

**BOT123 Servo Upgrade Pack**

BOT123	Microbot Servo Pack (self assembly kit)
BOT123A	Microbot Servo Pack (pre-assembled, no soldering)
BOT123N	Microbot Servo Pack (self assembly kit, no servo included)

Qty	Description	Replacement order code
1	<i>PCB panel containing:</i>	
	Servo module PCB x 2	BOT123
	SRF005 servo adapter PCB	BOT123
3	3 way straight header *	CON035
1	5 way straight socket	CON041
1	220 resistor (red red brown gold)	RES-220
1	100mm servo cable	CAB103
2	Microbric	BOT125
6	bolts	BOT125
6	nuts	BOT125
1	miniature servo (not included in part BOT123N)	GBX013

*Also available (supplied in starter pack on motherboard panel)*

1	Servo module PCB	BOT123
1	3 way straight header	CON035

*\* Please note that the 3 x 3 way headers may sometimes be supplied as 1x10 way header which needs to be simply snapped into 3 x 3 way lengths.*

**Assembly:**

Carefully remove all PCBs from the panels by applying a gentle rocking motion to the PCBs until they snap out of the panel. Note that in each case the bottom of the PCB is marked with the gold text label (e.g. SERVO).

**Servo Module PCB**

Place the 3 way header onto the top of the PCB, so that the pins come out the bottom. Solder in position.

**SRF005 Servo Adapter**

Place the 220 resistor (red red brown gold) over the black text on the top of the board so that the legs come out the solder pads on the bottom of the board. Resistors can be placed either way around. Solder in position and cut the legs short.

Place the 3 way header onto the top of the PCB, so that the pins come out the bottom. Solder in position.

Place the 5 way socket onto the top of the PCB, so that the pins come out the bottom. Solder in position.

### Assembly 13 - BOT123 Servo / SRF005 Servo Adapter

The SRF005 adapter is generally used in two ways:

- 1) mounted on top of the GBX013 servo, which is in turn stuck (e.g. using a sticky pad) to the top of the battery box.
- 2) Mounted directly on top of the battery box without a servo. This is generally to allow the SRF005 to connect to a rear connection point but still face forwards – e.g. to allow the SRF005 and the line follower modules to be used at the same time.

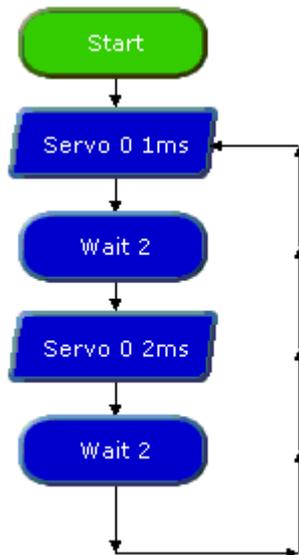
The servo modules can be used on any of the motherboard connection positions. However the 'servo' command can only be used on the centre rear position B.0 (pulsout commands can be used on any other position). Therefore it is recommended to normally use the servo in the centre rear position and the SRF005 adapter PCB, connected via the cable, to either of the two outer rear connectors.

### Programming Example 14 – Using Servos

With the servo connected to the centre rear connector of the motherboard it will be controlled by output Pin B.0.

The following program will turn a connected servo from left to right switching every two seconds.

Sample Logicator Flowchart File:  
BOT120 SERVO TEST.PLF



Sample BASIC File:  
BOT120 SERVO TEST.BAS

```

main:
  servo B.0, 100
  pause 2000
  servo B.0, 200
  pause 2000
  goto main
  
```

The full assembly instructions and program examples are found in the Microbot manual which is a free download from:

[www.rev-ed.co.uk/docs/bot120.pdf](http://www.rev-ed.co.uk/docs/bot120.pdf)