SoundOff Signal ///////

12 OUTPUT LED FLASHER MULTI-PATTERN
ETFFC12LED

ELECTRICAL SPECIFICATION

Input Voltage Range	+10 Vdc to +16 Vdc
Output Drive Current	3 Amps per Output
Operating Temperature	-40 C to +85 C
Flash Patterns	Inter-Cycle, Warp, Double, Quad, Quint, E-Pattern, Q-Switch, Power Pulse, Road Runner, ETM
Output Drive Method	High-side switched
Pattern Control Method	Wire Matrix (10 wires, 3-head control, 7-pattern control)
Standby Current	<10mA @ 12.8 Vdc
Reverse Polarity Protection	Yes
Short Circuit Protection	Yes
Thermal Protection	Yes

MECHANICAL SPECIFICATIONS

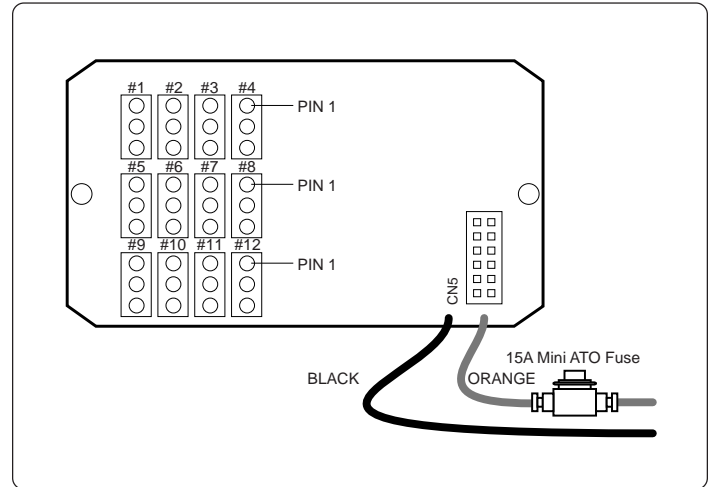|	
Weather resistance	Potted to protect circuitry, but not waterproof
Dimensions	6.0" x 3.6" x .75"

Figure 1.

WARNING
This Flasher is NOT waterproof!! This unit must be installed in a location protected from the environment.

WARNING
This device in intended for use with LED Lights ONLY!!

Emergency Lighting is intended for use on approved vehicles ONLY. It is the responsibility of the user of these systems to insure compliance to any Federal, State or Municipal regulations which may apply.

Use of this product on an Incandescent, Halogen or any light source other than LED's may damage the unit and void the warranty.

The device is designed to flash any SoundOff Signal 12 volt LED Light up to 3 amps load per output. DO NOT connect more than a 3 amp load to the output. Doing so will shut the unit down to prevent damage to the Flasher.
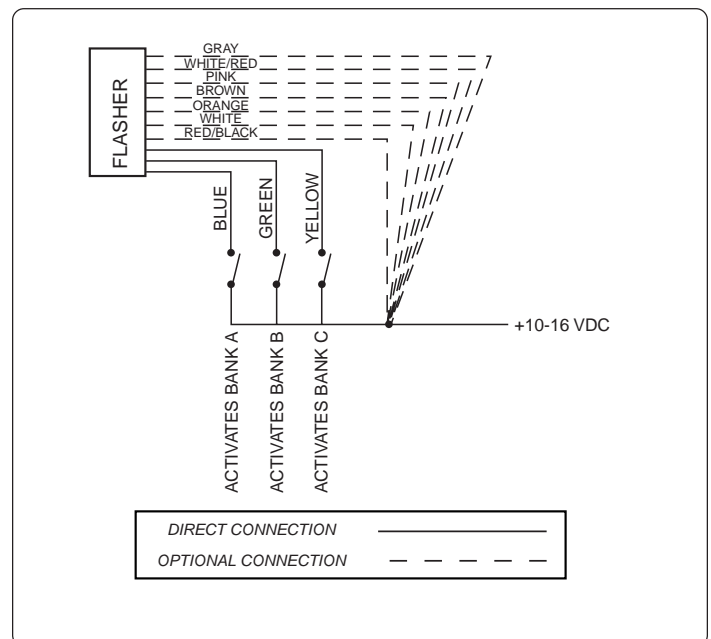

Figure 2.

CONNECTOR SPECIFICATION

Output   Amp Commercial Mate-N-Lock Series

Pin Location (Output)   1-Red (+V), 2-Black (Ground), 3-White (Control, Ground)
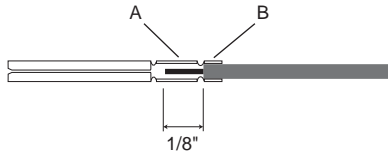Pin Location (Power / Control)   1-BLANK, 2-Blue, 3-Yellow, 4-White, 5-Brown, 6-Wht/Red,
                                         7-BLANK, 8-Green, 9-Orange, 10-Red/Blk, 11-Pink, 12-Gray

INSTALLATION

1.   First, install the Flasher in a protected location using the flasher itself as a template. Make sure all connectors are easily accessible.

2.   Termination Instructions
   a) Strip coating back from wire 1/8"
   b) Crimp wire into terminal at position 'A' and crimp wire coating at position 'B'
   c) Pull on wire to ensure a quality crimp (soldering is recommended to ensure good connection)
   d) Insert socket into AMP connector as shown in figure depending on type of lighthead

A   B

1/8"

EXTENSION CABLE WIRING

MALE AMP CONNECTOR
(to be mated with the LED Lighthead

Insert wires with male pins into the proper locations in the male AMP connector

POWER WIRE - HOLE #1
GROUND WIRE - HOLE #2
CONTROL WIRE - HOLE #3
    (If applicable)

AMP-p/n 1-480305-0

AMP-p/n 61118-4

FEMALE AMP CONNECTOR
AMP-p/n 1-480303-0

AMP-p/n 61117-4

Insert wires with female pins into the proper locations in the female AMP connector:

POWER WIRE - HOLE #1
GROUND WIRE - HOLE #2
CONTROL WIRE - HOLE #3 (If applicable)

Figure 3.

IMPORTANT

For continued reliability, RTV or waterproofing grease must be used on all terminals to prevent corrosion and premature failure of the connections

2.   Install the LED light heads in the preferred locations.

3.   Run the 3 conductor cable between each individual light and the Flasher. Make sure the cable is secure along the chosen routing inside the vehicle to prevent it from damage by chafing or binding. Be sure to keep the cable away from engine hot spots.

4.   Insert the pins on each end of the extension cables into the AMP connectors. Each end of these cables has a factory crimped terminal on each of the three wires, see Figure 3.
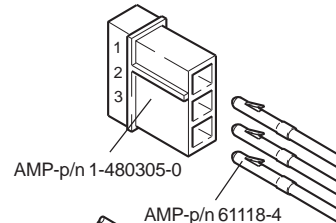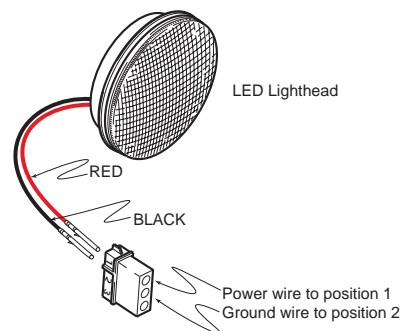
NOTE

When routing the cable, make sure the end with the closed tip terminals (male pins) is toward the LED lighthead and the end with the open tip terminals (female pins) is toward the flasher.

Remote LED Lightheads (2 wire installation)

LED Lighthead

RED

BLACK

Power wire to position 1
Ground wire to position 2

Self Contained LED Lighthead in Remote Flash Mode (3 wire installation)

RED

BLACK

WHITE

Power wire to position 1 of Amp Connector
Ground wire to position 2 of Amp Connector

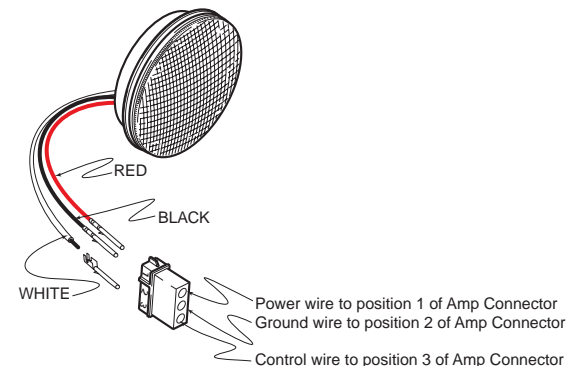Control wire to position 3 of Amp Connector

Figure 4.

NOTE

It is important to follow the correct color code when inserting the pins into the AMP connectors.

5. Plug the extension cables to the LED light heads.

6. Next, plug the other end of the cable into the Light Head Output Socket on the Flasher, see Figure 1. The location of the connector for each light head attached to the unit will be determined by the flash pattern selected, refer to the PATTERN MATRIX Chart.

7. Plug the Power / Control Harness into the Flasher. Connect the Black wire to a reliable ground. Connect the fused Orange wire to a +12Vdc source.

PATTERN MATRIX

To select any one of the different Flash Modes, simply connect the attached control wires to a switch in the following combinations. Connect the wires marked "X" to (+) 10-16 Vdc and remove the unused wires or connect them to (-) ground.

Bank A (Requires Power to Blue Wire to Flash)	Orange	White	Rd/Bk
Quad™			
Quint™	X		
Warp Flash™		X	
Double™	X	X	
InterCycle™			X
Q-Switch™	X		X
Power Pulse™		X	X
Road Runner™	X	X	X

Bank B (Requires Power to Green Wire to Flash)	Bank C (Requires Power to Yellow Wire to Flash)	Brown	Pink	W/R	Gray
Quad™	Quad™				
Quint™	Quint™	X			
WarpFlash™	WarpFlash™		X		
Double™	Double™	X	X		
InterCycle™	InterCycle™			X	
Q-Switch™	Q-Switch™	X		X	
Power Pulse™	Power Pulse™		X	X	
Road Runner™	Road Runner™	X	X	X	
ETM™	ETM™				X
Quad™	Quint™	X			X
Quint™	WarpFlash™		X		X
WarpFlash™	InterCycle™	X	X		X
InterCycle™	Q-Switch™			X	X
Q-Switch™	Power Pulse™	X		X	X
Power Pulse™	Road Runner™		X	X	X
Road Runner™	ETM™	X	X	X	X

LED Lighthead Extension Cables
ETSC05EA -   5 ft Extension Cable
ETSC10EA - 10 ft Extension Cable
ETSC15EA - 15 ft Extension Cable
ETSC20EA - 20 ft Extension Cable
ETSC25EA - 25 ft Extension Cable
ETSC30EA - 30 ft Extension Cable

WARRANTY