



BEACON

HIGH DOME

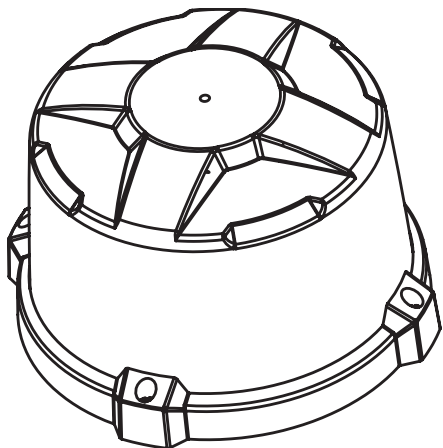
MAGNET MOUNT - ENRBCSHM(x)1(x)Z(xxx)

COMBO: FLAT/PIPE MOUNT - ENRBCSHC(x)1(x)Z(xxx)

LOW DOME

MAGNET MOUNT - ENRBCSLM(x)1(x)Z(xx)

COMBO: FLAT/PIPE MOUNT - ENRBCSLC(x)1(x)Z(xxx)



⚠ WARNING

- HIGH CURRENT interconnects must be properly terminated. Poor crimp quality can cause heat build-up and fire. Follow crimp connector manufacturer instructions.
- DO NOT install this product or route any wires in the Air Bag Deployment Zone. Refer to vehicle Owner's Manual for deployment zones.
- Do NOT use system to disconnect headlights, brake lights or other safety equipment.
- Unit may become hot to touch during normal operation.
- Failure to properly install connectors, fuses or wiring may cause vehicle failure or fire.
- Installation must only be performed by trained technician. Installer must determine vehicle wiring configuration and proper integration of system.
- Use proper wire gauge. All power wires connecting to positive (+) or negative (-) battery terminal or local chassis ground (-) must be sized to supply at least 125% of max. current and properly fused at power source.
- Install protective grommets when routing wire through firewall or metal.

SoundOff
Signal
Smart Design.

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Installers and users must comply with all applicable federal, state and local laws regarding use and installation of warning devices.

Improper use or installation may void warranty coverage. To review our Limited Warranty Statement & Return Policy for this or any SoundOff Signal product, visit our website at www.soundoffsignal.com/sales-support. If you have questions regarding this product, contact **Technical Services**, Monday - Friday, 8 a.m. to 5 p.m. or after hours 5 p.m. to 8 p.m. EST at 1.800.338.7337 (press #4 to skip the automated message). Questions or comments that do not require immediate attention may be emailed to techservices@soundoffsignal.com.

SUPERIOR CUSTOMER RELATIONSHIPS. SMARTLY DESIGNED LIGHTING & ELECTRONIC SOLUTIONS.

nROADS Beacon 06.16

TECHNICAL SPECIFICATIONS

Dimensions:	Low Dome: 3.6" (9.25cm)H x 8.6" (21.8cm) D High Dome: 5.3" (13.4 cm) H x 8.6" (21.8 cm) D
Input Voltage:	9-17.5Vdc
Standby Current:	<0.0001 Amps after 10 seconds of no active control inputs
Reverse Polarity Protection:	Yes
Electrical Transient Protection:	ISO7637-2 for 12V systems
Wiring:	Approx. 18" length. Type TXL 4x 16AWG Power/Ground, 6x 20AWG Control

CURRENT CONSUMPTION

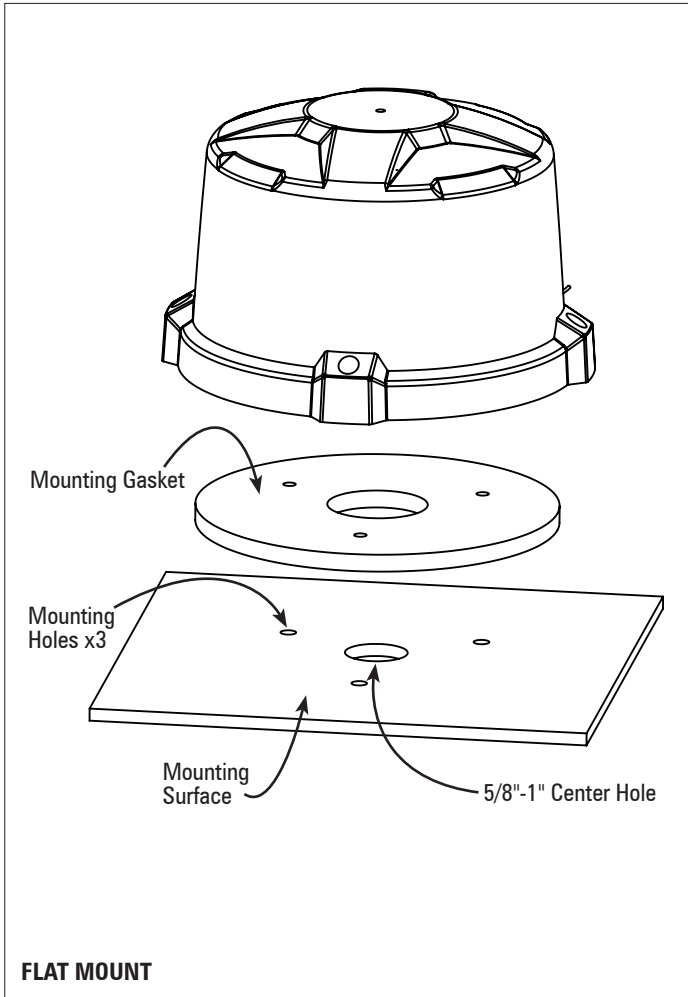
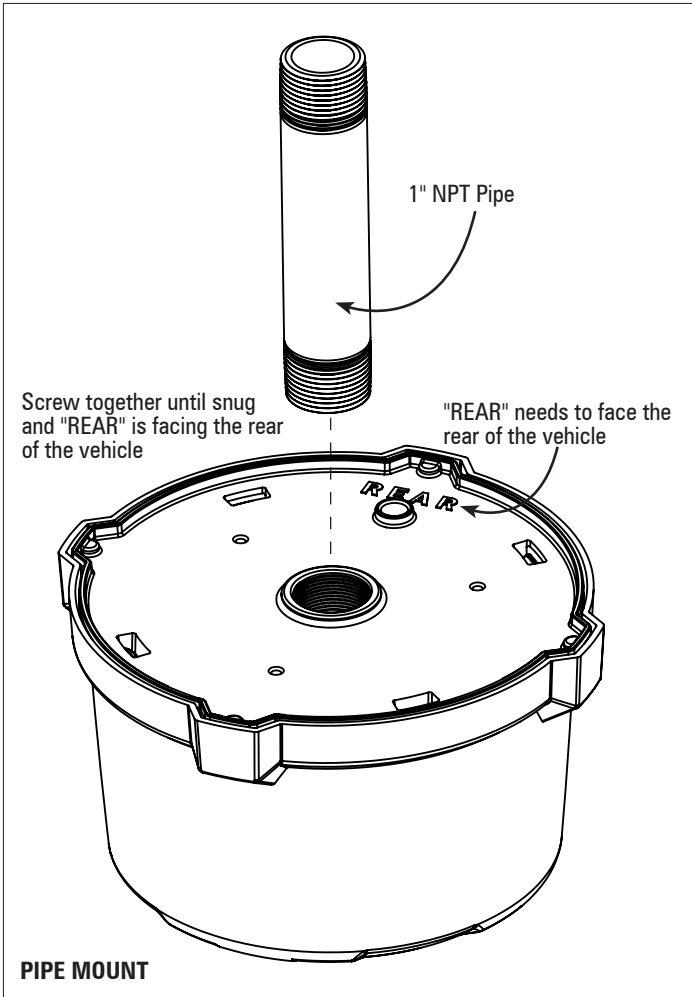
MODULE CONFIGURATION	INPUT VOLTAGE RANGE	CURRENT DRAW (MAXIMUM)	WATTS FLASHING @ 12.8Vdc
3 LED Single Color	9-17.5Vdc	0.5 Amps	3.2 Watts
6 LED Single Color	9-17.5Vdc	1.0 Amps	6.4 Watts
9 LED Single Color	9-17.5Vdc	1.5 Amps	9.6 Watts
12 LED Single Color	9-17.5Vdc	2.0 Amps	12.8 Watts
12 LED Dual Color	9-17.5Vdc	1.0 Amps	6.4 Watts
18 LED Tri Color	9-17.5Vdc	1.0 Amps	6.4 Watts

⚠ WARNING

This product contains high intensity LED devices. To prevent eye damage, DO NOT stare into the light beam at close range.

Please see pages 2-3 for Mounting Instructions

NOTICE:



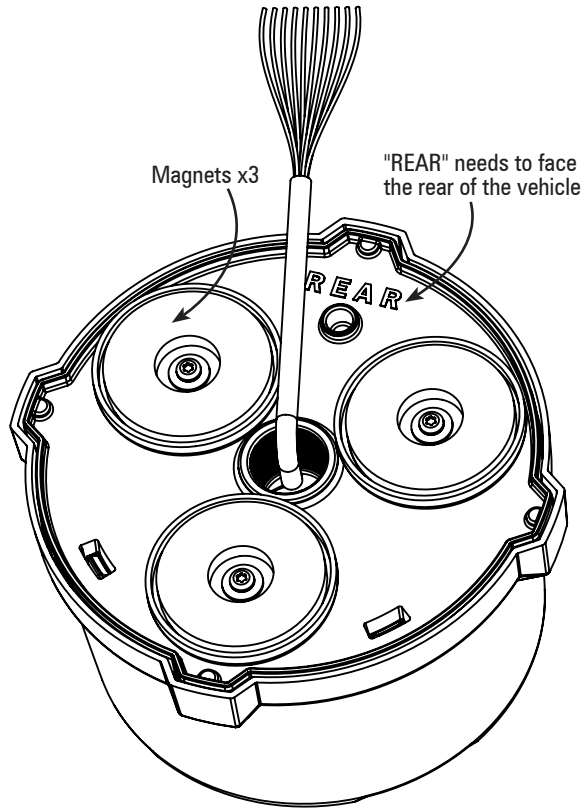
nROADS Mounting Instructions

Flat Mount:

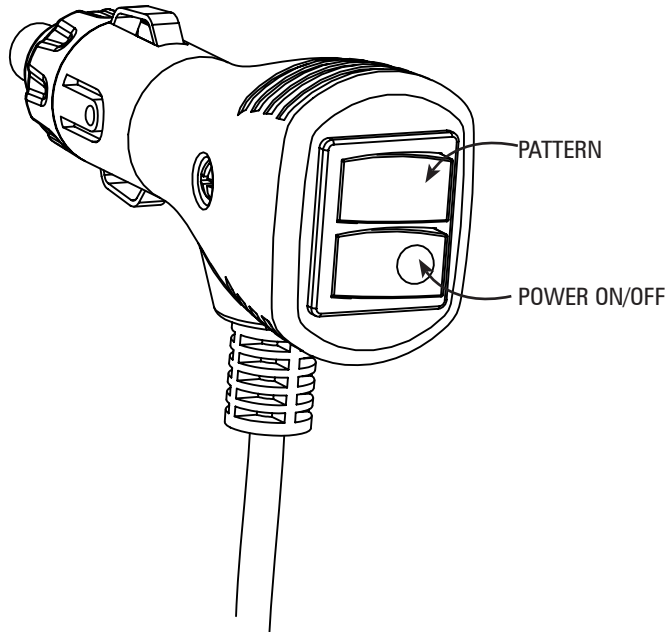
1. Using the supplied gasket, mark the center hole and three mounting holes on the surface the beacon will be mounted to.
2. Drill your holes.
 - a. The center hole should be large enough for the wires to pass, between 5/8" and 1".
 - b. The 3 mounting holes should be drilled for clearance for #10 bolts (1/4").
3. Using #10-32 bolts of suitable length (installer supplied) secure the beacon to the mounting surface making sure the gasket is between the beacon and the mounting surface. (SoundOff Signal recommends using flat washers and lock washers to secure the beacon to your mounting surface).

Pipe Mount:

1. The beacon is pre-threaded to fit a 1" NPT pipe.
2. Insert wires into the pipe making connections you wish to use.
3. Screw the beacon on the pipe until snug.
4. The aluminum base is marked "REAR". Rotate the beacon until the "REAR" is facing the back of the vehicle. This is important for specific light modes.



MAGNET MOUNT



CIG PLUG

nROADS Mounting Instructions

Magnet Mount:

1. Locate surface where beacon will be mounted.
2. Place beacon with the "REAR" facing the rear of the vehicle. This is important for specific modes.

Cig Plug Operation:

1. See Cig Plug diagram at left for POWER ON/OFF and PATTERN SELECT switch locations.
2. Turn beacon ON by pressing the POWER ON/OFF switch to the ON position.
3. With beacon OFF, press and hold PATTERN SELECT switch for 1 second until you see the beacon flash the new pattern and release.
4. Holding the PATTERN SELECT switch for >5 seconds while the beacon is ON will reset the beacon to pattern #0.



ELECTRICAL INSTALLATION (applies to permanent mounting options only)

Power Wires:

1. Route customer supplied power and ground cables which are properly sized for the current consumption of the beacon (rated for a minimum of 125% above maximum current draw) between the power source (battery) and the beacon power and ground cables.
2. Install a maximum of 20Amp Fuse (customer supplied) to the end of the power cables as close to the power source (battery) as possible.
 - a. Remove the fuse before connecting any wires to the battery.
 - b. DO NOT USE CIRCUIT BREAKER OR FUSIBLE LINK.
3. Connect the other end of the Fuse to the POSITIVE (+) terminal of the battery.
 - a. Do NOT use any more than 2ft of wire between the battery terminal and the fuse and ensure the wire is protected and secured from being cut into; this is non-fused wire.
4. Connect the BLACK wire to the factory chassis ground right next to the battery and the the ground cables of the beacon.

Control Wires (Blue, Orange, Yellow & Pink):

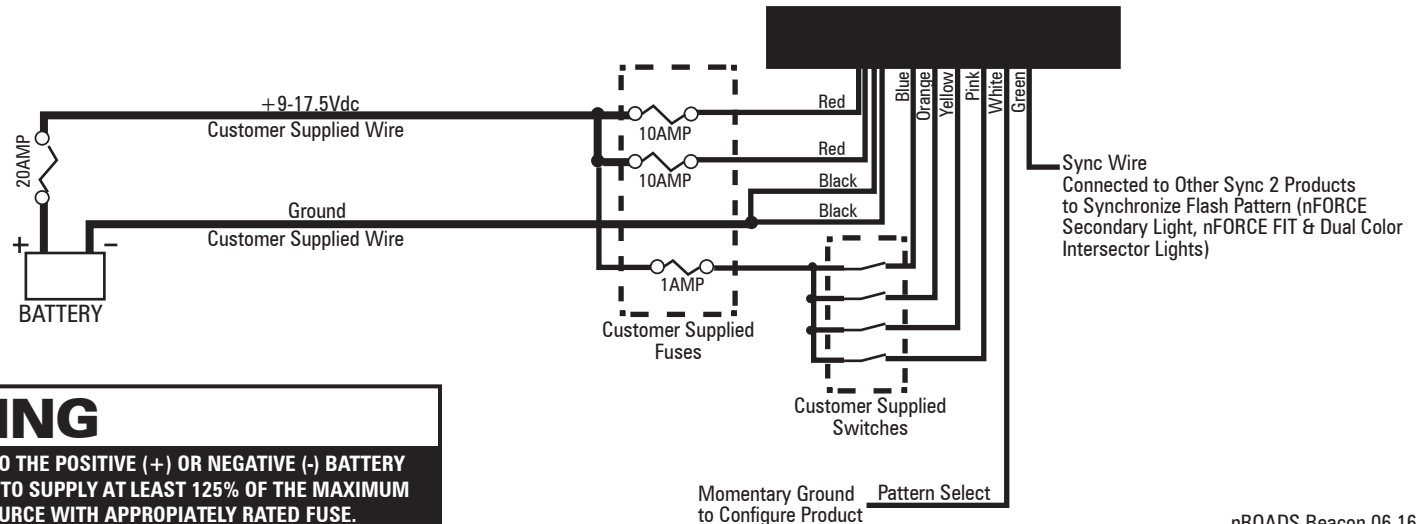
1. Route customer supplied wires between switch panel and the Blue, Orange, Yellow, and/or Pink wires. Use 20AWG type TXL wire as required to extend the length of the wires to reach the customer supplied switches.
2. The +12V supply to the control wires must be over-current protected to protect the wires and product against the possibility of a short circuit. A 1 amp fuse will be sufficient since the control wire inputs require less than 10mA per input to activate.

Sync Wire (Green):

1. Connect the green wire to other Sync2 compatible products (nFORCE Secondary Light, nFORCE FIT & Dual Color Intersector Lights) which are on the vehicle and need to synchronize the flash pattern. All product with the green wires connected must be operating the same flash pattern otherwise incorrect flash pattern timing will occur.
2. If synchronized flash patterns to other product are not required, blunt cut and tape the end of the green wire to ensure the wire is protected from being unintentionally grounded while in service.

Pattern Select/Configuration Wire (White):

1. Applying a momentary ground on the white wire will configure the product. Refer to the production configuration section of the installation instructions for setup.
2. Once product is configured, blunt cut and tape the end of the white wire to ensure the wire is protected from being unintentionally grounded while in service and changing the configuration.



WARNING

ALL CUSTOMER SUPPLIED POWER WIRES CONNECTING TO THE POSITIVE (+) OR NEGATIVE (-) BATTERY TERMINAL OR LOCAL CHASIS GROUND (-) MUST BE SIZED TO SUPPLY AT LEAST 125% OF THE MAXIMUM CURRENT AND PROPERLY FUSED AT THE POWER SOURCE WITH APPROPRIATELY RATED FUSE.



ELECTRICAL INSTALLATION (CONTINUED)

Product Configuration:

1. The four control wires (blue, orange, yellow and pink) can each be assigned a function from the flash pattern table, which include:
 - a. Output a pattern,
 - b. Enable a scene (where lights are steady on),
 - c. Enable cruise mode (lights are on dimly), or
 - d. Set lightbar to reduced power (night) mode.
2. Functionality is assigned to the control wires by applying +12V supply to the control wire and then grounding the white wire for a specific amount of time.
 - a. To advance the next function in the list, tap the white wire to ground for < 1 second.
 - b. To go back one function in the list, hold the white wire to ground for > 1 second and < 2 seconds.
 - c. To set the wire functionality to the default value, hold the white wire to ground > 1 second and < 3 seconds.
 - d. For beacons with more than one color, hold the white wire to ground for > 3 seconds to set the color(s) used with the active control wire.
3. For beacons with multiple colors, the color(s) used for each control wire is set by grounding the white wire while applying +12V to the desired control wire for > 3 seconds.
 - a. After 3 seconds, each color will turn on for 1 second. Release the white wire during this time to set the control wire function to the displayed color.
 - b. Once all colors have been displayed, color combinations will light such that the 2 colors will alternate (½ second color 1 and ½ second color 2) for 3 times, followed by ½ second off. Release the white wire during this time to set the control wire function to the 2 flashing colors.
4. The control board obtains information about the attached modules through a learning procedure that is performed in the factory. If the hardware is changed to modules of different types (e.g. colors are changed), the learning process will need to be repeated.
 - a. If device is a beacon, ensure DIP Switch 2 is ON. If Light bar it should be OFF.
 - b. To enable sync2 ensure DIP Switch 3 is ON. To disable sync2 ensure DIP Switch 3 is OFF.
 - c. Move the DIP Switch 1 from OFF to ON and back to OFF to start the learning process.
 - d. After approximately 2 seconds (during which time the lights may flicker briefly), all lights of each color will turn on for 2 seconds each. Observe the modules to make sure they are the proper color.

Operating Modes:

1. Flash Pattern

Light modules will flash with selected pattern. If multiple control wires are set to output a pattern are active simultaneously the wire with the highest priority will be active (Pink > Yellow > Orange > Blue).

2. Scene

Modules for scene will stay on continuously. If only some light modules are used for the scene then a flash pattern can be active on other light modules.

3. Cruise

Selected modules will stay on continuously at a dim value. Patterns and Scenes will take priority over a cruise function if both are active.

4. Low Power

If a low power functionality is enabled along with a pattern or scene, the pattern or scene will be active at a lower light output level.

5. Sleep

If no input is active, the device will enter a low power sleep mode.

WARNING

Route wires only in locations that are not subjected to potential wear. Make sure to avoid routing wires in the deployment area of your air bag. Refer to your vehicle's owner's manual for airbag deployment zone.

IMPORTANT

WHEN PASSING CABLES THROUGH FIREWALL OR OTHER SHEETMETAL, INSERT GROMMET TO PROTECT THE CABLE!



FLASH PATTERNS

*fpm=Flashes per Minute

**fps=Flashes per Second

#	Name	SAE Compliant	Sequence	fpm	fps	nROADS to nROADS Compatible	Sync2 Compatible
0	RandomAction 1	Yes	Variable	-	-	Yes	n/a
1	RandomAction 2		Variable	-	-	Yes	n/a
2	RandomAction 3 (Blue wire/Cig Plug default)		Variable	-	-	LED Module Count Dependent	n/a
3	RandomAction 4 (Orange wire default)		Variable	-	-	LED Module Count Dependent	n/a
4	Rotate 250	Yes	Rotating	-	-	LED Module Count Dependent	n/a
5	Rotate 125	Yes	Rotating	-	-	LED Module Count Dependent	n/a
6	Race 200 (Rotate w/ Chaser)	Yes	Rotating	-	-	LED Module Count Dependent	n/a
7	Race 125	Yes	Rotating	-	-	LED Module Count Dependent	n/a
8	Race 100	Yes	Rotating	-	-	LED Module Count Dependent	n/a
9	Race 200 w/ TripplePop		Variable	-	-	LED Module Count Dependent	n/a
10	Cross-Fire		2X Individual Sweep	-	-	LED Module Count Dependent	n/a
11	Super Scan		Dual Rate Pulse/Alt	-	-	LED Module Count Dependent	n/a
12	Power Flash		Dual Rate Alt/Pulse	-	-	Yes	n/a
13	Thunder and Lightning		Random	-	-	Yes	n/a
14	8TriplePop	Yes	Sim	-	3.7, 1.5	Yes	n/a
15	Quint	Yes	Alt L/R	67	1.1	Yes	Yes
16	Quint	Yes	Sim	67	1.1	Yes	Yes
17	Quint	Yes	Alt ² /Sim	67	1.1	Yes	Yes
18	Quad2	Yes	Alt L/R	67	1.1	Yes	Yes
19	Quad2	Yes	Sim	67	1.1	Yes	Yes
20	Quad2	Yes	Alt ² /Sim	67	1.1	Yes	Yes
21	Q-Switch™		Variable		-	Yes	Yes
22	Double	Yes	Alt L/R	115	1.9	Yes	n/a



FLASH PATTERNS CONTINUED

*fpm=Flashes per Minute

**fps=Flashes per Second

#	Name	SAE Compliant	Sequence	fpm	fps	nROADS to nROADS Compatible	Sync2 Compatible
22	Double	Yes	Alt L/R	115	1.9	Yes	n/a
23	Double	Yes	Sim	115	1.9	Yes	n/a
24	Double	Yes	Alt ² /Sim	115	1.9	Yes	n/a
25	Power Pulse	Yes	Alt L/R	188	3.1	Yes	Yes
26	Power Pulse	Yes	Sim	188	3.1	Yes	Yes
27	Power Pulse	Yes	Alt ² /Sim	188	3.1	Yes	Yes
28	Road Runner	Yes	Alt L/R	115	1.9	Yes	Yes
29	Road Runner	Yes	Sim	115	1.9	Yes	Yes
30	Road Runner	Yes	Alt ² /Sim	115	1.9	Yes	Yes
31	Slow Runner	Yes	Alt L/R	70	1.2	Yes	n/a
32	Slow Runner	Yes	Sim	70	1.2	Yes	n/a
33	Slow Runner	Yes	Alt/Sim	70	1.2	Yes	n/a
34	Warp		Alt L/R	333	5.6	Yes	Yes
35	Warp		Sim	333	5.6	Yes	Yes
36	Warp		Alt ² /Sim	333	5.6	Yes	Yes
37	Intercycle		Alt L/R	67 & 333	1.1 & 5.6	Yes	Yes
38	Intercycle		Sim	67 & 333	1.1 & 5.6	Yes	Yes
39	Intercycle		Alt ² /Sim	67 & 333	1.1 & 5.6	Yes	Yes
40	Warp 1, 2, 3		Alt L/R	115-333	1.9 - 5.6	Yes	n/a
41	Warp 1, 2, 3		Sim	115-333	1.9 - 5.6	Yes	n/a
42	Warp 1, 2, 3		Alt ² /Sim	115-333	1.9 - 5.6	Yes	n/a
43	All Cruise 3%		Cruise Mode Control (pattern overlay capable)			n/a	n/a
44	All Cruise 7% (Yellow wire default)		Cruise Mode Control (pattern overlay capable)			n/a	n/a
45	Left Scene		Scene Control			n/a	n/a



FLASH PATTERNS CONTINUED

#	Name	SAE Compliant	Sequence	fpm	fps	nROADS to nROADS Compatible	Sync2 Compatible
46	Right Scene		Scene Control			n/a	n/a
47	Front Scene		Scene Control			n/a	n/a
48	Rear Scene		Scene Control			n/a	n/a
49	All Scene		Scene Control			n/a	n/a
50	Low Power 30%		Low Power Mode Control (1 Wink)			n/a	n/a
51	Low Power 50% (Pink wire default)		Low Power Mode Control (2 Winks)			n/a	n/a

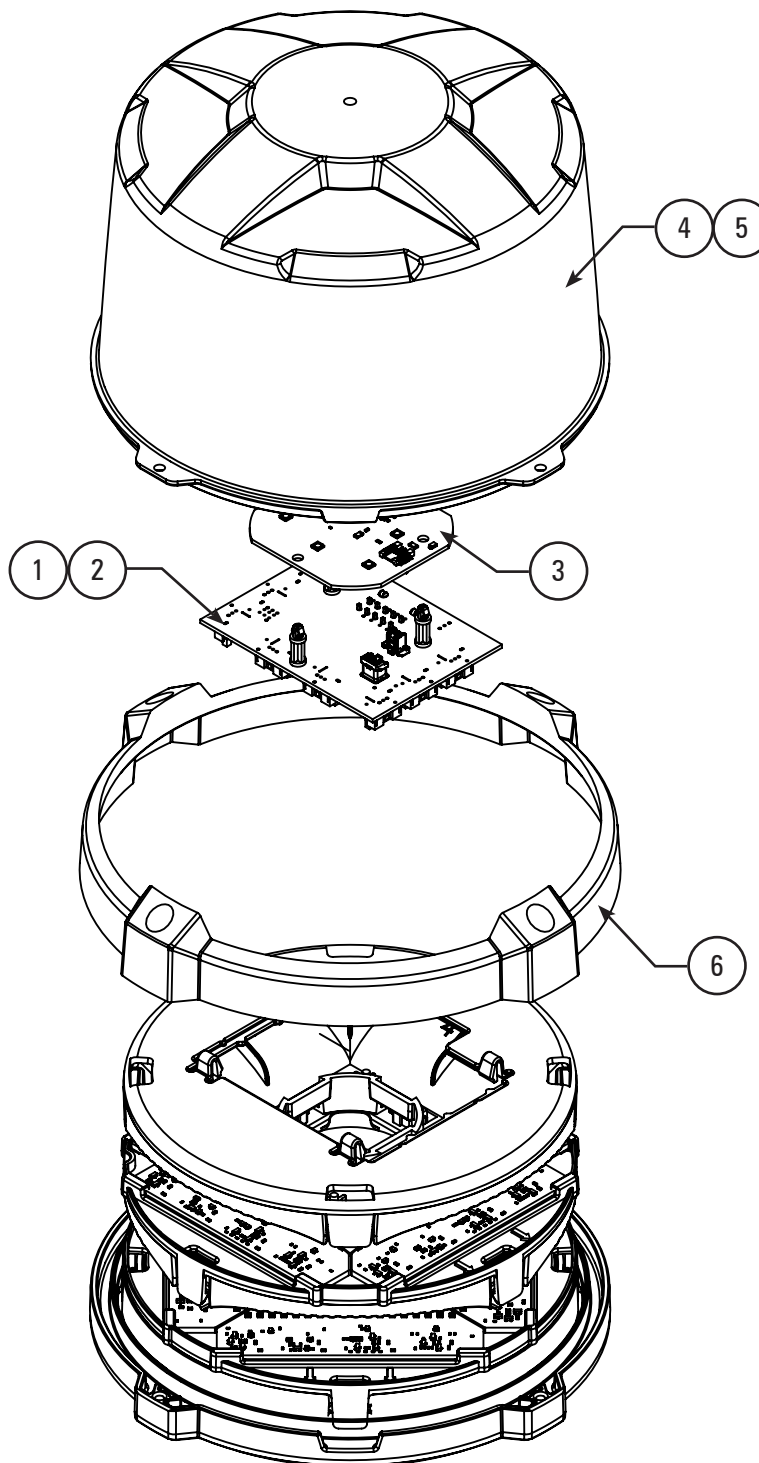
Sync2 Compatibility Chart (nFORCE Secondary, nFORCE FIT, Dual Color Intersector)				
PATTERN #	SINGLE COLOR	DUAL COLOR	TRI-COLOR	nROADS Compatible
1		QUINT		Yes
2		WARP		Yes
3		INTER-CYCLE		Yes
4		DOUBLE		-
5		QUAD		-
6		POWER PULSE		Yes
7		ROAD RUNNER		Yes
8		Q-SWITCH		Yes
9	STEADY-BURN / ROADRUNNER (SEQUENCE TYPE 1: STEADY BURN, SEQUENCE TYPE 2: ROADRUNNER)			-
				Yes
10	STEADY-BURN DRIVER TITLE 13 QUAD (SEQUENCE TYPE 1: STEADY BURN, SEQUENCE TYPE 2: TITLE 13 QUAD)			-
				-
11		QUAD 2		-
12		DOUBLE 2		-
13		RANDOM 1		-
14		RANDOM 2		-

NOTE:

For Simultaneous or Alternating flash pattern, set the sequence type on the secondary product.

REPLACEMENT PARTS & ACCESSORIES

ITEM #	PART#	DESCRIPTION
1	PNRBCDRV2	DRIVER W/ CONNECTOR
2	PNRBCDRV1	DRIVER W/O CONNECTOR
3	PNRBCLUP6A	UPWARD LIGHT ENGINE
3	PNRBCLUP6B	UPWARD LIGHT ENGINE
3	PNRBCLUP6G	UPWARD LIGHT ENGINE
3	PNRBCLUP6R	UPWARD LIGHT ENGINE
3	PNRBCLUP6W	UPWARD LIGHT ENGINE
4	PNRBCDMHA	AMBER HIGH DOME
5	PNRBCDMHC	CLEAR HIGH DOME
6	PNRBCDRNGB	BLACK DRESS RING
	PNRBCHNJP1	UPWARD LED JUMPER HARNESS





nROADS TROUBLESHOOTING

Normal Operation

Under normal operation the Beacon will Flash when a combination of the four control inputs are connected to +Vdc. The Beacon is OFF and in a low power Standby Mode after 10 seconds of no active control inputs.

No Operation

No Power; Check Red main Power feeds have a solid connection with +Vdc present on the wire post fuse. A minimum of +9Vdc is required. Replace fuse if necessary.

Verify Red main Power feeds have not exceeded voltage cutoff threshold of +17.5Vdc. Lower voltage to regain operation.

Check Black main Ground feeds have a solid and low resistance connection to ground.

No Lights; Verify at least one of the four control inputs is present with +Vdc.

Verify pattern is able to advance and control wire is not set to a Low power mode, pattern 50-51. (Blue wire default)

Perform product configuration (pg. 5).

No or Incorrect Warning Light Flash

No operation; Verify correct Control Input wire is present with +Vdc.

Verify pattern is able to advance and control wire is not set to a Low power mode, pattern 50-51. (Blue wire default)

Perform product configuration (pg. 5).

Incorrect/Undesired operation; Check that another control input is not active which has Flash priority over current control input. (pg. 4).

Low Power and Scene Light override flashing mode regardless of wire priority. Remove Low Power or Scene light control input.

No or Incorrect Scene Lights

No Lights; Verify correct Control Input wire is present with +Vdc.

Verify pattern is able to advance and control wire is set to pattern 45-49.

Perform product configuration (pg. 5).

Incorrect/Undesired operation; Check that another control input does not have an active Scene with priority over current control input. (pg. 4). Low Power overrides Scene Light wire priority. Remove Low Power control input.

No or Incorrect Synchronization

No or Incorrect syncing; Verify green wires are connected between all required Sync 2 products.

Verify Flash patterns are set to the same one. Patterns 12-42 are sync capable with all Sync2 product.

Depending on led module count, Random and rotating patterns (0-11) may not sync correctly between products (ex. Mini-Lightbar & Dual Stack Beacon). Scene, Cruise or Low Power are not sync capable.

Erratic Flash Verify Flash patterns are set to the same one.

Check that the green and/or white wire is not being intermittently shorted to ground. Securely seal all connections.



WARRANTY RETURN PROCESS:

Please contact your SoundOff Signal Sales Representative, Customer Services staff or our Technical Department (800.338.7337 option #4) for a RMA #, Return Merchandise Authorization Number.

The following information is required for issuance of the RMA #:

- Reason for returning the product*
- Address where replacement product is to be shipped*
- Telephone number where you may be reached*
- SoundOff Signal invoice number on which product was purchased**
- SoundOff Signal part number and serial number**
- E-mail address where RMA # should be e-mailed**
- Fax number where RMA # should be faxed**

* RMA # will not be given without this information.

** If available, please provide this information.

SoundOff Signal will NOT accept returns without an RMA #. Each RMA # is good for only one (1) return and will expire (30) days after the date it was issued. Products must be shipped back to SoundOff Signal and the RMA # clearly marked on the outside of the package near the shipping label. Please use the following address on your shipping label:

SoundOff Signal
ATTN: RMA # / Technical Services
3900 Central Parkway
Hudsonville, MI 49426

WARRANTY EXCLUSIONS:

Shipping & Handling, labor and service fees are non-refundable. SoundOff Signal is not liable for any damage due to installation or personal injury as a result of using SoundOff Signal product.

WARRANTY FORFEITURE:

Warranty will not be granted if the Warranty Return Policy & Procedure rules are not strictly followed. Physical damage resulting from customer abuse will void warranty. Warranty will also be voided if any SoundOff Signal and/or manufacturer serial tags, product stickers, seals, or the like, are removed, altered or tampered with. Returned product that is damaged by shipping via the RMA # procedure is not the responsibility of SoundOff Signal.

Document effective date on cover and below supersedes previously dated policies and statements.

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