

# OCTO-RELAY



303.885.7428

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# INTRODUCTION

Thank you for purchasing our Octo-Relay. This device is designed to power eight channels, four providing a maximum of 95 amps each, and four providing 10 amps each. Each channel is controlled by time and/or rpm.

**As with all technical devices such as engines, shocks, carburetors, clutches etc; the product's performance is based largely on your ability to use it properly. This is a precision electrical device. When welding on your race car, disconnect the power and ground.**

**Please read all of the instructions and information thoroughly before attempting to install or use this product.**



# DISCLAIMER

## THIS IS A HIGH PERFORMANCE PRODUCT. USE AT YOUR OWN RISK.

Do not use this product until you have carefully read the following agreement.

This sets forth the terms and conditions for the use of this product. The installation of this product indicates that the BUYER has read and understands this agreement and accepts its terms and conditions

### DISCLAIMER OF LIABILITY

XBase and its successors, distributors, jobbers, and dealers (hereafter **SELLER**) shall in no way be responsible for the product's proper use and service. **THE BUYER HEREBY WAIVES ALL LIABILITY CLAIMS.**

The **BUYER** acknowledges that he/she is not relying on the **SELLER's** skill or judgment to select or furnish goods suitable for any particular purpose and that there are no liabilities which extend beyond the description on the face hereof and the **BUYER** hereby waives all remedies or liabilities, expressed or implied, arising by law or otherwise, (including without any obligations of the **SELLER** with respect to fitness, merchantability and consequential damages) or whether or not occasioned by the **SELLER's** negligence.

The **SELLER** disclaims any warranty and expressly disclaims any liability for personal injury or damages. The **BUYER** acknowledges and agrees that the disclaimer of any liability for personal injury is a material term for this agreement and the **BUYER** agrees to indemnify the **SELLER** and to hold the **SELLER** harmless from any claim related to the item of the equipment purchased. Under no circumstances will the **SELLER** be liable for any damages or expenses by reason of use or sale of any such equipment.

The **SELLER** assumes no liability regarding the improper installation or misapplication of its products.

It is the installer's responsibility to check for proper installation and if in doubt, contact the manufacturer.



## **LIMITATION OF WARRANTY**

xBase (hereafter "**SELLER**") gives Limited Warranty as to description, quality, merchantability, fitness for any product's purpose, productiveness, or any other matter of **SELLER's** product sold herewith. The **SELLER** shall be in no way responsible for the product's open use and service and the **BUYER** hereby waives all rights other than those expressly written herein. This Warranty shall not be extended or varied except by a written instrument signed by **SELLER** and **BUYER**

The Warranty is Limited to one (1) year from the date of sale and limited solely to the parts contained within the product's kit. All products that are in question of Warranty must be returned shipping prepaid to the **SELLER** and must be accompanied by a dated proof of purchase receipt. All Warranty claims are subject to approval by xBase.

Under no circumstances shall the **SELLER** be liable for any labor charged or travel time incurred in diagnosis for defects, removal, or reinstallation of this product, or any other contingent expenses.

Under no circumstances will the **SELLER** be liable for any damage or expenses insured by reason of the use or sale of any such equipment.

IN THE EVENT THAT THE BUYER DOES NOT AGREE WITH THIS AGREEMENT: THE BUYER MAY PROMPTLY RETURN THIS PRODUCT, IN A NEW AND UNUSED CONDITION, WITH A DATED PROOF OF PURCHASE, TO THE PLACE OF PURCHASE WITHIN THIRTY (30) DAYS FROM DATE OF PURCHASE FOR A FULL REFUND.

**THE INSTALLATION OF THIS PRODUCT INDICATES THAT THE BUYER HAS READ AND UNDERSTANDS THIS AGREEMENT AND ACCEPTS ITS TERMS AND CONDITIONS.**



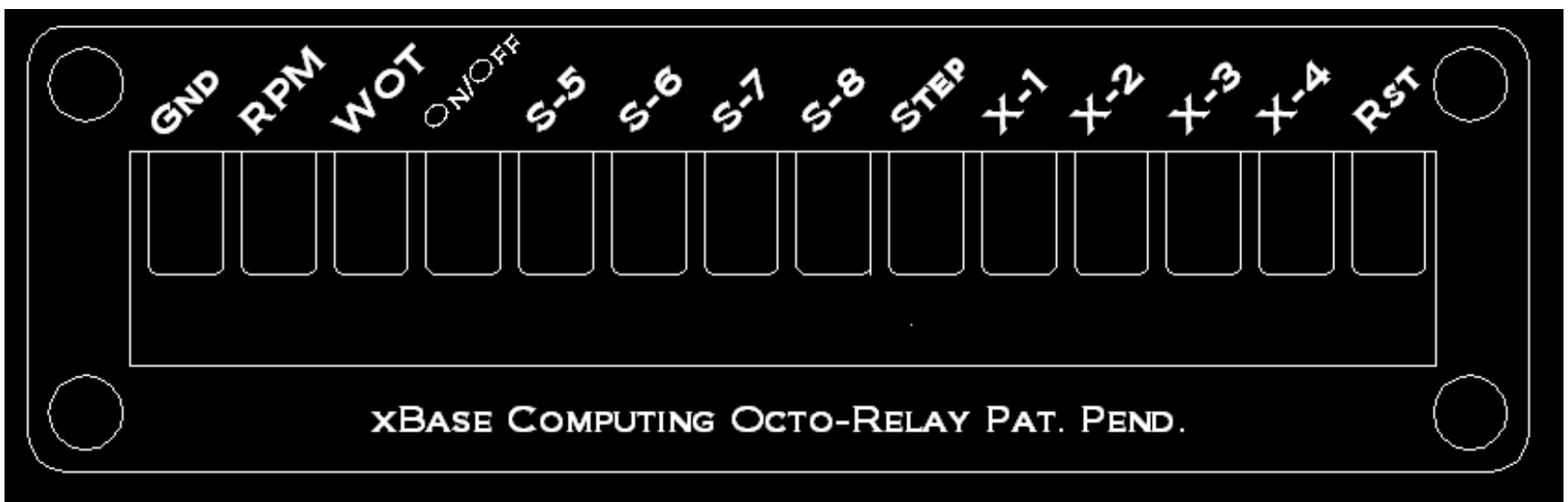
# INSTALLATION

The Octo-Relay requires a minimum of 5V to operate and it is compatible with 16V systems. The output voltage on each stage is equal to input voltage. The ampacity of the Octo-Relay is dependent upon the power supply connected to the Octo-Relay

During all forms of use, ensure the unit is not in an area of high electrical noise or heat. Typically this is not a problem. However please use good judgment in selecting a location. The four mounting bosses on the bottom are 2.700"x1.900". Use the enclosed fasteners. If longer fasteners must be used, ensure the fasteners DO NOT penetrate the enclosure more than 0.250"

After mounting the Octo-Relay, it is ready to be connected electrically to the car. On the left side of the unit are five copper busbars. From top to bottom: stage #1, stage #2, stage #3, stage #4 and then positive battery voltage. On the right side is a ten position terminal block.





<b>GND</b>	Ground
<b>RPM</b>	Tach Output
<b>WOT</b>	Wide Open Throttle (positive voltage activates the unit when ARM has voltage also.
<b>On/Off</b>	Once this terminal has positive voltage, the unit becomes active. Within two seconds after power on this terminal, press the 'x' key to enter the configuration mode. Otherwise the system enters run mode
<b>S-5/8</b>	Stage 5 thru 8 outputs. Each output can drive 7 amps.
<b>Step</b>	Each time this terminal is grounded, a stage is activated beginning with stage 5. The stages will stay active until the RST terminal is energized.
<b>X-1/4</b>	When each terminal is supplied positive voltage, the corresponding high amperage stage is activated. Only while the X-1/4 terminal is supplied voltage does the output activate. The unit must be in run mode.
<b>RST</b>	Resets the outputs to all off.

# CONFIGURATION

Once all connections have been made, apply power to the unit. The LCD will display 'xBase Computing Octo-Relay' and the screen will be blank. Send power to the On/Off terminal and press the 'x' button if you wish to enter the configuration mode. Once the LCD clears, release the button. The Octo-Relay is now in configuration mode. If the 'x' button is not pressed within the two-second window, the unit will enter the run mode.

## Configuration Mode

When the unit is in the configuration mode, all of the outputs are inactive.

## Configuration Mode Display Example

#	On	Off	
8	7,000	10,000	E
1	0>	5,000<	11,500 R
1	2.000	5.000	E

The above example displays the time and rpm parameters for Stage 1 and also the time parameter for stage 8. The furthest left column displays the stage number for the displayed row. The furthest right column signifies either the time (E) or rpm(R) parameters for the stage. The number on row three and the third column from the left is the trigger stage. The greater/less than arrows (><) bracket the active parameter. The active parameter is the variable that can be edited using the +/- keys. The active parameter changes when the up/down arrow key is pressed. If you desire to start and stop a stage using either time or rpm and not both, simply put the 'On' part of the variable type you wish to not



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use at '0'. Then edit the 'Off' to a number you know will not be reached during the run.

To exit the configuration mode and save your changes, press the 'x' key.

## **Run Mode**

Once in run mode, the display will begin to show the engine rpm. If no engine rpm is read from the tach output, the display will read 'No RPM.' Confirm that the displayed rpm value is equal to the rpm on the tachometer.

The unit is now waiting for the WOT terminal to read voltage. Once WOT is energized, the unit is active and will turn on/off each stage according to the configuration table. The eight LEDs on the switch panel will illuminate when the corresponding output stage is on. When voltage is removed from WOT, the unit stops until WOT is energized. To reset the unit, cycle power.

The 'On/Off' terminal needs to be energized to manually trigger the outputs as well. Each time the 'Step' terminal detects a pulse; it will sequentially turn on stage 5 through stage 8. Each pulse turns on the next stage and does not turn off any stage. To turn off Stage 5-8, pulse the 'RST' terminal. To manually trigger Stage 1-4, use terminal X1-4. The output of Stage 1-4 follows the input of X1-4. Meaning, each stage does not need to be turned off with the 'RST' terminal.



# TROUBLESHOOTING

Display does not work

- Check power and ground

Output does not activate or deactivate

- Verify time and rpm conditions are correct and within operating parameters
- Set rpm 'On' to 0 and 'Off' to 10000. Trigger the Octo-Relay and watch the LEDs on the face panel. The LEDs illuminate only when the stage is active. Call xBase if the LED illuminates but there is no voltage on the output terminal.

RPM is not correct

- Replace wire between the Octo-Relay and the tach output of the ignition system.
- Reroute tach output line if close to the coil wire
- Unmount the Octo-Relay and while the engine is running move around as much as possible and see if the noise goes away.

# EXAMPLES

Example to activate four stages, all from clutch drop at 0.500 second intervals

#		On	Off	
1	0	0,000	12,000 R	<i>Stage 1 on at clutch</i>
1		0.000	10.000 E	
2	0	0,000	12,000 R	<i>Stage 2 on 0.500 after clutch</i>
2		0.500	12.000 E	
3	0	0,000	12,000 R	<i>Stage 3 on 1.000 after clutch</i>
3		1.000	12.000 E	
4	0	0,000	12,000 R	<i>Stage 3 on 1.500 after clutch</i>
4		1.500	12.000 E	
5	0	0,000	0,000 R	
5		0.000	0.000 E	
6	0	0,000	0,000 R	
6		0.000	0.000 E	
7	0	0,000	0,000 R	
7		0.000	0.000 E	
8	0	0,000	0,000 R	
8		0.000	0.000 E	

This example, output 1-4 are connected to nitrous stages. Output 5, 6, and 7 are connected to air shift solenoids. The first two nitrous stages are activated based on clutch drop. The third and fourth are activated on time based on the first and second gear change. So output/nitrous 3 will have a trigger channel of output 5 and a trigger time of 0.125. Output/nitrous 4 will have a trigger channel of output 6 and a trigger time of 0.125. So 3 and 4 turn on 0.125 second after 5 and 6 turn on.

#	On	Off	
1	0,000	12,000 R	<i>On at clutch drop</i>
1	0.000	10.000 E	
2	0,000	12,000 R	<i>On 0.500 after clutch</i>
2	0.500	10.000 E	
3	0,000	12,000 R	<i>Note the trigger channel of 5, active 0.125 after</i>
3	0.125	10.000 E	<i>output 5 active</i>
4	0,000	12,000 R	<i>Note the trigger channel of 6, active 0.125 after</i>
4	0.125	10.000 E	<i>output 6 active</i>
5	9,000	12,000 R	<i>Shift at 9000rpm</i>
5	0.000	10.000 E	
6	9,000	12,000 R	<i>Shift at 9000rpm atleast .300 after Output 5 active</i>
6	0.300	10.000 E	
7	9,000	12,000 R	<i>Shift at 9000rpm atleast .300 after Output 6 active</i>
7	0.300	10.000 E	
8	0,000	0,000 R	
8	0.000	0.000 E	