

**P122**

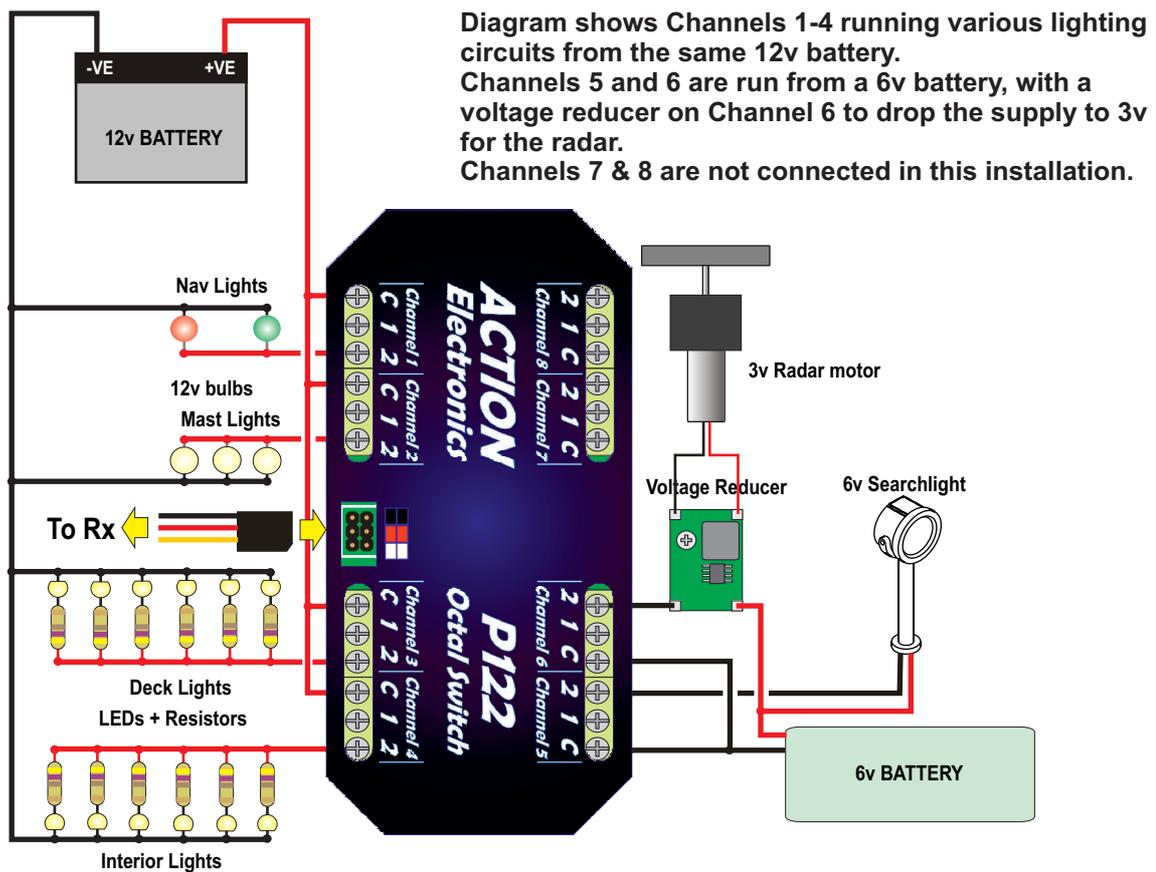
# Octal 8-Way Switcher



The newest switcher to the range, get 8 switched channels in your model controlled by a single channel on your transmitter. PIC-based; 8 separate switched circuits from one R/C channel. All outputs operate as Latching (Memory). Different voltages can be switched on each channel as all are isolated from each other. Will operate most of the auxiliary functions on a boat up to 3A per circuit. Custom case (no holes to cut) measuring 112mm x 58.3mm x 19.2mm. Screwdriver connection (Philips or flat blade). This Octal switch should be connected into a channel which is operated by either a spring-centred stick on the transmitter, a rotary knob or a 3-way (On/Off/On) switch. It will also work with channels which are controlled by a simple 2-way On/Off switch (e.g. "Retract") although the switching sequence on the transmitter is different (See over). It will work with any receiver voltage in the range 3.7v - 12v, but do ensure that the receiver and all the other devices connected directly to it will operate on the voltage used before you connect them!

**CONNECTION IS SHOWN ON THE DRAWING BELOW**

For all channels 1-8, case label shows C=Common; 1=Normally Closed; 2=Normally Open



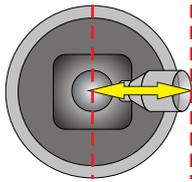
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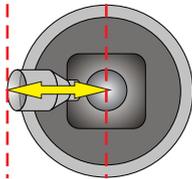
**Turn ON Relays 1-8 - 'Blip' stick to full throw in one direction**



Transmitter Stick

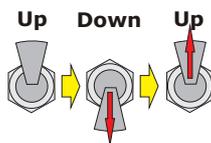
- Channel 1 - Blip>Release (x1)
- Channel 2 = Blip>Release>Blip>Release (x2)
- Channel 3 =Blip>Release>Blip>Release>Blip>Release (x3)
- Channel 4 = Blip>Release>Blip>Release>Blip>Release>Blip>Release (x4)
- Channel 5 =
- Blip>Release>Blip>Release>Blip>Release>Blip>Release>Blip>Release (x5)
- ETC

**Turn OFF Relays 1-8 - 'Blip' stick to full throw in other direction**



Transmitter Stick

- Channel 1 - Blip>Release (x1)
- Channel 2 = Blip>Release>Blip>Release (x2)
- Channel 3 =Blip>Release>Blip>Release>Blip>Release (x3)
- Channel 4 = Blip>Release>Blip>Release>Blip>Release>Blip>Release (x4)
- Channel 5 =
- Blip>Release>Blip>Release>Blip>Release>Blip>Release>Blip>Release (x5)
- ETC



Transmitter 2-Way Switch

- Channel 1 ON = Up>Down>Up (x1)
- Channel 1 OFF = Up>Down>Up (x1)
- Channel 2 ON =
- Up>Down>Up>Down>Up (x2)
- Channel 2 OFF =
- Up>Down>Up>Down>Up (x2)
- ETC

**OPERATING THE OCTAL SWITCHER** (This is harder to describe than it is to do):

Each switch output is what is termed a single pole double-throw contact (SPDT). When a relay is off, the (COM) Common connection is connected to the (NC) Normally Closed connection. When the relay is on, the (COM) common is switched over to the (NO) Normally Open. The COM and NO contacts then become a simple switch and can be wired as such. Wiring to switch various different types of load is shown in the drawing overleaf. What is eventually wired to your switcher will, of course, depend on what you want to operate.

Connect one end of the male-male servo lead to the input pins of the Octal switch - either set of 3-pins will do - and connect the other end to your radio receiver corresponding to the channel you wish to use for switching. Take care to connect the plugs the right way around; there is a legend on the case which shows the Negative pin as Black; the Positive pin as Red and the Signal pin as White. If you get this the wrong way around then you'll not damage anything but the switch won't work! Make sure that your transmitter and receiver batteries are fully charged before testing and your receiver and transmitter are switched on prior to test. There is no need to connect anything up to the relays for testing purposes - you will be able to hear the relays "click" quite clearly as they are switched on and off.

The transmitter stick for the channel you have selected to operate P122 will turn on the relays when 'blipped' in one direction, and turn them off again when 'blipped' in the opposite direction. Note that you don't have to run through the sequence of channels in order e.g. you can turn on Ch#2 without first turning on Ch#1, and you can turn Ch#2 off while leaving Ch#1 on. The switch is programmed to wait for one second after it "hears" a signal (blip) before it turns on the appropriate relay. If it hears another signal within that time then the 1 second delay timer starts again, and so on up to the last relay.

Thus if you want to turn on Ch#1 you push the Tx stick to its limit ONCE in the correct direction and let go smartly. After one second the relay will click on. If you don't hear a click then try moving the stick in the other direction.

If you want to operate Ch#2 then you need to push the stick across and release it TWICE, with a delay of no more than a second between each "blip" of the stick. Each relay will turn on one second after it "hears" the last signal blip. Channels 3 - 8 require three to eight "blips" of the stick respectively. If you are too slow then the switch will turn on the relay which corresponds to the last signal it received. A little practice will enable you to select the right relay quite quickly.

Turning off the relays is exactly the same procedure as turning them on except that you will push the stick in the opposite direction to "on".

If you connect P122 to a channel which is controlled with a simple 2-position switch on the transmitter then a "signal" involves moving the switch smartly to its opposite position and quickly moving it back again. One of these On-Off-On sequences will operate Channel #1. To select another channel you simply move the switch 'On-Off-On' smartly by the number of times which corresponds to the channel you want to operate. To turn OFF a channel which is already on you simply repeat the 'On-Off-On' sequence for the number of times associated with that relay.

Note 1: An electrically 'noisy' R/C environment may cause spurious operation of switches. For this reason you should ensure that all servo wiring is kept well away from power leads and that the receiver aerial wire is kept away from all other leads.

Note 2: **The maximum load current is 3 amps per relay.**