



# Installation and Operation Instructions ED3777 Series LED Directionals



## WARNING!

Failure to install or use this product according to manufacturer's recommendations may result in property damage, serious injury, and/or death to those you are seeking to protect!



**Do not install and/or operate this safety product unless you have read and understand the safety information contained in this manual.**

1. Proper installation combined with operator training in the use, care, and maintenance of emergency warning devices are essential to ensure the safety of you and those you are seeking to protect.
2. Exercise caution when working with live electrical connections.
3. This product must be properly grounded. Inadequate grounding and/or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or severe vehicle damage, including fire.
4. Proper placement and installation are vital to the performance of this warning device. Install this product so that output performance of the system is maximized and the controls are placed within convenient reach of the operator so that s/he can operate the system without losing eye contact with the roadway.
5. Do not install this product or route any wires in the deployment area of an air bag. Equipment mounted or located in an air bag deployment area may reduce the effectiveness of the air bag or become a projectile that could cause serious personal injury or death. Refer to the vehicle owner's manual for the air bag deployment area. It is the responsibility of the user/operator to determine a suitable mounting location ensuring the safety of all passengers inside the vehicle particularly avoiding areas of potential head impact.
6. It is the responsibility of the vehicle operator to ensure during use that all features of this product work correctly. In use, the vehicle operator should ensure the projection of the warning signal is not blocked by vehicle components (i.e., open trunks or compartment doors), people, vehicles or other obstructions.
7. The use of this or any other warning device does not ensure all drivers can or will observe or react to a warning signal. Never take the right-of-way for granted. It is your responsibility to be sure you can proceed safely before entering an intersection, driving against traffic, responding at a high rate of speed, or walking on or around traffic lanes.
8. This equipment is intended for use by authorized personnel only. The user is responsible for understanding and obeying all laws regarding warning signal devices. Therefore, the user should check all applicable city, state, and federal laws and regulations. The manufacturer assumes no liability for any loss resulting from the use of this warning device.

## SPECIFICATIONS

Size: 4.3"L x 0.9"W x 1.4"H

Weight: 0.3 lbs.

Voltage Range: 12-24VDC

Current draw at 12.8VDC:

ED3777X: 1.3A Max.

ED3777XX: 1.4A Max.

Power Consumption at 12.8 VDC:

ED3777X: 15.6W Max.

ED3777XX: 16.9W Max.

Temperature Range:

-22° to 122°F

-30° to 50°C

Flash Rate:

See Flash Pattern Charts

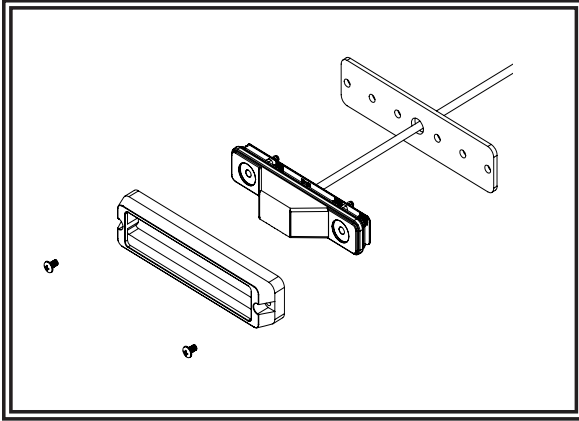
## Prior to installation:

Carefully remove the unit from its packaging. If damage is found, contact the transit company or ECCO. Do not use broken or damaged parts. Prior to mounting, consideration should be given to cable location.

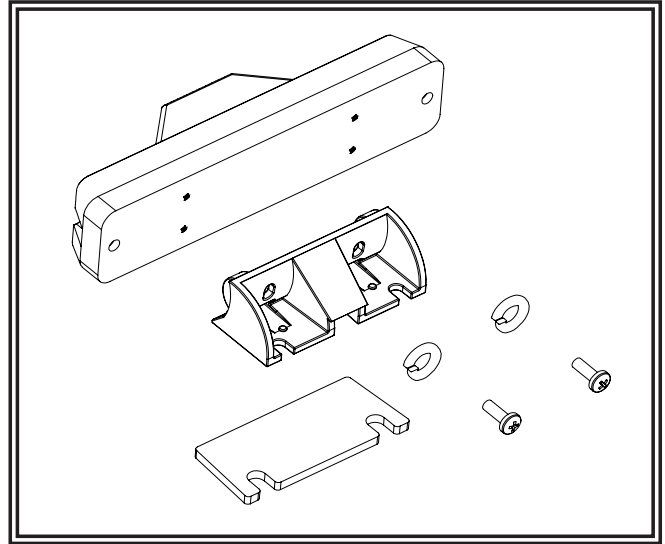
## Mounting Instructions:

**Caution:** When drilling into any vehicle surface, make sure the area is free from any electrical wires, fuel lines, vehicle upholstery, etc. that could be damaged

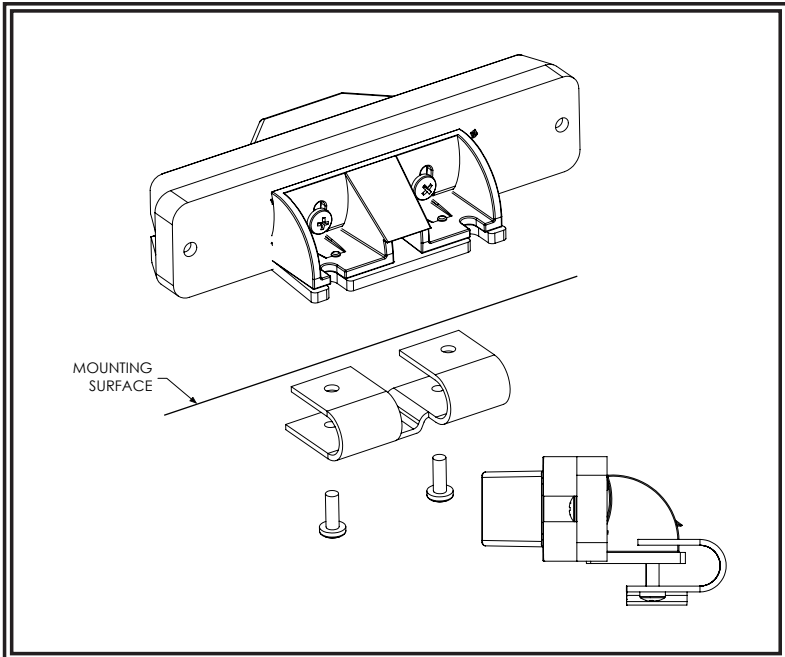
1. Select a flat mounting surface with the visibility of the flash and ease of wiring access taken into consideration.
2. Using the unit or bracket as a template, mark the two mounting hole locations. Drill a third hole for wire access as needed.
3. Mount the directional with the supplied hardware as shown.



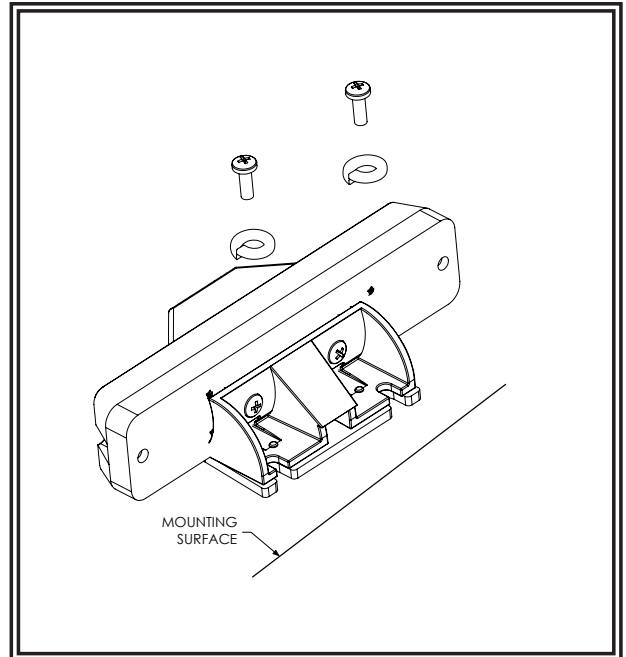
Surface Mount



Adhesive Mount



Permanent Mount



Edge Mount

## Wiring Instructions:

**Important!** This unit is a safety device and it must be connected to its own separate, fused power point to assure its continued operation should any other electrical accessory fail.

Wire as shown in FIGURE 1. All wiring should be a minimum of 20 AWG. The positive line must have a slow blow 3 amp fuse. Routing the ground wire directly back to negative battery terminal is recommended. Pack dielectric grease, such as Dow Corning 4, around each electric connection exposed to moisture or the ambient environment. Isolate any unused wires.

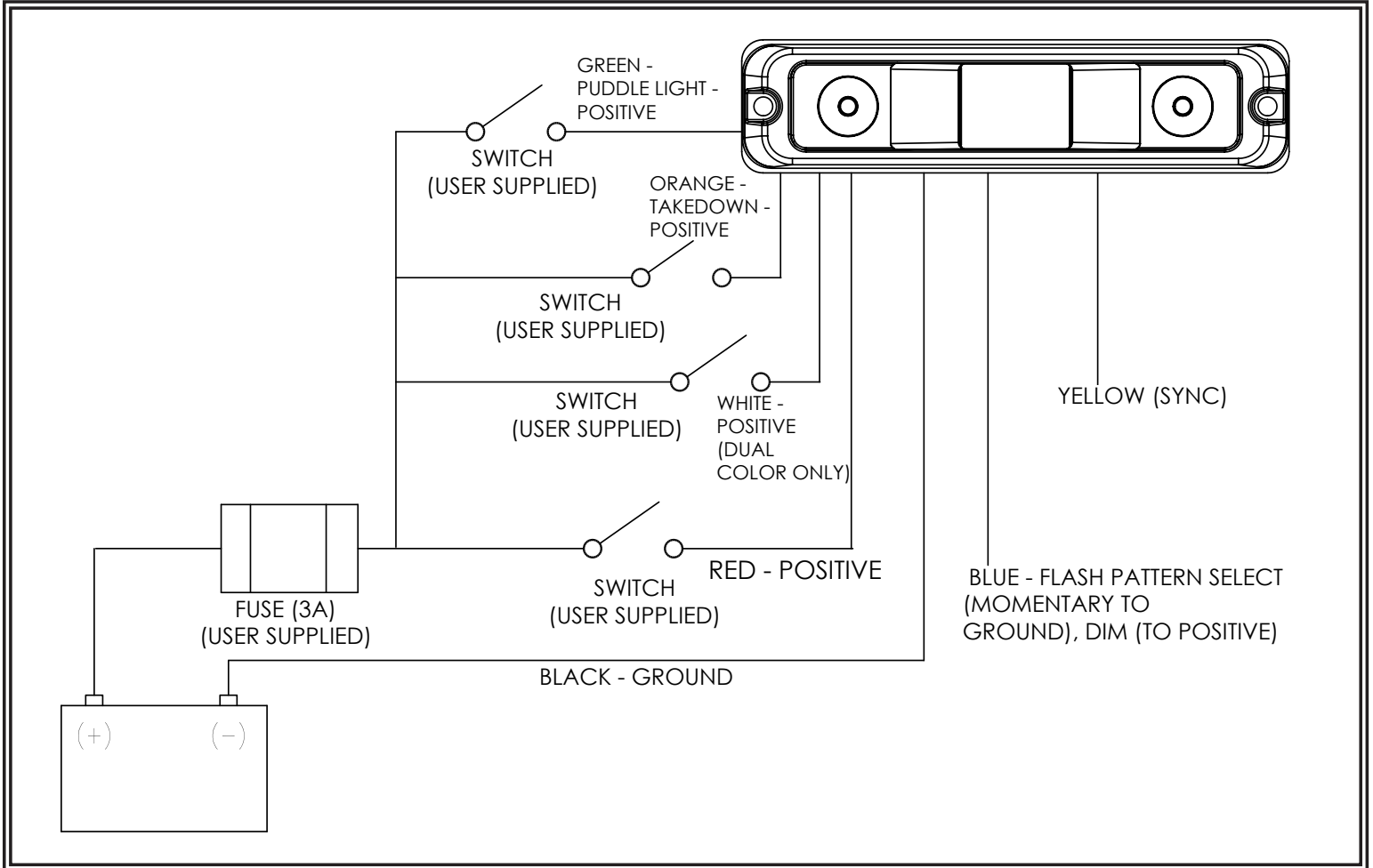


FIGURE 1

## Flash Pattern Selection:

The flash pattern can be selected by powering the individual flash pattern mode and holding the blue wire to the black wire.

- A quick tap will increment by one pattern.
- 1-3 seconds to go to the previous pattern
- 3-5 seconds to return to the factory default pattern
- 5+ seconds to set to the last flash pattern

## Synchronization:

The directional is capable of syncing with other compatible ECCO products by setting the desired flash pattern on each unit individually. It is also strongly recommended that the same rate and style of flash pattern be used on all synced units to produce the most effective warning pattern.

NOTE: To operate simultaneously, each unit must be set to the same phase (A + A or B + B); to operate alternately, units must be set to have the opposite phase (A + B or B + A). Then, connect the yellow sync wires together and check that the units are flashing in a synchronized manner as expected. If a pattern on one unit appears incorrect, the blue pattern select wire can be used to cycle forward or backward on that individual unit until the correct pattern is selected.

NOTE: This will only change the pattern in the one unit and will not affect the other units connected to the yellow sync wire.

ED3777X Flash Pattern Chart																		
Pattern	Description	FPM	Sync	Phase	SAE J595				CA T13			SAE J845				ECE R65		
					A	B	R	W	A	B	R	A (140°)	B (140°)	R (140°)	W (100°)	A	B	R
1	Single Flash	75	Y	A	Class 1	Class 1	Class 1	Class 1	Class B	Class B	Class B	Class 1	Class 1	Class 1	Class 1	-	-	-
2	Single Flash	75	Y	B	Class 1	Class 1	Class 1	Class 1	Class B	Class B	Class B	Class 1	Class 1	Class 1	Class 1	-	-	-
3	Single Flash - Wig Wag	75	Y		-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Single Flash	120	Y	A	Class 1	Class 1	Class 1	Class 1	-	-	-	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1
5	Single Flash	120	Y	B	Class 1	Class 1	Class 1	Class 1	-	-	-	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1
6	Single Flash - Wig Wag	120	Y		-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Double Flash	75	Y	A	Class 1	Class 1	Class 1	Class 1	-	-	-	Class 1	Class 1	Class 1	Class 1	-	-	-
8	Double Flash	75	Y	B	Class 1	Class 1	Class 1	Class 1	-	-	-	Class 1	Class 1	Class 1	Class 1	-	-	-
9	Double Flash - Wig Wag	75	Y		-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	Double Flash	120	Y	A	Class 1	Class 1	Class 1	Class 1	-	-	-	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1
11	Double Flash	120	Y	B	Class 1	Class 1	Class 1	Class 1	-	-	-	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1
12	Double Flash - Wig Wag	120	Y		-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	Quad Flash (Default)	75	Y	A	Class 1	Class 1	Class 1	Class 2	-	-	-	Class 1	Class 1	Class 1	Class 2	-	-	-
14	Quad Flash	75	Y	B	Class 1	Class 1	Class 1	Class 2	-	-	-	Class 1	Class 1	Class 1	Class 2	-	-	-
15	Quad Flash - Wig Wag	75	Y		-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	Quad Flash	150	Y	A	Class 1	Class 1	Class 1	Class 2	-	-	-	Class 2	Class 2	Class 1	Class 2	-	-	-
17	Quad Flash	150	Y	B	Class 1	Class 1	Class 1	Class 2	-	-	-	Class 2	Class 2	Class 1	Class 2	-	-	-
18	Quad Flash - Wig Wag	150	Y		-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	Triple Flash	75	Y	A	Class 1	Class 1	Class 1	Class 1	-	-	-	Class 1	Class 1	Class 1	Class 1	-	-	-
20	Triple Flash	75	Y	B	Class 1	Class 1	Class 1	Class 1	-	-	-	Class 1	Class 1	Class 1	Class 1	-	-	-
21	Triple Flash - Wig Wag	75	Y		-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	Quint Flash	150	Y	A	Class 1	Class 1	Class 1	Class 2	-	-	-	Class 2	Class 2	Class 1	Class 2	-	-	-
23	Quint Flash	150	Y	B	Class 1	Class 1	Class 1	Class 2	-	-	-	Class 2	Class 2	Class 1	Class 2	-	-	-
24	Quint Flash - Wig Wag	150	Y		-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	Steady Burn, Single Flash - Split		N		-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	Steady Burn		N		-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	Modulation		N		-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	Double, Triple Flash - Wig Wag		N		-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	Single, Quad Flash - Wig Wag		N		-	-	-	-	-	-	-	-	-	-	-	-	-	-

ED3777XX Flash Pattern Chart

Red Wire	White Wire	Red and White Wires	Description	FPM	Sync	Phase	SAE J595				CA T13			SAE J845				ECE R65		
							A	B	R	W	A	B	R	A (110°)	B (100°)	R (120°)	W (90°)	A	B	R
1-Default		1-Default	Single Flash - Color 1	75	Y	A	Class 1	Class 1	Class 1	Class 1	Class B	Class B	Class B	Class 1	Class 1	Class 1	Class 1	-	-	-
2		2	Single Flash - Color 1	75	Y	B	Class 1	Class 1	Class 1	Class 1	Class B	Class B	Class B	Class 1	Class 1	Class 1	Class 1	-	-	-
		3	Single Flash - Split - Color 1 Then 2	75	Y	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4	Single Flash - Split - Color 1 Then 2	75	Y	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1-Default	5	Single Flash - Color 2	75	Y	A	Class 1	Class 1	Class 1	Class 1	Class B	Class B	Class B	Class 1	Class 1	Class 1	Class 1	-	-	-
		6	Single Flash - Color 2	75	Y	B	Class 1	Class 1	Class 1	Class 1	Class B	Class B	Class B	Class 1	Class 1	Class 1	Class 1	-	-	-
3	3	7	Single Flash - Color 1 Then 2	75	Y	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	4	8	Single Flash - Color 1 Then 2	75	Y	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	5	9	Single Flash - Wig Wag - Color 1 Then 2	75	Y	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6		10	Single Flash - Color 1	375	Y	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7		11	Single Flash - Color 1	375	Y	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		12	Single Flash - Split - Color 1 Then 2	375	Y	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		13	Single Flash - Split - Color 1 Then 2	375	Y	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	14	Single Flash - Color 2	375	Y	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7	15	Single Flash - Color 2	375	Y	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	8	16	Single Flash - Color 1 Then 2	375	Y	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9	17	Single Flash - Color 1 Then 2	375	Y	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	10	18	Single Flash - Wig Wag - Color 1 Then 2	375	Y	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11		19	Double Flash - Color 1	75	Y	A	Class 1	Class 1	Class 1	Class 1	Class B	Class B	Class B	Class 1	Class 1	Class 1	Class 1	-	-	-
12		20	Double Flash - Color 1	75	Y	B	Class 1	Class 1	Class 1	Class 1	Class B	Class B	Class B	Class 1	Class 1	Class 1	Class 1	-	-	-
		21	Double Flash - Split - Color 1 Then 2	75	Y	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		22	Double Flash - Split - Color 1 Then 2	75	Y	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11		23	Double Flash - Color 2	75	Y	A	Class 1	Class 1	Class 1	Class 1	Class B	Class B	Class B	Class 1	Class 1	Class 1	Class 1	-	-	-
12		24	Double Flash - Color 2	75	Y	B	Class 1	Class 1	Class 1	Class 1	Class B	Class B	Class B	Class 1	Class 1	Class 1	Class 1	-	-	-
13	13	25	Double Flash - Color 1 Then 2	75	Y	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	14	26	Double Flash - Color 1 Then 2	75	Y	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	15	27	Double Flash - Wig Wag - Color 1 Then 2	75	Y	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16		28	Double Flash - Color 1	120	Y	A	Class 1	Class 1	Class 1	Class 1	-	-	-	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1
17		29	Double Flash - Color 1	120	Y	B	Class 1	Class 1	Class 1	Class 1	-	-	-	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1
		30	Double Flash - Split - Color 1 Then 2	120	Y	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		31	Double Flash - Split - Color 1 Then 2	120	Y	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16		32	Double Flash - Color 2	120	Y	A	Class 1	Class 1	Class 1	Class 1	-	-	-	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1
	17	33	Double Flash - Color 2	120	Y	B	Class 1	Class 1	Class 1	Class 1	-	-	-	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1
18	18	34	Double Flash - Color 1 Then 2	120	Y	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	19	35	Double Flash - Color 1 Then 2	120	Y	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	20	36	Double Flash - Wig Wag - Color 1 Then 2	120	Y	A	-	-	-	-	Class B	Class B	Class B	-	-	-	-	-	-	-
21		37	Triple Flash - Color 1	75	Y	A	Class 1	Class 1	Class 1	Class 2	Class B	Class B	Class B	Class 1	Class 1	Class 1	Class 1	Class 2	-	-
22		38	Triple Flash - Color 1	75	Y	B	Class 1	Class 1	Class 1	Class 2	-	-	-	Class 1	Class 1	Class 1	Class 1	Class 2	-	-
		39	Triple Flash - Split - Color 1 Then 2	75	Y	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		40	Triple Flash - Split - Color 1 Then 2	75	Y	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	21	41	Triple Flash - Color 2	75	Y	A	Class 1	Class 1	Class 1	Class 2	-	-	-	Class 1	Class 1	Class 1	Class 1	Class 2	-	-
	22	42	Triple Flash - Color 2	75	Y	B	Class 1	Class 1	Class 1	Class 2	Class B	Class B	Class B	Class 1	Class 1	Class 1	Class 1	Class 2	-	-
23	23	43	Triple Flash - Color 1 Then 2	75	Y	A	-	-	-	-	Class B	Class B	Class B	-	-	-	-	-	-	-
24	24	44	Triple Flash - Color 1 Then 2	75	Y	B	-	-	-	-	Class B	Class B	Class B	-	-	-	-	-	-	-
25	25	45	Triple Flash - Wig Wag - Color 1 Then 2	75	Y	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26		46	Quad Flash - Color 1	75	Y	A	Class 1	Class 1	Class 1	Class 2	Class B	Class B	Class B	Class 2	Class 2	Class 2	Class 2	Class 2	-	-
27		47	Quad Flash - Color 1	75	Y	B	Class 1	Class 1	Class 1	Class 2	Class B	Class B	Class B	Class 2	Class 2	Class 2	Class 2	Class 2	-	-
		48	Quad Flash - Split - Color 1 Then 2	75	Y	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		49	Quad Flash - Split - Color 1 Then 2	75	Y	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26		50	Quad Flash - Color 2	75	Y	A	Class 1	Class 1	Class 1	Class 2	Class B	Class B	Class B	Class 1	Class 1	Class 1	Class 1	Class 2	-	-
27		51	Quad Flash - Color 2	75	Y	B	Class 1	Class 1	Class 1	Class 2	Class B	Class B	Class B	Class 1	Class 1	Class 1	Class 1	Class 2	-	-
28	28	52	Quad Flash - Color 1 Then 2	75	Y	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	29	53	Quad Flash - Color 1 Then 2	75	Y	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	30	54	Quad Flash - Wig Wag - Color 1 Then 2	75	Y	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31		55	Quad Flash - Color 1	120	Y	A	Class 1	Class 1	Class 1	Class 2	-	-	-	Class 2	Class 2	Class 2	Class 2	Class 2	-	-
32		56	Quad Flash - Color 1	120	Y	B	Class 1	Class 1	Class 1	Class 2	-	-	-	Class 2	Class 2	Class 2	Class 2	Class 2	-	-
		57	Quad Flash - Split - Color 1 Then 2	120	Y	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		58	Quad Flash - Split - Color 1 Then 2	120	Y	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	31	59	Quad Flash - Color 2	120	Y	A	Class 1	Class 1	Class 1	Class 2	-	-	-	Class 2	Class 2	Class 2	Class 2	Class 2	-	-
	32	60	Quad Flash - Color 2	120	Y	B	Class 1	Class 1	Class 1	Class 2	-	-	-	Class 2	Class 2	Class 2	Class 2	Class 2	-	-
33	33	61	Quad Flash - Color 1 Then 2	120	Y	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	34	62	Quad Flash - Color 1 Then 2	120	Y	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	35	63	Quad Flash - Wig Wag - Color 1 Then 2	120	Y	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		64	Modulation - Color 1 Then 2			N	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		65	Double, Quad Flash - Color 1 Then 2			N	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		66	Single, Triple Flash - Color 1 Then 2			N	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		67	Double, Triple, Quad Flash - Color 1 Then 2			N	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36		68	Steady Burn - Color 1			N	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	36	69	Steady Burn - Color 2			N	-	-	-	-	-	-	-	-	-	-	-	-	-	-