

ElectroDynamics, Inc.



ELECTRONICS FOR THE DISCERNING MODELER

31091 Schoolcraft Rd., Livonia, MI 48150

(734) 422-5420

(734) 422-5338 (Fax)

<http://www.electrodynam.com>

email: support@electrodynam.com

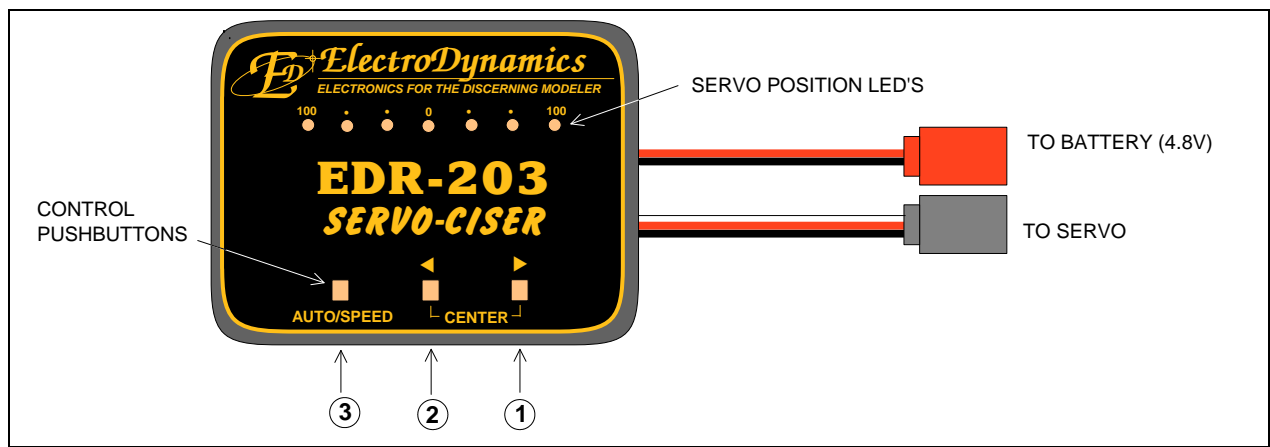
EDR-203 SERVO-CISER

User Instructions

The EDR-203 Servo-ciser generates all the necessary signals to drive positive-pulse RC servos, using a microcomputer chip to create very accurate pulses, and a precise (99.995% accuracy) neutral or center position. This makes it possible to set up a model without using the transmitter and receiver, eliminating the risk of accidental damage to the expensive transmitter from glue spillage, knocking over, etc.

In conjunction with our EDR-201 "Eye-Test" Airborne System Current Probe, the EDR-203 Servo-ciser makes it a snap to install your RC equipment, avoiding the common pitfall of binding control runs draining power from your airborne battery. It is also possible to check servos for speed and performance, to avoid undetected servo failure in flight.

Operation



Your EDR-203 Servo-ciser is compatible with "Futaba-J" and "JR" - style connectors. If you need to operate other brand servos, we can supply the necessary adapters.

- Plug a 4.8V - 6.0VRx battery pack into the Battery Connector (Red/Black wires).
- Plug a servo into the Servo Connector (Red/Black/White wires).
- The Servo Position LED's show the commanded position of the servo - from 0% (neutral) to +/- 100%, in 33% increments. A steadily lit LED indicates the servo is being commanded to the precise LED position. A blinking LED indicates the servo is in between 2 LED positions.
- The Control Pushbuttons
 - ▶ **Button 1** Moves the servo manually in one direction.
 - Tapping the button moves the servo a small amount; holding the button down slews the servo in that direction, until it stops the 100% position.
 - ◀ **Button 2**
 - Moves the servo manually, like Button 1, but in the opposite direction.



Button 3 Moves the servo automatically:

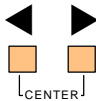
The first touch on Button 3 slews the servo slowly from +100% to -100% and back again (**AUTO**matic Slew Test). The second touch on Button 3 drives the servo at full speed between +100% and -100%, with a 2 second pause at the ends (**SPEED** Test).

- While the servo is running automatically (**AUTO** or **SPEED** Test), touching either Button 1 or 2 will stop its motion. Touching Buttons 1 and 2 together will neutralize it.
- Hint: While the servo is running under the **SPEED** Test, touch either Button 1 or 2, then touch Button 3, to restore the servo to the **AUTO**matic Slew Test.

Centering

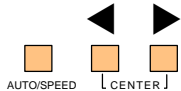
JR/Airtronics radios (and most others) center at a pulsewidth of 1.500mS. Futaba radios center at 1.520mS. The difference is approx. 2% of the total servo travel. For most people, this difference is negligible (it's *barely* visible). However, your EDR-203 is a precision instrument, so we have incorporated the different centering standards into it.

JR/Airtronics Centering



Pressing Buttons 1 and 2 simultaneously sets the Servo-ciser to JR/Airtronics "generic" center. The center LED (Yellow) will light steadily indicating Generic Center.

Futaba J Centering



Pressing the Buttons 1, 2 and 3 (i.e., *all 3 buttons simultaneously*) sets the Servo-ciser to Futaba center, and three LED's will light steadily - the extreme left and right LED's (Red) and center LED (Yellow).

Applications:

RC System Installation

- Use the precise **CENTER** feature to set your servos to their exact electrical center without the use of your transmitter. With the servo center set, you can do the mechanical installation with confidence that the servos will not shift unexpectedly when you finish the installation and turn on the transmitter for final checkout!
- Use Buttons 1 and 2 to move the servos manually to check for binding at the ends and freedom of travel. We suggest that you use our EDR-201 "Eye-Test" Current Probe to aid in this.
- Use the **AUTO**matic Slew Test to check for mechanical interference with other parts of the airframe (e.g., pushrods hitting each other, etc.).

Servo Testing

- Use Buttons 1 and 2 to move the servo in small increments to check for noisy pots. Excessive buzzing, or jittering may indicate bad pots.
- Set the EDR-203 Servo-ciser to **AUTO**matic Slew Test by touching Button 3 once. Apply a load to the servo using finger pressure while the servo is moving. If the servo shudders or skips, you may have a broken tooth in the gear train, or a bad pot.
- Set the EDR-203 Servo-ciser to **SPEED** Test by touching Button 3 twice. Note the speed of your servo, compared to a known good servo of the same type, or to its manufacturer's specifications. Any significant difference may indicate a weak motor or binding in the gear train

Warranty

This product is warranted against manufacturing defects for one calendar year after the original purchase. We will repair, or at our discretion, replace, a defective unit if returned to us, postpaid, within the warranty period, accompanied by a copy of the original sales invoice and a brief note describing the defect. No other warranty is expressed or implied.