Soft Steer Mk 2

Exponential Control Module

General

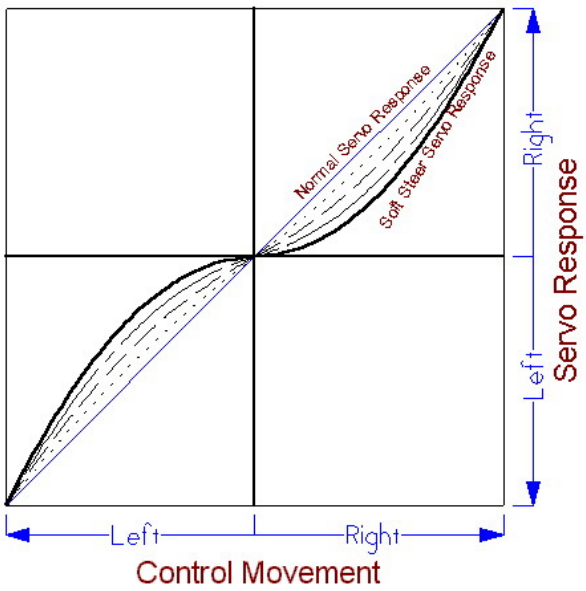
Soft Steer Mk 2 now is the best steering control you can get, including all those built into expensive transmitters. Soft Steer Mk 2 produces a smooth increasing curve with no sharp transition in motion. It was designed primarily for model RC cars, but will work with any RC receiver on any control surface.

Features

- A choice of nine scaled curves from linear to full exponential.
- End point scaling from full scale to ½ scale in 8 selectable steps.
- Very small package (12 x 12 x 5 mm)
- Extremely lightweight.
- Glitch rejection. Signals from the receiver that are outside normal limits are rejected.
- Radio signal failure failsafe. Steering is returned to center after ~0.25 secs without signal.
- Buttonless programming that only needs to be executed once, but can be changed at any time as often as you wish.
- LED which shows Center, Extreme Endpoints, flashes to indicate signal failure, and used for programming.

Connections

Soft Steer uses JR type lead ends (others available on request). Simply remove the steering servo lead from the receiver and plug Soft Steer in its place. Then plug the servo lead into Soft Steer.



Operation

Set up Soft Steer in the following manner:-

1. Connect Soft Steer as in Connections above.
2. Leave the transmitter turned off and turn on the receiver. Soft steer will immediately centre the servo. This is the center position you must use. (The transmitter steering trim should be able to be adjusted to achieve the same centre position.)
3. Adjust the servo arm position and/or steering linkages to achieve approximate straight running.
4. Turn on the transmitter and adjust steering trim as per normal.
5. Go Racing.

Programming and LED operation

Soft Steer comes programmed and tested, with ½ Exponential and no Endpoint scaling.

Set up Soft Steer in the following manner

i Turn on the transmitter and apply full right steering.

ii Whilst still applying full right steering, turn on the receiver.

iii SS replies with two (2) flashes on the LED. (If 2 flashes aren't received, try full left steering and repeat steps 1 & 2 again. If still no response, check your steering spans or increase the steering trim.)

iv Return the steering to centre and re-apply within 1 second. The LED goes off and then back on. SS counts 1 step of Exponential. You can skip this step or repeat it up to 8 counts. Each count programs SS with 12.5% more Exponential.

v Return the Steering to centre. SS will wait 1 second and flash 3 times.

vi Apply the steering again during the next 1 second and Step ii will be repeated but this time for Endpoint scaling. As before, this step can be skipped or repeated up to 8 times giving a maximum of 50% servo movement reduction.

vii Return the steering to centre. SS will wait 1 second and flash 3 times. Exponential and Endpoint Scaling are now programmed.

Sequence is :-

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F.Steering ✳✳ Pulse steering (0 to 8 times
for Exponential) Neutral _ ✳✳✳ Pulse
steering (0 to 8 times for Endpoint
Scaling) Neutral _ ✳✳✳ ready
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where (✳) = LED flash and (_) = 1 second

Note – LED is on for a small amount of movement at the centre, and at the extreme endpoints. Most radios will not reach the endpoints under normal setup. There is no servo response beyond the points where the LED comes on.

LED also flashes when there is signal failure. Servo returns to centre when this occurs.

Using the Endpoint reduction feature is only recommended if the steering linkages can't be reconfigured to allow full servo movement. Reducing the endpoints reduces resolution and increases steering free movement.

Warranty - Soft Steer is warranted for life against faulty parts or workmanship. Abuse, reverse connections & exceeding maximum voltage rating are not covered.

Specs

Dimensions	12 x 12 x 5 mm
Rating	3 – 6.5Vdc
Resolution (maximum)	256 steps
Lead connections	JR compatible

Contact

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Disclaimer

Although great care was taken in designing, programming and assembly of this module, the end user will take all responsibility for any damage or injury caused by any device containing this controller. Due to the nature of radio control, no guarantees can be given as to the safe use of this product.