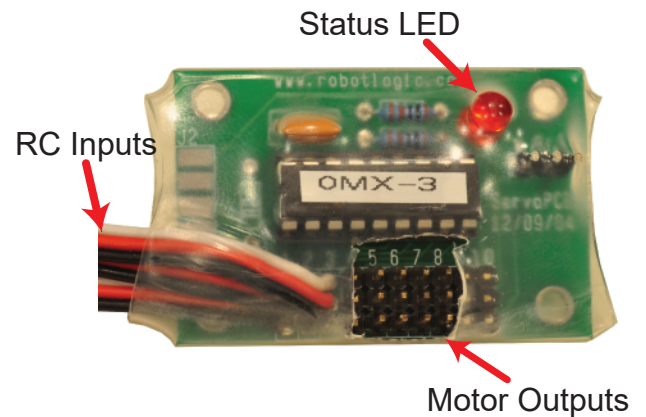


## OMX-3 Mixer

The OMX-3 mixer generates motor control servo pulses for driving a 3-wheeled omni-directional robot. The mixer is installed between your RC receiver and your motor speed controllers (ESCs). Three RC inputs are used to control your robot: X, Y, and rotation. The OMX-3 functions as a **failsafe**; it immediately shuts off all outputs if an invalid signal is detected and resumes operation as soon as a valid RC signal is re-detected. The OMX-3 also provides **signal-boosting**; it is able to drive up to two Victor 833 speed controllers per output channel.



### Connect Mixer to your RC receiver

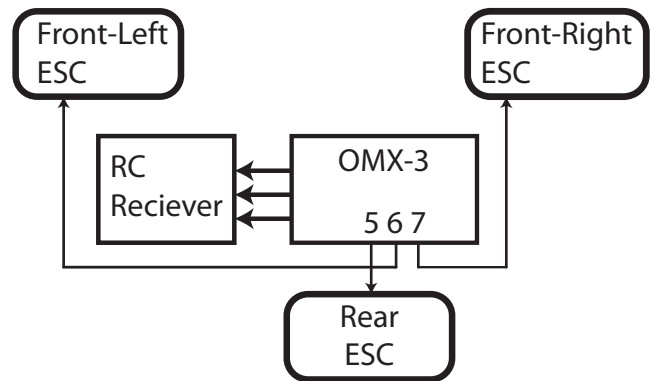
Connect the servo cables to your RC receiver. The first input is the one closest to the left side of the mixer.

- Input 1      Strafe (Left Right translation)
- Input 2      Drive (Fwd-Reverse translation)
- Input 3      Turn / Rotate

### Connect Speed Controllers

There are 3 outputs on the OMX-3 mixer:

- Output 5      Rear Motor
- Output 6      Front-Left Motor
- Output 7      Front-Right Motor



### Initial Testing and Motor Polarity Verification

Put your robot on blocks so the wheels are not touching the ground for these tests. The OMX-3 uses a consistent convention for all 3 motor outputs so a pure rotation command should result in all motors spinning in the same direction. First get the rotation command working by giving the robot a turn command using input 3. If any of the motors spin in the wrong direction, you will need to switch their polarity from the ESC. Next, give the robot a forward command and the two motors on the front of the robot should turn on while the rear motor stays off. Finally, test the strafe command and ensure that all three motors are turning in the correct direction. For some combinations of equipment, you may need to invert channels on your radio or swap ESC's to get the behavior you want.

### LED Status

Off	No Power
On Solid	Valid Signal
Blink	Invalid Signal

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