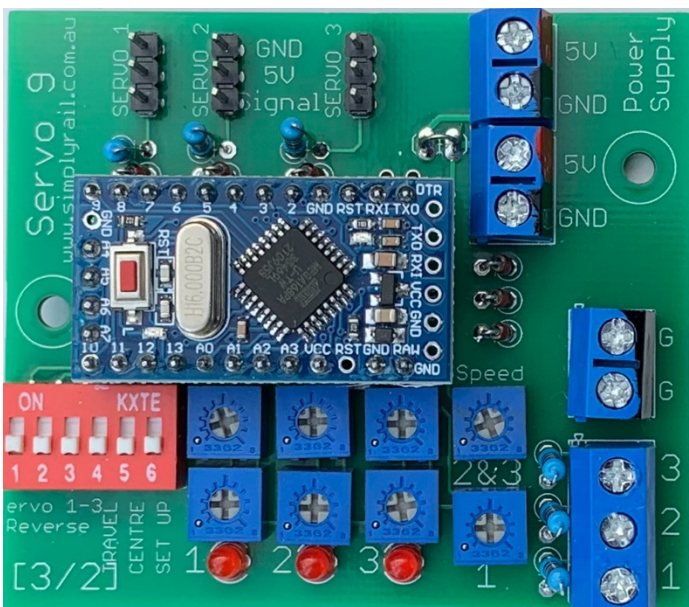# Servo 9

**3 Servos
2 Positions
Speed Control**

Servos are ideal for moving turnouts, signal arms, operating gates, or animating people and animals on your model railway.

With SimplyRail **Servo 9** you easily control the position of three servos to two **positions and adjust the speed.**

Ideal for two position semaphore signals.

The setup is simple, no programming, no computers.

Once set-up,
each servo is controlled by
a simple **ON/OFF** switch
or DCC decoder

Servos and switches are connected as shown on page 2

You use a screwdriver to turn the Trimpot to adjust the servo position and speed as required.
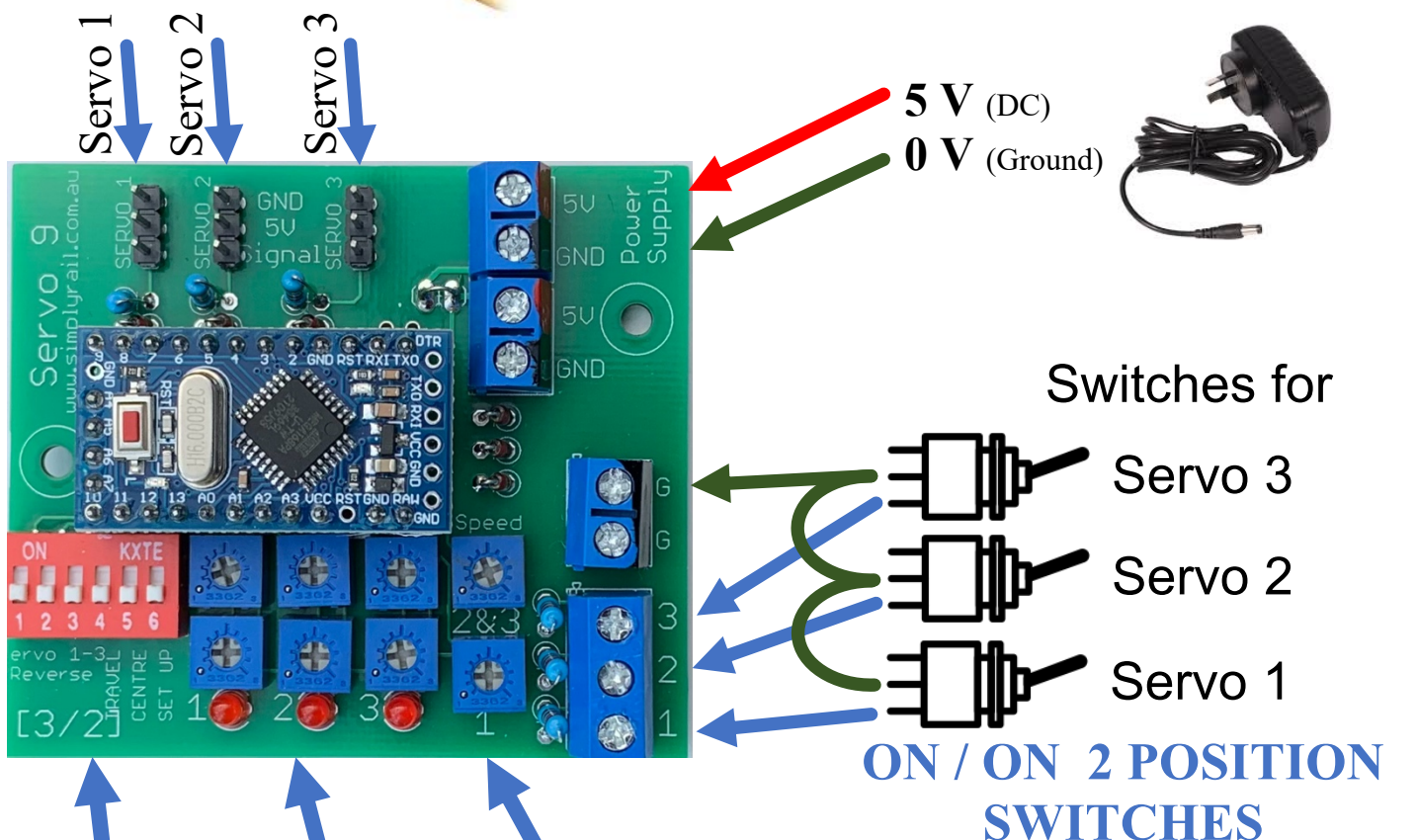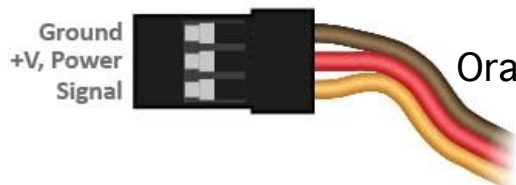
Setup Diagram

Connect the servos to the board **Servos come with two common sets of wiring colours.**

White / Red / Black - **White** is for the signal,
Red 5V, Black is ground.

Orange / Red / Brown - **Orange** is for the signal,
Red 5V, Brown is ground.

x3

Ground
+V, Power
Signal

Servo 1
Servo 2
Servo 3

5 V (DC)
0 V (Ground)

Switches for

Servo 3

Servo 2

Servo 1

**ON / ON 2 POSITION
SWITCHES**

Trim Pots to adjust the speed of servos.

Trim Pots to adjust the travel of servos.

DIP 1 *(Reverse the position of Servo 1 if required)*

DIP 2 *(Reverse the position of Servo 2 if required)*

DIP 3 *(Reverse the position of Servo 3 if required)*

DIP 4 *(Reduce the range of servo travel if required)*

DIP 5 (Servos at centre of their travel)

DIP 6 (For setting travel and reverse)

Setup instructions

Step 1 - Before turning on the power,
Please rotate each of the eight blue
Trimpots anticlockwise.

This sets the travel of the servos to their minimum travel.
To prevent them from damaging what you wish to animate.

Connect the Servos
If the servos are installed the wrong way
they won't be damaged but they will not operate.

Connect external switches to select servo position
Connect the Power Supply 5V DC.
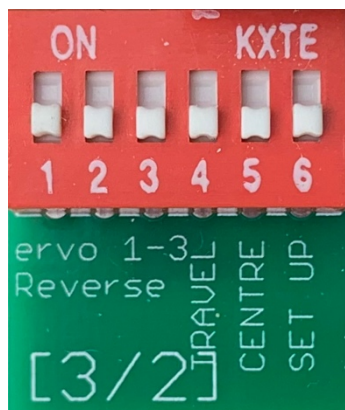
Step 2 -
To make it easy to position the servo,
<u>DIP 5 to ON</u> all other DIP switches to OFF.
This will drive all servos to the middle of their
travel and hold them in that position.
Now turn on the power.

You can now attach the servo arm to the middle of the travel on
the item you wish to animate.

Once the servos are installed turn

<u>DIP 1 to OFF</u>	Reverse Servo 1
<u>DIP 2 to OFF</u>	Reverse Servo 2
<u>DIP 3 to OFF</u>	Reverse Servo 3
<u>DIP 4 to OFF</u>	Reduce Travel
<u>DIP 5 to OFF</u>	Centre Servos
FOR SETUP <u>DIP 6 to ON</u>	
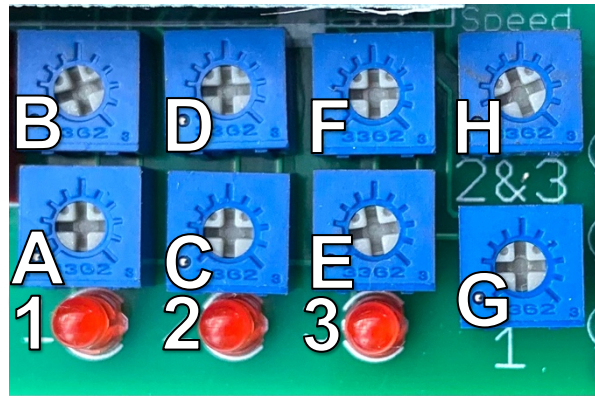
Step 3 – To adjust the distance and direction of the travel for each servo.

On the Red switch bank, turn <u>DIP 6 to ON</u>, the servo will now move as you adjust the blue trimpots.

(By switching your Servo 1 to 3 Position Switches)
When the **RED LED 1** is ON adjust Trimpot **A** for servo **1**
When the **RED LED 1** is OFF adjust Trimpot **B** for servo **1**

When the **RED LED 2** is ON adjust Trimpot **C** for servo **2**
When the **RED LED 2** is OFF adjust Trimpot **D** for servo **2**

When the **RED LED 3** is ON adjust Trimpot **E** for servo **3**
When the **RED LED 3** is OFF adjust Trimpot **F** for servo **3**

Trimpot **G** will adjust the speed of travel for servo **1**
Trimpot **H** will adjust the speed of travel for servo **2 and 3**

Step 4 - To reverse the servos direction of travel.
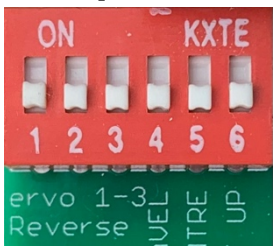
for **Servo 1** turn Red <u>DIP 1 to ON</u>,
for **Servo 2** turn Red <u>DIP 2 to ON</u>.
for **Servo 3** turn Red <u>DIP 3 to ON</u>,
      Then readjust as per step 3

Step 5 – You can reduce the amount of travel for all servos by turning on DIP 4, good when very small movement is required.

Step 6 – Adjust the speed of servo 1 with Trimpot G.
      Adjust the speed of servo 2 & 3 with Trimpot H.

Step 7 - Once you are happy with the travel and direction of the servos turn <u>DIP 6 to OFF.</u> (On the Red switches)
If you need to readjust the servos go back to Step 3 to 5.
For a new setup please go back to Step 1