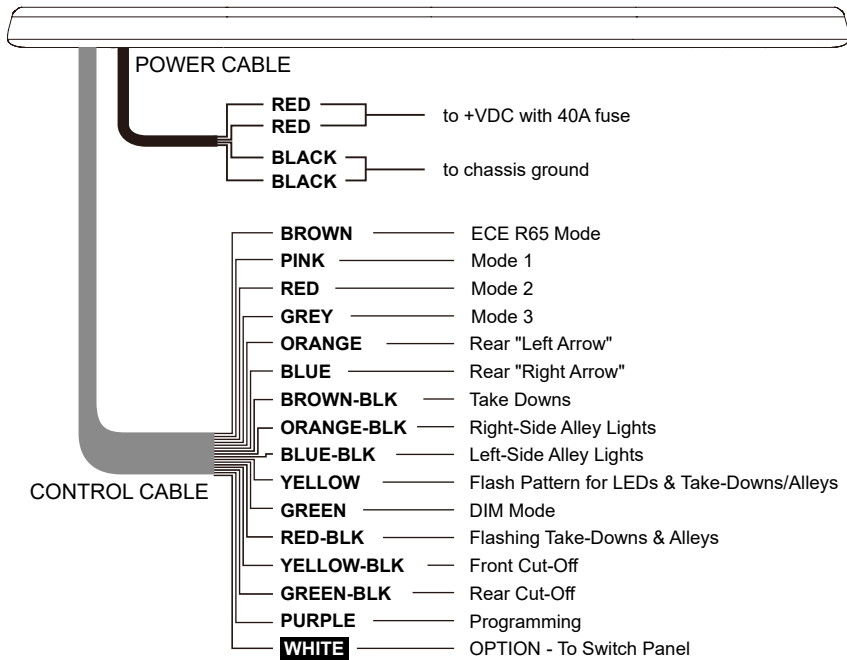
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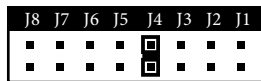
## WIRING & FUNCTIONS (F4)

### LIGHTBAR WIRING

Different applications require different functions. It is highly recommended to determine and configure the required functions prior to Installation; (refer to 'CONTROL CABLE' section).



Functions are activated by applying +VDC to a control wire. Jumper must always be on **position J4**



*NOTE: Middle Section lights are independently switched and are not part of R65 Approval.*

## F4 SOFTWARE (16+4 WIRES)

No	Wire Colour	Factory Wire Functions	Custom Program
1	Brown	ECE-R65 Warning Mode	
2	Pink	MODE 1 Warning (3rd Priority)	
3	Red	MODE 2 Warning (2nd Priority)	
4	Grey	MODE 3 Warning (1st Priority)	
5	Orange	Rear LEFT Arrow Traffic Director	
6	Blue	Rear RIGHT Arrow Traffic Director	
7	Brown/Black	Take-Down Lights	
8	Orange/Black	RIGHT Side Alley Light	
9	Blue/Black	LEFT Side Alley Light	
10	Yellow	Flash Pattern for LEDs, Take-Downs & Alleys	
11	Green	Hi/Low Power (50%)	
12	Red/Black	Flashing Take-Downs & Alleys	
13	Yellow/Black	Front Cut-Off	
14	Green/Black	Rear Cut-Off	
15	Purple	Program Mode	
16	White	LED Indicator for Switch Panel	

### Notes

**POWER CABLE**

1. Route Power Cable to the vehicle firewall towards the battery.
2. Follow factory wiring harness through the firewall. It may be necessary to drill a hole in the firewall. Ensure that there are no components that could be damaged from the drilling.
3. Route the cable to the battery.
4. Splice the 2 **RED** wires to form a single wire.
5. Install a 40Amp fuse (user-supplied) on the end of **RED** wire, then connect to battery.
6. Splice the 2 **BLACK** wires to form a single wire.
7. Connect **BLACK** wire to the factory chassis ground adjacent to the battery.

*NOTE: make sure that all wires of power cable are securely connected to power source.*

**CONTROL CABLE**

1. Route Control Cable towards the dash area to a switch panel (user-supplied).
2. Connect the required wires to the switch panel.

**ECE R65 WARNING MODE**

Activate R65 Mode by applying **+VDC** to **BROWN** wire. This activates the lightbar outer sections only. There is a list of built-in flash patterns to choose from. While in R65 Mode, tap **+VDC** to **YELLOW** wire:

- Once for next pattern.
- Quickly 3 times for FP#0.

FP#	ECE-R5 Mode
0	Double All
1	Quad All
2	Single All
3	Double Split
4	Quad Split
5	Single Split

*NOTE: R65 Mode has priority over all other Modes, and will override other functions when active.*

**MODE 1, MODE 2, MODE 3**

Activate desired Mode by applying **+VDC** to **PINK** wire (Mode 1), **RED** wire (Mode 2), or **GRAY** wire (Mode 3). This activates the lightbar according to the Flash Patterns chart. While active, tap **+VDC** to **YELLOW** wire to change pattern.

FP#	FLASH PATTERNS		
	Mode 1	Mode 2	Mode 3
0	Single Split (rear only)	Single Split	Random
1	Double Split (rear only)	Double Split	Double Split
2	Quad Split (rear only)	Quad Split	Quad Split
3	Ultra Split (rear only)	Ultra Split	Ultra Split
4	Single-Quad Split (rear only)	Single-Quad Split	Single-Quad Split
5	Side-by-Side Single (rear only)	Side-by-Side Single	Side-by-Side Single
6	Side-by-Side Quad (rear only)	Side-by-Side Quad	Side-by-Side Quad
7	Side Split (front only)	Outside-In Single	Outside-In Single
8	Double Split (front only)	Outside-In Quad	Outside-In Quad
9	Quad Split (front only)	Single All	Single All
10	Ultra Split	Double All	Double All
11	Single-Quad (front only)	Quad All	Quad All
12	Side-by-Side Single (front only)	Ultra All	Ultra All
13	Side-by-Side Quad (front only)	Single-Quad All	Single-Quad All

*NOTE: Flash Pattern #0 can be user customized by entering PROGRAM Mode, (refer to PROGRAMMING section). All other patterns are still available after customization is done. There is a reset function which restores original factory setting; refer to RESET section.*

**PROGRAMMING**

FP#0 of each Mode can be user customized.

To configure flash pattern:

1. Activate the desired Mode by applying **+VDC** to: **BROWN** wire (Mode 1), **PINK** wire (Mode 2), or **RED** wire (Mode 3).
2. Enter PROGRAMMING mode by quickly tapping **+VDC** to **PURPLE** wire 3 times within 1 second.
3. Once in PROGRAMMING mode, all lightheades will faintly blink once every second. The inner forward-facing pair of lightheades will be activated.

NOTE: If the inner forward-facing heads are Take Downs, then tap **+VDC** to **PURPLE** wire once to scroll to the next pair of lightheades.

4. Tap **+VDC** to **YELLOW** wire:  
Once for next pattern (see Lighthead Patterns). Quickly 3 times within 1 second for FP#0.
5. Scroll to the next pair of lightheades by tapping **+VDC** to **PURPLE** wire.
6. Repeat steps 4 and 5 until all lightheades are properly configured.
7. Exit PROGRAM mode by quickly tapping **+VDC** to **PURPLE** wire 3 times within 1 second.

**RESETTING**

To restore factory setting:

1. With no wires activated, enter RESET mode by tapping **+VDC** to **PURPLE** wire for more than 1 second.
2. Once in RESETTING mode, the lightbar will display:  
Single flash = Mode 1 or Double flash = Mode 2 or Triple flash = Mode 3
3. Select Mode to reset by tapping **+VDC** to **PURPLE** wire once to change Modes.
4. Apply **+VDC** to **PURPLE** wire for 2~4 seconds to restore factory setting.
5. Exit RESETTING mode by tapping **+VDC** to **PURPLE** wire for 5 seconds or more.

FP#	Lighthead Pattern
0	Steady
1	Single Slow (Split)
2	Single 2Hz (Split)
3	Single Fast (Split)
4	Double 2Hz (Split)
5	Double (Split)
6	Squad (Split)
7	Ultra (Split)
8	Single-Quad (Split)
9	Single H/L(Split)
10	Random
11	Off
12	Single Slow (All)
13	Single 2Hz (All)
14	Single Fast (All)
15	Double 2Hz (All)
16	Double (All)
17	Quad (All)
18	Ultra (All)
19	Single-Quad (All)
20	Single H/L (All)

**FLASHING TAKE-DOWNS & ALLEYS**

Activate Flashing Take-Downs & Alleys by applying **+VDC** to **RED-BLK** wire. To scroll to a different configuration, tap **+VDC** to **YELLOW** wire:

- Take-Downs and Alleys flashing.
- Alleys only flashing.
- Take-Downs only flashing.

NOTE: Flashing Take-Downs & Alleys have priority over the steady burn functions.

**TRAFFIC DIRECTORS / ARROWS**

During Mode 1, Mode 2, or Mode 3, activate Traffic Arrow functions by applying **+VDC** to:

- **ORANGE** wire for Left Arrow.
- **BLUE** wire for Right Arrow.
- **ORANGE & BLUE** wires for Centre Out.

To configure the Traffic Arrow flash patterns, tap **+VDC** to **YELLOW** wire:

- Once for next pattern (refer to Traffic Arrow Patterns chart).
- Quickly 3 times within 1 second for reset to FP#0.

NOTE: If the bar is equipped with the Dual Colour Traffic Arrow option, the rear lightheades will automatically switch to Amber when the Traffic Arrow function is activated; and will automatically switch back when the Traffic Arrow function is deactivated.

FP#	Traffic Director Patterns
0	Sweep Single
1	Sweep Double
2	Sweep Triple
3	Sweep Single End-Double
4	Solid
5	Solid End-Double
6	Solid Chaser
7	Solid Fade
8	Blink Double
9	Blink Triple
10	Blink Solid

**OTHER WIRES**

To activate other functions, apply **+VDC** to:

- **BROWN-BLK** wire for Take Down Lights.
- **ORANGE-BLK** wire for Right-Side Alley Light.
- **BLUE-BLK** wire for Left-Side Alley Light.
- **YELLOW-BLK** wire for Front cut-off.
- **GREEN-BLK** wire for Rear cut-off.
- **GREEN** wire for Low Power.

**OPTION WHITE WIRE**

WHITE wire can be connected to SW610-T1 Switch Panel (sold separately).

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