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**Safety First:** This document provides all the necessary information to allow your Whelen product to be properly and safely installed. Before beginning the installation and/or operation of your new product, the installation technician and operator must read this manual completely. Important information is contained herein that could prevent serious injury or damage.

- Proper installation of this product requires the installer to have a good understanding of automotive electronics, systems and procedures.
- Whelen Engineering requires the use of waterproof butt splices and/or connectors if that connector could be exposed to moisture.
- Any holes, either created or utilized by this product, should be made both air- and watertight using a sealant recommended by your vehicle manufacturer.
- Failure to use specified installation parts and/or hardware will void the product warranty!
- If mounting this product requires drilling holes, the installer **MUST** be sure that no vehicle components or other vital parts could be damaged by the drilling process. Check both sides of the mounting surface before drilling begins. Also de-burr any holes and remove any metal shards or remnants. Install grommets into all wire passage holes.
- Do not install this product or route any wires in the deployment area of your air bag. Equipment mounted or located in the air bag deployment area will damage or reduce the effectiveness of the air bag, or become a projectile that could cause serious personal injury or death. Refer to your vehicle owner's manual for the air bag deployment area. The User/Installer assumes full responsibility to determine proper mounting location, based on providing ultimate safety to all passengers inside the vehicle.

For this product to operate at optimum efficiency, a good electrical connection to chassis ground must be made. The recommended procedure requires the product ground wire to be connected directly to the **NEGATIVE (-)** battery post.

- If this product uses a remote device to activate or control this product, make sure that this control is located in an area that allows both the vehicle and the control to be operated safely in any driving condition.
- Do not attempt to activate or control this device in a hazardous driving situation.
- **WARNING!** All customer supplied wires that connect to the positive (+) terminal of the battery must be sized to supply at least 125% of the maximum operating current and **FUSED** "at the battery" to carry that load. **DO NOT USE CIRCUIT BREAKERS WITH THIS PRODUCT!**
- **FAILURE TO FOLLOW THESE PRECAUTIONS AND INSTRUCTIONS COULD RESULT IN DAMAGE TO THE PRODUCT OR VEHICLE AND/OR SERIOUS INJURY TO YOU AND YOUR PASSENGERS!**

**IMPORTANT NOTES!**

- The use of a flashing headlight system may be regulated by state, county, or municipal authorities. It is the responsibility of the end user to comply with these regulations.
- It is the responsibility of the installer to make sure that the high beam and low beam filaments of a dual filament bulb never come on together. The excessive heat generated by this condition will melt the headlight assembly. The brown disable wire may have to be connected to the parking lights or the low beams to override the flasher and prevent both filaments from coming on simultaneously.
- The installation of a headlight flasher system requires a modification to the standard headlight wiring harness. This modification may effect the warranty of your vehicle. It is the responsibility of the end user to verify the warranty conditions with the vehicle manufacturer. Also, the use of a headlight flasher may shorten the high beam bulb life.
- Before attempting the installation of the UHF2150A headlight flasher, thoroughly read and understand instructions and steps shown below!
- Disconnect the battery from the electrical system before attempting any part of this installation!
- All customer supplied wires that connect to the positive terminal of the battery must be sized to supply at least 125% of the maximum operating current and **FUSED** at the battery to carry the load. **DO NOT USE CIRCUIT BREAKERS WITH THIS PRODUCT!**

**Installation**

There are two different switching methods used to activate the headlights/parking lights in a motor vehicle; Positive-Side Switching and Ground-Side Switching. For example, the headlights may use Positive-Side switching, while the parking lights may use Ground-Side switching. Before installing this product, it will be necessary to contact the vehicle manufacturer to determine which methods are used. After the proper methods have been established, follow the appropriate procedure, based on the method used by the headlight system.

**If Your Headlights are Positive-Side Switched...**

1. Mount the flasher in the engine compartment near the headlights.
2. **GROUND** - Connect the BLACK wire to the vehicle's chassis ground.
3. **NIGHT CUTOUT** - BROWN - Connect this wire to the parking light or low beam circuit to disable the flasher when headlights are on. This is to prevent both filaments in a dual filament bulb from being on simultaneously (or if required in your jurisdiction).
4. **High Beam Override** - Splice the WHITE wire into the circuit the BLUE/WHITE wire is to be connected to in step 5. Splice the WHITE/BLACK wire into the circuit the ORANGE wire is to be connected to in step 7.
5. **Driver Side Lamp** - Locate the wire that connects the driver side high beam lamp to the headlight dimmer switch. Cut this wire at a point 3 inches away from the lamp. Connect the BLUE wire to the wire that connects to the high beam lamp. Connect the WHITE/BLUE wire to the wire that connects to the headlight dimmer switch.
6. **Passenger Side Lamp** - Locate the wire that connects the passenger side high beam lamp to the headlight dimmer switch. Cut this wire at a point 3 inches away from the lamp. Connect the YELLOW wire to the wire that connects to the high beam lamp. Connect the WHITE/YELLOW wire to the wire that connects to the headlight dimmer switch.
7. **On/Off Control** - Connect the ORANGE wire to a +12VDC power switch (200 mA MIN.(user supplied)).

8. **Lamp Feed** - Connect the RED wire, fused at 15 Amps (customer supplied) to the POS (+) battery terminal.

**If Your Headlights are Ground-Side Switched...**

**NOTE:** Daytime Running Lights may control the +12VDC supplied to the headlights. Before proceeding, unplug each headlight and verify that while the vehicle is running, +12VDC is being provided. This flasher will not operate properly if +12VDC is not available.

1. Mount the flasher in the engine compartment near the headlights.
2. **GROUND** - Connect the BLACK wire to the vehicle's chassis ground.
3. **NIGHT CUTOUT** - BROWN - Connect this wire to the parking light or low beam circuit to disable the flasher when headlights are on. This is to prevent both filament in a dual filament bulb from being on simultaneously (or if required in your jurisdiction).
4. **High Beam Override** - Connect the WHITE wire to the vehicle's chassis. Splice the WHITE/BLACK wire into the circuit the WHITE/BLUE wire is to be connected to in step 5.
5. **Driver Side Lamp** - Locate the wire that connects the driver side high beam lamp to the headlight dimmer switch. Cut this wire at a point 3 inches away from the lamp. Connect the BLUE wire to the wire that connects to the high beam lamp. Connect the WHITE/BLUE wire to the wire that connects to the headlight dimmer switch.
6. **Passenger Side Lamp** - Locate the wire that connects the passenger side high beam lamp to the headlight dimmer switch. Cut this wire at a point 3 inches away from the lamp. Connect the YELLOW wire to the wire that connects to the high beam lamp. Connect the WHITE/YELLOW wire to the wire that connects to the headlight dimmer switch.
7. **On/Off Control** - Connect the ORANGE wire to a +12VDC power switch (200 mA MIN.(customer supplied)).
8. **Lamp Feed** - Connect the RED wire to the vehicle's chassis ground.

**Flashrate Selection**

There are 4 available flashrates for the UHF2150A. These rates are determined by the Scan-Lock™ wire (WHT/VIO).

To advance to the next flashrate, apply +12VDC to the WHT/VIO wire for less than 1 second. To cycle to the previous flashrate, apply +12VDC for more than 1 second.

After the desired flashrate has been selected, be sure to insulate the exposed portion of the Scan-Lock wire.

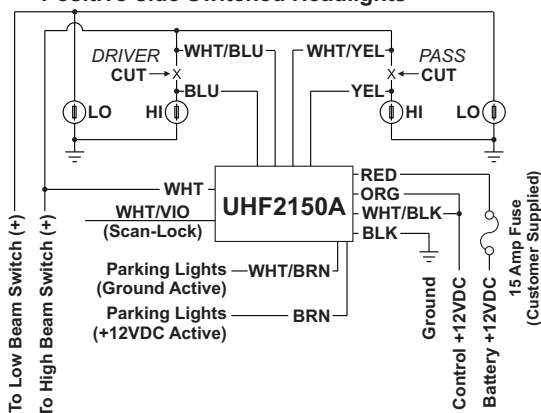
**Flashrate List**

1. ModuFlash™
2. SingleFlash 280 (Alt)
3. DoubleFlash 140 / SingleFlash 140 (Sim)
4. DoubleFlash 140 / SingleFlash 280
5. SingleFlash 140 / DoubleFlash 75 (Sim)
6. SingleFlash 90 (Alt)
7. SingleFlash 140 (Alt)

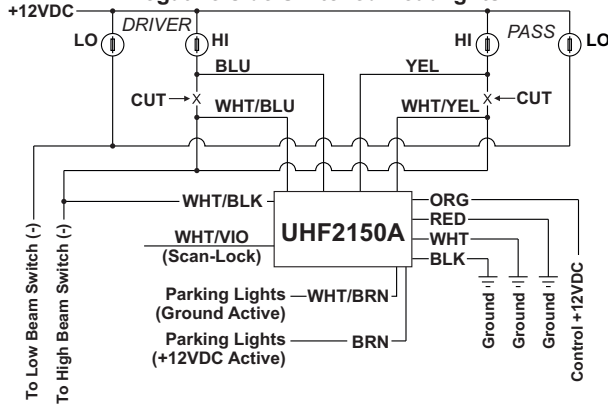
Alt=Alternating Sim=Simultaneous

**IMPORTANT!**  
 Before returning the vehicle to active service, visually confirm proper operation of this product, as well as all vehicle components/equipment.

**Positive-side Switched Headlights**



**Negative-side Switched Headlights**



## **Warnings to Installers**

Whelen's emergency vehicle warning devices must be properly mounted and wired in order to be effective and safe. Read and follow all of Whelen's written instructions when installing or using this device. Emergency vehicles are often operated under high speed stressful conditions which must be accounted for when installing all emergency warning devices. Controls should be placed within convenient reach of the operator so that he can operate the system without taking his eyes off the roadway. Emergency warning devices can require high electrical voltages and/or currents. Properly protect and use caution around live electrical connections. Grounding or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or vehicle damage, including fire. Many electronic devices used in emergency vehicles can create or be affected by electromagnetic interference. Therefore, after installation of any electronic device it is necessary to test all electronic equipment simultaneously to insure that they operate free of interference from other components within the vehicle. Never power emergency warning equipment from the same circuit or share the same grounding circuit with radio communication equipment. All devices should be mounted in accordance with the manufacturer's instructions and securely fastened to vehicle elements of sufficient strength to withstand the forces applied to the device. Driver and/or passenger air bags (SRS) will affect the way equipment should be mounted. This device should be mounted by permanent installation and within the zones specified by the vehicle manufacturer, if any. Any device mounted in the deployment area of an air bag will damage or reduce the effectiveness of the air bag and may damage or dislodge the device. Installer must be sure that this device, its mounting hardware and electrical supply wiring does not interfere with the air bag or the SRS wiring or sensors. Mounting the unit inside the vehicle by a method other than permanent installation is not recommended as unit may become dislodged during swerving; sudden braking or collision. Failure to follow instructions can result in personal injury. Whelen assumes no liability for any loss resulting from the use of this warning device. **PROPER INSTALLATION COMBINED WITH OPERATOR TRAINING IN THE PROPER USE OF EMERGENCY WARNING DEVICES IS ESSENTIAL TO INSURE THE SAFETY OF EMERGENCY PERSONNEL AND THE PUBLIC.**

## **Warnings to Users**

Whelen's emergency vehicle warning devices are intended to alert other operators and pedestrians to the presence and operation of emergency vehicles and personnel. However, the use of this or any other Whelen emergency warning device does not guarantee that you will have the right-of-way or that other drivers and pedestrians will properly heed an emergency warning signal. Never assume you have the right-of-way. It is your responsibility to proceed safely before entering an intersection, driving against traffic, responding at a high rate of speed, or walking on or around traffic lanes. Emergency vehicle warning devices should be tested on a daily basis to ensure that they operate properly. When in actual use, the operator must ensure that both visual and audible warnings are not blocked by vehicle components (i.e.: open trunks or compartment doors), people, vehicles, or other obstructions. It is the user's responsibility to understand and obey all laws regarding emergency warning devices. The user should be familiar with all applicable laws and regulations prior to the use of any emergency vehicle warning device. Whelen's audible warning devices are designed to project sound in a forward direction away from the vehicle occupants. However, because sustained periodic exposure to loud sounds can cause hearing loss, all audible warning devices should be installed and operated in accordance with the standards established by the National Fire Protection Association.