



Diamond-Star™ Headlight Modulator

Operating Instructions:

To toggle modulation on and off: The modulation of the headlight can be toggled on and off by the user at any time. When the bike is started the default is modulation ON. To turn the modulation on or off simply switch your bikes high low beam switch to the opposite position, and then back to the original position within one second (this can be done with the switch in either the high or low beam position).

Auto Night Shut-off: The Diamond Star headlight module is designed to automatically turn on and off at specific light levels in order to comply with the DOT's regulation of no night time modulation.

To switch from Max to Min mode: The Diamond Star headlight module is equipped with two levels of modulation to meet your visibility requirements. (Both are fully DOT compliant). The default level is "Max" when the bike is turned on, but can easily be toggled to "Min" or back to "Max" by simply pressing the horn button twice within one second.

Heads up Alert™: The Diamond Star headlight module can be connected to your bikes horn wire in order to add a visual alert to your horn's audible alert. Pressing the horn will cause your headlight to modulate for 3 seconds, then return to steady on; or toggle between min and max mode for 3 seconds if it is already modulating. Please Note: as per D.O.T. regulations, the Heads Up Alert™ feature DOES NOT work at night.

Emergency Headlight Feature: The Diamond Star headlight module is constantly monitoring the bulb that you have selected (high beam or low beam). In the event the bulb(s) should fail; the alternate bulb(s) will instantly be turned on. This switching will only be done once; when the bike is turned off and then back on you will not have use of the bulb that failed until it is repaired or replaced. While the Heads-Up Alert feature will continue to function in the event of a headlight failure, the headlight will not modulate otherwise. If you find you cannot get your headlight to modulate, check the bulb.

Installation Instructions:

GENERAL

The Diamond Star Headlight Modulator™ is designed for use on motorcycles with a 12 volt negative ground electrical system. It can be used with any sealed beam or halogen headlight up to 130 watts. The Diamond Star is NOT compatible with HID Lighting. If you have any question regarding electrical system compatibility with your motorcycle, contact your motorcycle's manufacturer or authorized dealership. For installation question or help call 800-785-1814, Monday through Friday, 9:00 AM to 5:00 PM Eastern Standard Time.

Note: The Diamond Star has been designed to provide static free operation with your radio and intercom systems, however some hard-wired systems will still produce unwanted static. This is a rare occasion but we feel it is important that you know this before installation. If you have any questions regarding your radio, intercom, or CB, you may want to call our technical support at 800-785-1814 before installing the unit on your motorcycle.

Step 1 Before beginning make sure your headlight is working properly on both "high" and "low" beams.

Step 2 Mount the enclosed adhesive pad to the backside of the Diamond Star modulator unit. Then find a convenient location near the motorcycle headlight to secure the modulator to the motorcycle. Make sure the location selected is suitable for mounting the unit with the double-sided adhesive pad, and when mounted will not interfere with steering or other controls. Assure the mounting surface area is clean and free of grease or oil prior to attaching adhesive pad (adhesive pad will gain 50% of its strength within 30 minutes of placement and will be fully cured in 24 hours.).

Step 3 Using a test light, locate and note the color of the headlight's high and low beam "hot" (+) wires.

Step 4 As a precautionary measure, disconnect the battery's Hot positive (+) lead, to eliminate any possibility of accidentally shorting out any hot wires or terminals during installation.

Note: Before beginning the wire installation you should consider the following. We have provided crimp wire connectors. The use of these connectors is optional. The other accepted method to splicing wires is to solder them. In either case we have provided ample lengths of wire to connect this modulator to your headlight. One further note of caution, if any bare wires are exposed as a result of this installation, wrap the exposed wires with shrink tubing or electrical tape to prevent any possibility of a short circuit.

Note: Due to the Emergency Headlight feature, **BOTH HIGH & LOW BEAMS ON THIS MODULE MUST BE INSTALLED** per the following instructions. Failure to install either the high or low beam will cause the module to automatically switch back to the beam that is installed.

Step 5 HEADLIGHT INSTALLATION :
HIGH BEAM

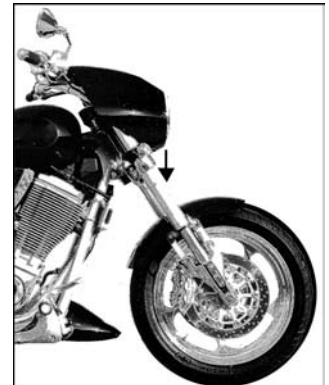
1. Install two of the "blue female T-Tap connectors" on the high beam "hot" wire near the headlight. After installing the T-Taps cut the wire between them.
2. Remove about a 1/4" of insulation and crimp a "light blue male disconnect terminal" onto the "solid red wire" from the modulator unit and connect it to the T-Tap on the high beam supply wire, by pushing it into the female receptacle of the T-Tap.
3. Likewise, remove a 1/4" of insulation and crimp a "light blue male disconnect terminal" onto the "white wire" from the modulator unit and connect it to the T-Tap connected on the wire going to the high beam headlight.

LOW BEAM

1. Install two of the "blue female T-Tap connectors" on the low beam "hot" wire near the headlight. After installing the T-Taps cut the wire between them.
2. Remove about a 1/4" of insulation and crimp a "light blue male disconnect terminal" onto the "solid blue wire" from the modulator unit and connect it to the T-Tap on the low beam supply wire, by pushing it into the female receptacle of the T-Tap.
3. Likewise, remove a 1/4" of insulation and crimp a "light blue male disconnect terminal" onto the "yellow wire" from the modulator unit and connect it to the T-Tap connected on the wire going to the low beam headlight.

Step 6 GROUND WIRE INSTALLATION: It is *very important* that the modulator unit is properly grounded. Without the unit being properly grounded some of the internal safe guards could be disabled. A suitable ground, is the ground wire going to the headlight. Use the "dark blue, quick splice connector" and connect the "black" wire from the module to the ground wire of the headlight.

Step 7 PHOTO-OPTIC SENSOR INSTALLATION: When mounting the photo-optic sensor, - consideration should be given to the fact that this sensor needs to sample ambient daylight conditions. If the sensor is placed in a light confining location the sensor will be less sensitive to actual light conditions. It is a good idea to experiment with different photo-sensor locations outdoors before actually mounting it. For those motorcycles equipped with a separate headlight bulb housing, an ideal location for the sensor is to drill a 5/16" hole in the base of the headlight housing, and mount the sensor from the inside out, with the sensor eye pointing downward. For those motorcycles with a fairing mounted headlight, locate a spot just under the headlight and secure the sensor. These two mounting locations are only suggestions; you can mount the sensor in any location that meets your requirements. No matter what your preference for mounting, the sensor should be mounted with the optic lens pointed downward, and at least 18 inches above the road surface.



Step 8 HORN:

1. Remove about a 1/4" of insulation from the "solid green wire" from the module and crimp a "pink male disconnect terminal" onto it.
2. Install the "maroon female disconnect terminal" onto the positive wire leading to your horn and connect the "pink male disconnect terminal" at the end of the solid green wire. *In the event it does not function*, try moving the "maroon female disconnect terminal" to the other wire leading to the horn and re-test.

Step 9 SECURE WIRE BUNDLE: for a neater appearance, secure the loose wires from the modulator unit with the provided tie wraps. Check and make sure all wires are secure and *do not interfere with steering or controls*.

STANDARD WARRANTY

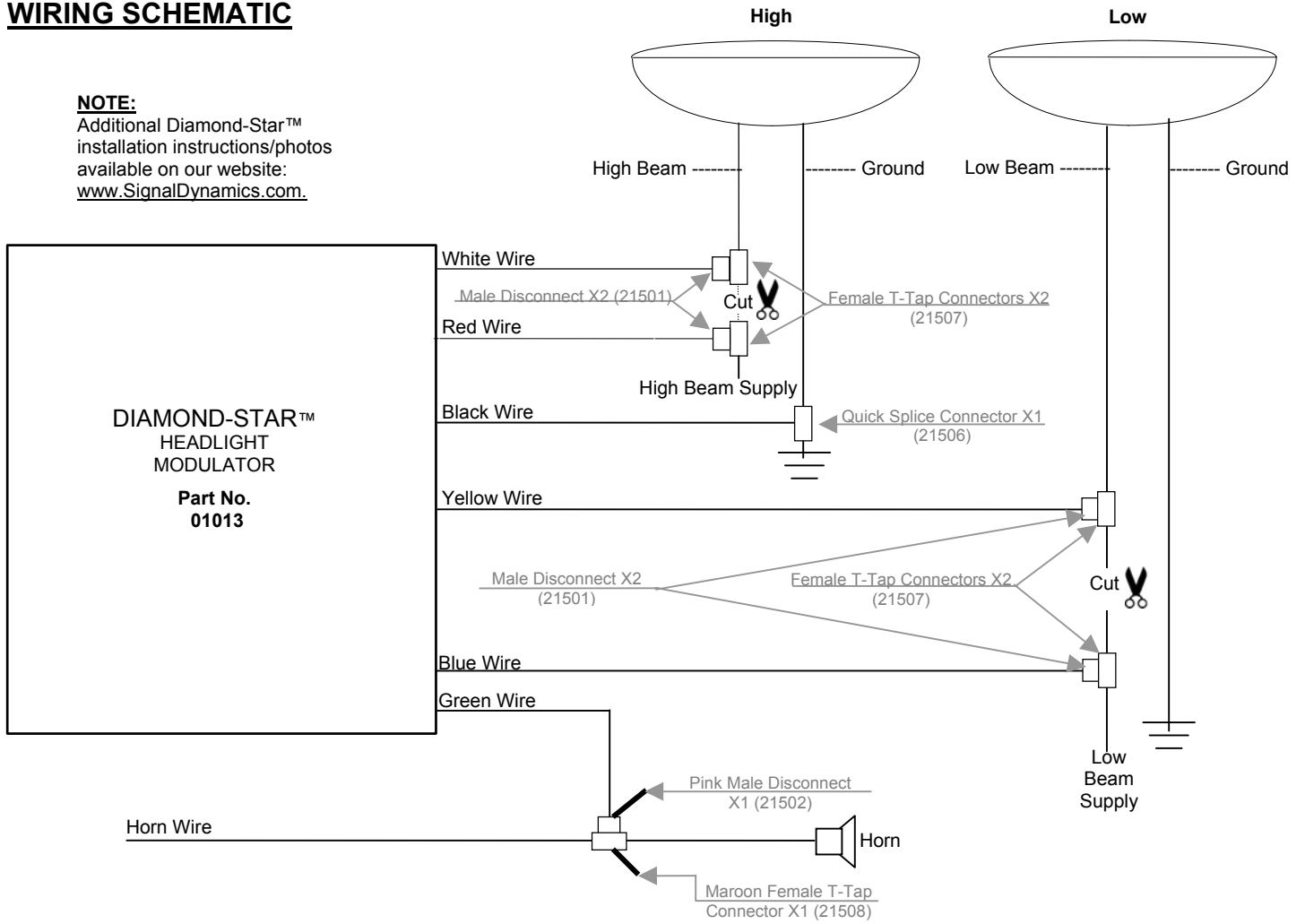
CUSTOMER WARRANTY – Signal Dynamics Corp., warrants for one (1) year from date of purchase the "Diamond Star Headlight™" to be free from defects in workmanship or material in normal service to the original purchaser. Signal Dynamics Corporation's obligation under this warranty is limited to repairing or exchanging the unit, if unit is returned, along with proof of purchase, within one year of purchase date. Warranty does not cover modulator failure or damage as a result of improper installation. Signal Dynamics does not assume any obligation regarding the suitability of product, other than as listed here within. All claims are limited to this warranty only. If a warranty claim is necessary, contact Signal Dynamics for return product authorization, and shipping instructions.

EXCLUSION TO WARRANTY: THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHER WARRANTY OF QUALITY, EXCEPT OF TITLE AND AGAINST A PATENT INFRINGEMENT.

LIMITATION OF LIABILITY: Except as provided above, Signal Dynamics shall not be liable or responsible for any loss or damage, whether direct, indirect, incidental, special or consequential, arising out of the sale, use or misuse of the "Diamond Star Headlight Modulator™", or the user's inability to use such products. **THE REMEDIES SET FORTH HEREIN ARE EXCLUSIVE.**

WIRING SCHEMATIC

NOTE:
 Additional Diamond-Star™
 installation instructions/photos
 available on our website:
www.SignalDynamics.com.



Record Date of Purchase



Fort Lauderdale, FL 33309
 800-785-1814
www.SignalDynamics.com
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Legality

The Diamond Star™ Headlight Modulators are manufactured in compliance with U.S. DOT Rules and Regulations (49 CFR Part 571) for motorcycle headlamp modulation system; and are legal in all 50 states. (See letter below from the U.S. Department of Transportation)



September 11, 1997

US Department of Transportation
National Highway Traffic Safety Administration

Mr. Walter T. Jakobowski, President
Signal Dynamics Corporation
P.O. Box 350441
Ft. Lauderdale, FL 33335

Dear Mr. Jakobowski:

This is in reply to your letter of July 28, 1997, asking for an interpretation regarding the preemptive effect of Federal Motor Vehicle Safety Standard No. 108.

Your company manufactures motorcycle headlamp modulators "that comply with Standard No. 108." You report receiving comments that certain States do not allow use of this equipment. You ask for "an interpretation and a copy of the statutes that provide for Federal Law pre-empting any state laws that would disallow use of said Headlight Modulator."

Section 30103(b) of Title 49, United States Code, provides in pertinent part that:

b) PREEMPTION - (1) When a motor vehicle safety standard is in effect under this chapter, a State or a political subdivision of a State may prescribe or continue in effect a standard applicable to the same aspect of performance of a motor vehicle or motor vehicle equipment only if the standard is identical to the standard prescribed under this chapter.

Paragraph S7.9.4 *Motorcycle headlamp modulation* (formerly S5.6) of Standard No. 108 specifies that a headlamp on a motorcycle may be wired to modulate, provided that it does so in accordance with the requirements prescribed by that paragraph. Under 49 U.S.C. 30103(b)(1), a State may have its own standard which allows a motorcycle headlamp to be wired to modulate in the same manner as prescribed under S7.9.4. However, since the Federal standard specifically allows a modulation of motorcycle headlamps, a State cannot have a standard prohibiting it. For your information, we are not aware of any State that forbids modulation of motorcycle headlamps.

Taylor Vinson provided you with a copy of 49 U.S.C. 30103(b) on your visit to our Office on July 28. If you have further questions, you may reach him at 202-366-3820.

Sincerely,

A handwritten signature in black ink that reads "John Womack".

John Womack
Acting Chief Counsel