

**From: Innova Design & Distributing, Inc.  
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Manufacturer of Brite Box, Turbo Lifesaver, Bulbzilla and IDD Connect Products

**New Product Announcement - October 2011:**

## **ControlFreak**

**Lighting System Controller**

**Introducing the **Control Freak Model 2**, the newest member of the Brite Box family of lighting products. This product is for the 2006 - 2008 Dodge Ram 1500 and the 2006 - 2009 Dodge Ram HD (2500 +).**

### **What Control Freak Does:**

Control Freak is a revolutionary product that allows complete freedom to design the forward lighting system that fits your needs. It will allow you to power (through fuse protected relays) any LED\*, Halogen\*, or HID\* light source without risking damage to Dodge's computerized TIPM (Totally Integrated Power Module) lighting circuits.

When Control Freak is installed, the headlight circuits of the TIPM are NOT used. If you choose to have Control Freak power your fog lights through a relayed circuit, the TIPM's fog circuits are also NOT used. This provides absolute independence from the TIPM's short circuit protection system that over time has been problematic. The fact that these circuits are not being used greatly reduces the electrical load on the TIPM.

In a nutshell, Control Freak takes the computerized operation of the Dodge system and converts it to the most reliable and simple way to power light circuits – through FUSES and RELAYS!

If you happen to have a TIPM with inoperative high, low, or fog circuits, installing Control Freak will restore full functionality to your lighting system!

### **How Control Freak Works:**

Control Freak receives the signals from the truck's headlight switch. Some of these signals are recreated by Control Freak and sent to the truck where these functions operate normally – an example of this is the park lights. Other signals are interpreted, but never passed on to the truck - an example of these signals are low and high beams. Instead of broadcasting these signals on to the truck, Control Freak outputs its own independent outputs to drive low and high beam relay circuits. These relays can be used to drive LED or Halogen bulbs as well as any HID ballast. Please note that these outputs are NOT associated with the TIPM and its protection circuits, so please install fuses!

In the case of the fog lights, Control Freak allows you to select whether the fog signals are broadcast to the truck or to an output wire to trigger an independent fog relay circuit. Control Freak also has a Daytime Running Light relay output if your local regulations require their use.

As previously stated, when Control Freak is installed, the TIPM headlight circuits & possibly the fog circuits (see "programming" below) are not used. As a result, the factory indicators in the instrument cluster for fog light on and high beam on do not light. Control Freak has LED indicators that mount to your dashboard with double sided tape so you can see when your fog lights and high beams are on.

The following chart shows how Control Freak routes signals:

Light Function	Runs Truck's Circuit	Output to Drive Relay
Park Lights	X	
Fog Lights	X (Selectable)	X (Selectable)
Low Beams		X
High Beams		X

### Control Freak Programming Options (at time of installation):

- Control Freak activates the FACTORY fog light circuits OR an external wire to drive a relay circuit. **One or the other, NOT both.**
- Fog Light OUTPUT toggles OFF or STAYS ON when HIGH Beams are engaged.  
**Note: When Control Freak is programmed to run the factory TIPM driven fog light circuits they will always stay ON when high beams are on. This is due to the fact that the TIPM driven high beams are never turned on and as a result, the fog circuit never receives a cancel signal.**

**If you live in a state where it is illegal to have fogs on with highs or has a restriction that regulates the maximum number of light sources that can be on at any given time, - you MUST use Control Freak's fog light output to trigger a relay circuit that toggles off when high beams are engaged.**

- Low Beam output toggles OFF when or STAYS ON when HIGH Beams are engaged.  
**This option allows compatibility with all HID types on the market - Low only, Low OR High, and High and Low.**

### Background – Dodge Ram Lighting:

In the above listed vehicles, virtually all electrical functions, including those for forward lighting (fog lights, low beam & high beam headlights) are run through a computerized device that Dodge calls the "TIPM" (Totally Integrated Power Module). In the event of a short circuit, the TIPM has internal protection circuits that interrupt power to a shorted line WITHOUT fuses or circuit breakers.

Lighting enhancements such as relay harnesses and HID conversions that have been routinely used in non-computerized lighting systems for years do not work seamlessly with the TIPM. This is due to the fact that relays, high wattage bulbs and HID ballasts have electrical behaviors that fall outside of the permissible parameters that are

programmed into the TIPM's protection circuits. The result of this is that the TIPM will not activate relays and most HID ballasts without "band-aid" load resistors that waste energy and are unsafe due to the fact that they generate considerable heat (as much as a light bulb) and can ignite any flammable objects that are too close.

High wattage bulbs will trip the protection circuits as their higher current draw is interpreted as a short. The TIPM will fire some "digital" HID ballasts, but not without "flickering" of the ballast that indicates that the protection circuit was tripped. **ANY activation of the protection circuits indicates that the TIPM has seen a condition that the designing engineers consider to be an overload.** When LED headlight bulbs become available, they will most likely be incompatible with the current parameters in the TIPM.

In the years since the TIPM was first used, history has shown that the protection circuits are imperfect. It is common for a low and / or high beam headlight to turn off when there are no shorts present. Installation of the previously mentioned load resistors do not provide immunity to TIPM light drop outs. If the TIPM drops output, all devices hooked to the output, including the resistors, have no voltage and that circuit will NOT be producing light.

Some owners say a headlight dropping out was the first symptom of a TIPM problem before it needed replacement shortly after. Failures have been widely reported - Google searches with such as "TIPM problem" or "Dodge No Low Beams" yield plentiful results. A failed TIPM is an expensive repair - see your Google results to get an estimation. One of our testers has had TWO TIPM's replaced and his third had dropped a low beam! Note: Installing Control Freak RESTORED his low beam operation.

### **Installation:**

Control Freak CPU installation is performed under the dash board. Access to wires at headlight switch, ignition switch and multifunction (high / low beam) switch is required. Control Freak's fog (only if powering fog lights with relay circuit), low and high beam relay trigger wires must be run into engine compartment where the relays are to be installed. Underdash install time should run less than one hour, underhood time will vary depending on if you purchase our pre-made harnesses or construct your own.

### **Control Freak & Vehicle Compatibility:**

The obvious question is "Will Control Freak harm my vehicle's computer system?" The answer is No. When Control Freak communicates with the vehicle it sends the same signals that the headlight switch would if Control Freak was not installed. If the signals are incorrect, the vehicle does not respond to the signals. Think of it this way - your computer responds only to keyboard inputs. You talk to it to tell it what to do. It simply does not respond. Did you damage it in any way?

**When the truck responds to Control Freak and turns on the park lights and factory fog lights, it is only doing so because it sees the correct communication signals.**

## **TIPM considerations / Food For Thought:**

Innova markets the Control Freak as a lighting controller. We do not have testing data to prove that it will increase the life or reliability of the TIPM. However, we would like to ask you to consider the following question: **Will the elimination of the HIGHEST electrical current draw circuits from the TIPM possibly have a positive impact on the longevity or reliability of the device?**

## **Upcoming Applications:**

Control Freak Model 1: 2002 – 2005 Ram 1500 & 2003 – 2005 Ram 2500+

Control Freak Model 3: 2009 – 2012 Ram 1500 & 2010 – 2012 Ram 2500+

## **Country of Origin:**

Control Freak was designed in the USA, is made by American Workers, and we use USA parts whenever possible.

\* Innova does NOT recommend the use of light sources that do not meet DOT specifications.