

## Interfacing a ServoStation to a Piccolo autopilot

Interfacing a ServoStation to a Piccolo autopilot is straightforward. The ServoStation has a similar supply voltage range (+8 to +22V DC), a similar operating temperature range (-40 to +85°C), and supports a similar number of servos (8).

In addition, the 5V receiver supply rail generated by the ServoStation (which is not required internally by the Piccolo autopilot) automatically provides 1 Amp to the Piccolo's Deadman output.

Product	Supply voltage range	Operating temperature range	Servos
Piccolo Plus	+8 to +20V DC	-40 to +80°C	10
Piccolo II	+8 to +20V DC	-40 to +80°C	10
Piccolo LT	+4.8 to +24V DC	-40 to +80°C	6
ServoStation	+8 to +22V DC	-40 to +85°C	8

## Benefits of using a ServoStation

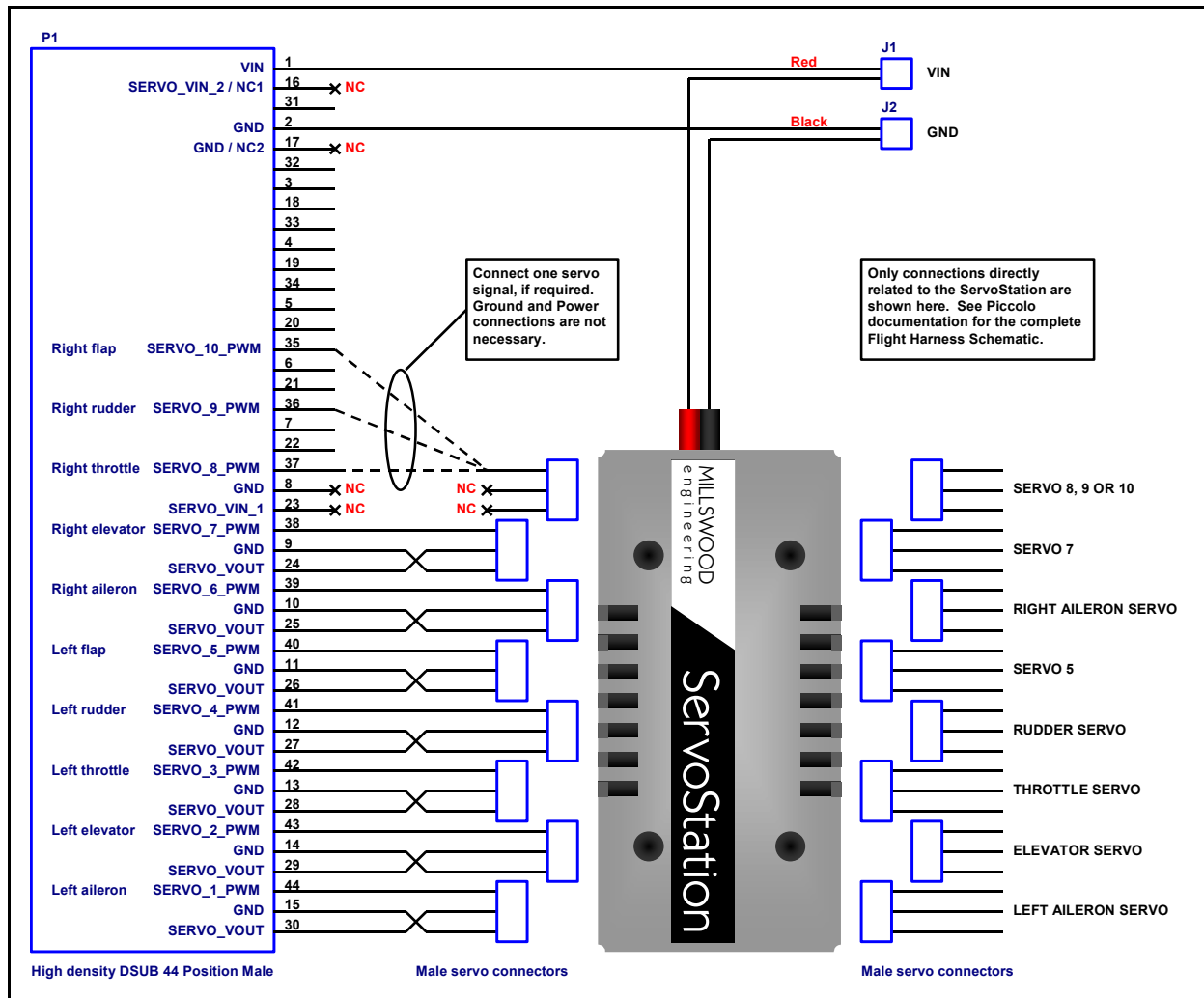
A ServoStation offers a number of benefits to UAV system integrators:

- Eliminates the servo battery, saving space and weight. One less battery also reduces the maintenance burden and enhances system reliability.
- Maximises RF communications performance by isolating the autopilot and receiver from servo generated noise and servo current loops.
- Buffers all servo PWM signals with low impedance drivers for improved noise immunity in harsh electrical environments, and to drive long servo cables.
- Provides 5V Deadman power to the Piccolo autopilot, but operates the servos at 6V for maximum performance.

The ServoStation is an engineered product, with full mechanical, environmental and electrical specifications and typical performance data. Visit [www.millswoodeng.com.au](http://www.millswoodeng.com.au) to download a copy of the datasheet.



## Flight Harness Schematic (Piccolo Plus, Piccolo II)



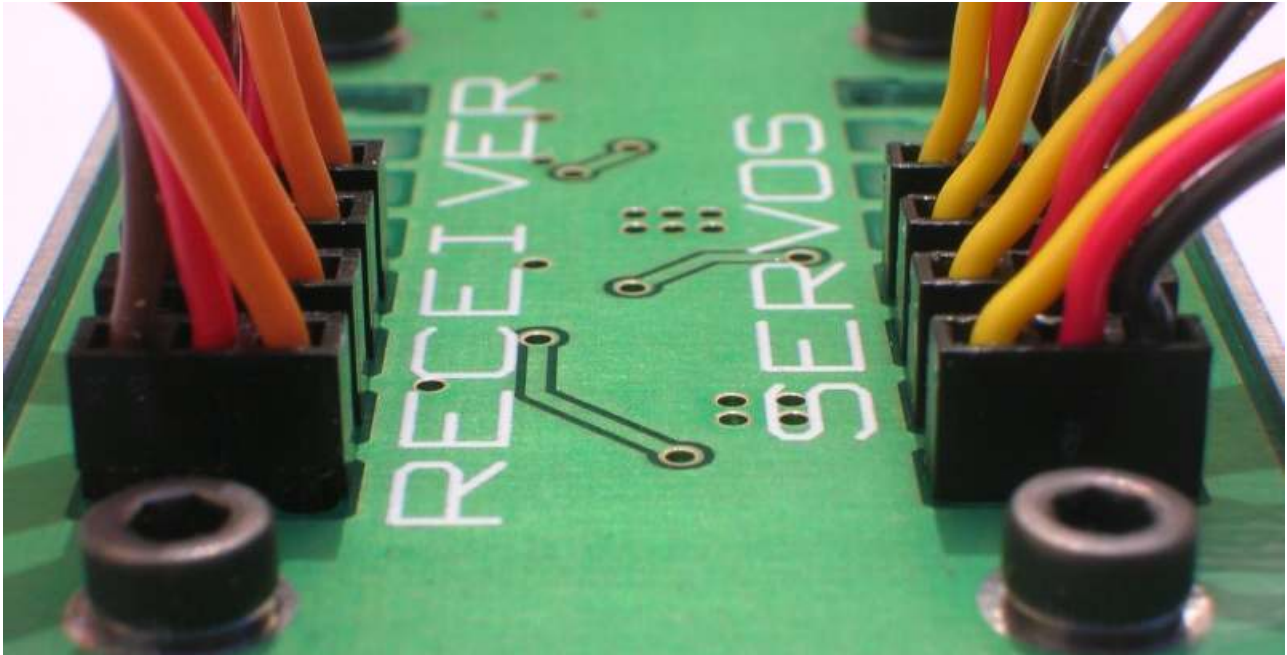
## Notes for System Integrators

- Servo Vin1 and Servo Vin2 should be left unconnected. The ServoStation is now doing the job of powering the servos; there's no need to introduce extra noise into the Piccolo autopilot for no gain.
- Even though the servo power inputs are not connected, the Deadman output will be powered automatically by the ServoStation's 5V rail.
- Any servo current monitoring performed by the Piccolo will report zero (it is supplying zero servo current, after all).
- Any servo voltage monitoring performed by the Piccolo will actually be monitoring the ServoStation's 5V rail. This is a reasonable surrogate for servo voltage. In the event of 6V rail sag or collapse, the 5V rail will follow suit (it is derived from the 6V rail).
- Because servos can draw huge current surges, which to some extent will also be present on the supply to the ServoStation, it is preferable to run dedicated power and ground wires to the ServoStation.
- Spare channels of the ServoStation may be used as general purpose non-inverting logic-level buffers. The input thresholds are TTL, so the ServoStation can be used to convert 3.3V, 3.0V, and even 2.7V logic up to 5V levels.

## Further Information

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