

JR

Multi Box Instructions

FEATURES

- Allows the precise digital centering and travel adjustment synchronization in 1ms increments for up to 4 servos
- A separate battery pack can be used to power the servos attached to the Multi Box
- Perfect for fine-tuning multiple servos driving a single surface
- Great for dual elevators, multiple rudder servos, and ailerons
- Allows the digital adjustment of servo direction, neutral, and independent travel adjustment (EPA) of up to 4 servos operating from one channel

SPECIFICATIONS

Size: 1.54" L x .75" H x .50" W
Weight: .32 oz
Current Draw: 12mA
Operating Voltage: 4.8V-6.0V

INTRODUCTION

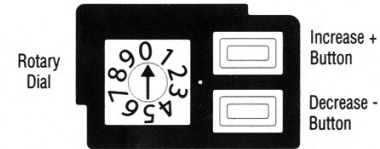
Thank you for your purchase of the revolutionary JR Multi Box. The Multi Box is designed to allow ultra precise digital adjustment and matching of up to 4 servos connected to a single channel. The Multi Box also offers the option to power the connected servos via an auxiliary battery pack and switch harness (sold separately) independently from the receiver.

The Multi Box is ideal for precisely matching servos to compensate for variations in linkage geometry, servo travel variations, and for varying servo neutral positions. It is designed for use with all Standard and Digital servos. Please read through these instructions carefully before using your Multi Box

FUNCTIONS

The various functions of the Multi Box are accessible through the rotary dial as follows:

- 0: On. In this position, all settings remain stored. The *INCR* + and *DECR* - buttons are not active. The Multi Box should always be kept in this position for normal operation.
- 1-4: In these positions, servo Neutral and End Point Adjustments (EPA) can be accessed and adjusted for each servo by using a combination of transmitter stick positions and the *INCR* + and *DECR* - buttons.
- 5-8: In these positions, Servo Reversing can be accessed and adjusted for each servo by using a combination of transmitter stick position (neutral), and the *INCR* + and *DECR* - buttons.
- 9: In this position, the values of the Multi Box can be returned to the factory default settings.

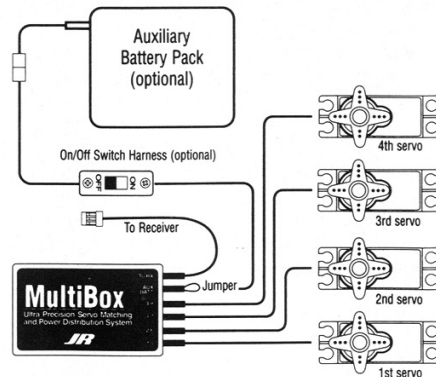


FUNCTIONS (cont'd)

The Rotary Dial is coordinated to the servos as follows:

- 1/5: This is the port for the 1st servo. Position 1 adjusts neutral and End Point Adjustments (EPA). Position 5 adjusts the servo reversing for this servo.
- 2/6: This is the port for the 2nd servo. Position 2 adjusts neutral and End Point Adjustment. Position 6 adjusts the servo reversing for this servo.
- 3/7: This is the port for the 3rd servo. Position 3 adjusts the neutral and End Point Adjustment. Position 7 adjusts the servo reversing for this servo.
- 4/8: This is the port for the 4th servo. Position 4 adjusts the neutral and End Point Adjustments. Position 8 adjusts the servo reversing for this servo.

CONNECTIONS



To RX: Connect to the appropriate channel of the receiver using the included Male/Male servo lead. A servo extension of up to 12" can be used if needed between the receiver and the Multi Box.

Aux Batt: Connect the included jumper connector if the servos will be powered by the current receiver battery pack. If a separate auxiliary battery pack and switch harness are to be used, connect these items to this port (optional).

- 1/5: Connect the first 1st to this port
- 2/6: Connect the 2nd servo to this port
- 3/7: Connect the 3rd servo to this port (optional)
- 4/8: Connect the 4th servo to this port (optional)

Note: The Multi Box will not function without the use of either the jumper connector or an auxiliary battery pack.

INSTALLATION

Single Power Source

It is recommended that the Multi Box be mounted as close to the receiver as possible if a single power source is to be used. This will insure that there is minimal current loss from the receiver to the Multi Box.

Separate servo extensions can then be used to connect each servo to the Multi Box as required.

Installing the Multi Box close to the connected servos with a single extension to the receiver can create a considerable current loss to the servos and is not recommended.

Optional Auxiliary Battery

If the auxiliary battery pack option is used, the Multi Box can then be mounted as far away from the receiver as needed for a clean installation. It is recommended that the auxiliary battery pack is located so that it can be connected directly to the switch harness without requiring an additional servo extension. This will insure that there is minimal current loss from the auxiliary battery pack to the Multi Box.

ACCESSING THE FUNCTIONS

1-4: Servo Neutral/ End Point Adjustment (EPA)

Turn the transmitter and the receiver on. Next, set the rotary dial to the servo to be adjusted (1-4). With the Transmitter stick in the neutral position, the neutral position of the servo can be altered by using the *INCR +* and *DECR -* buttons as needed. The LED will not be lit when the stick is in the neutral position. The LED will flash when the buttons are pressed. With the transmitter stick moved to the far left or right position, the end point travel for the servo can be altered by using the *INCR +* or *DECR -* as needed. The LED will light when the stick is moved to the left or right position. The LED will flash when the buttons are pressed.

Please note: The neutral adjustment functions as sub-trim, so when a neutral adjustment is made, it will also affect the maximum travel value of the servo.

5-8 Servo Reversing

With the transmitter and receiver power on, move the rotary dial to the servo number to be adjusted (5-8). With the transmitter stick in the neutral position, the direction of the servo can be altered by pressing the *INCR +* or *DECR -* buttons as needed. The LED will not be lit when the stick is in the neutral position, but the LED will flash when the buttons are pressed.

9: Data Reset

To reset the Multi Box to the factory neutral default settings, place the rotary dial in the #9 position. Next, while pressing the *INCR +* and *DECR -* buttons simultaneously turn on the power to the Multi Box. The values have now been reset.

STORING SETTINGS

To store the adjusted settings, rotate the rotary dial forward past 9 to 0 before turning the power off to the Multi Box. The settings will now be stored. Please note that the LED may flash when the rotary dial is moved. Please wait for the LED to stop flashing before turning the power off to insure that the settings are stored.

CANCELING SETTINGS

To cancel any adjustments that have been made before they are stored in the Multi Box, simply turn off the power to the Multi Box before the dial is turned past 9 to the 0 position.

USING AN AUXILIARY BATTERY PACK

The Multi Box allows for the option to use an auxiliary battery pack to power only the servos connected to the Multi Box. The use of an optional battery pack will help to reduce the current that is passed through the receiver, while providing more power directly to the servos attached. This method is recommended when using 3 or 4 servos with high current draw.

If an auxiliary battery pack is to be used, it will be necessary to also use a separate switch harness to turn the power on and off to the Multi Box and the connected servos.

SET UP WITH THE MULTIBOX

Begin the setup with the Multi Box starting with the 1st servo in this order:

- 1) Servo Reversing
- 2) Servo Neutral
- 3) EPA Travel Adjustment

Step A: Adjust the first servo (1/5) using the settings in the transmitter so that it will operate the surface correctly with linkage connected only to this servo.

Step B: With the linkage unhooked to the 2nd servo, test fit the linkage and adjust the 2nd servo as needed until the linkage positions at both the neutral, and ends points match the 1st servo perfectly. Be sure to adjust the 2nd servo following the 1-3 adjustment sequence as listed above.

Repeat these steps for the 3rd and 4th servos as needed until all servos are matched exactly.

Step C: Connect the linkages to each servo and check for linkage binding, and or servo buzzing. While performing this check, please make sure that the weight of the control surface is not being supported by the servos.

Adjust the linkage or alter the servo neutral positions as needed until the servos are quiet in the neutral position.

If the neutral position of the servo is altered through the Multi Box to correct this situation, it may be necessary to re-adjust the EPA values for this servo.

Note: In order to store the inputs the dial must be returned to 0. If the radio is turned off and the dial is not returned to 0 all inputs will be lost.

MOUNTING

After all adjustments have been made, the Multi Box can be mounted to any flat surface using double sided servo tape or Velcro®. Please make sure that all leads entering the Multi Box have a slight amount of slack so that they cannot be disconnected from vibration during flight.

REPAIR SERVICE INSTRUCTIONS

This unit is warranted to be free from all defects in material and workmanship in normal use. The warranty, however, does not cover consequential damages of any kind resulting from an accident, misuse, or other incorrect operation. If a malfunction occurs not covered by the warranty, you may be asked for the repair cost. Depending on the degree of the damage, your unit may be beyond economical repair.

Faulty units should be directly returned to the JR sales agent in your country for repair. If you are sending your unit, please include a memo giving a detailed reason for return and your request to us, if you have any. Please don't forget to write your zip code and phone number in addition to your name and address.