MatchBox Instructions

JRPA900

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 MatchBox
- 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 MatchBox. The MatchBox is designed to allow ultra precise digital adjustment and matching of up to 4 servos connected to a single channel. The MatchBox also offers the option to power the connected servos via an auxiliary battery pack and switch harness (sold separately) independently from the receiver.

The MatchBox 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 MatchBox.

FUNCTIONS

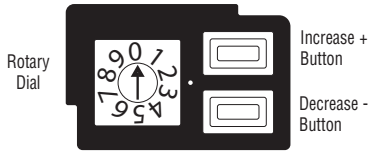
The various functions of the MatchBox are accessible through the rotary dial as follows:

0: On. In this position, all settings remain stored. The *INCR* + and *DECR* - buttons are not active. The MatchBox 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 MatchBox can be returned to the factory default settings.



FUNCTIONS (cont'd)

The Rotary Dial is coordinated to the servos as follows:

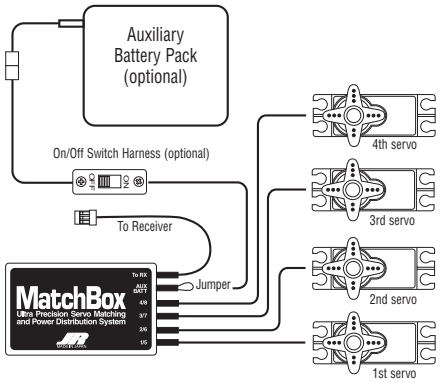
1/5: This is the port for the 1st servo. Position 1 adjusts neutral and End Point Adjustments (EPA) . Position 5 adjusts the servo reversing for this servo.

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 MatchBox.

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 MatchBox 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 MatchBox 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 MatchBox.

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

Installing the MatchBox 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 MatchBox 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 MatchBox.

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 MatchBox 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 MatchBox. 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 MatchBox. 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 MatchBox, simply turn off the power to the MatchBox before the dial is turned past 9 to the 0 position.

USING AN AUXILIARY BATTERY PACK

The MatchBox allows for the option to use an auxiliary battery pack to power only the servos connected to the MatchBox. 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 MatchBox and the connected servos.

SET UP WITH THE MATCHBOX

Begin the setup with the MatchBox 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 perform ing 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 MatchBox 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 MatchBox can be mounted to any flat surface using double sided servo tape or Velcro®. Please make sure that all leads entering the MatchBox have a slight amount of slack so that they cannot be disconnected from vibration during flight.

WARRANTY COVERAGE

Your new equipment is warranted to the original purchaser against manufacturer defects in material and workmanship for 3 years from the date of purchase. During this period, Horizon Service Center will repair or replace, at our discretion, any component that is found to be factory defective at no cost to the purchaser. This warranty is limited to the original purchaser of the unit and is not transferrable.

This warranty does not apply to any unit which has been improperly installed, mishandled, abused, or damaged in a crash, or to any unit which has been repaired or altered by any unauthorized agencies. Under no circumstances will the buyer be entitled to consequential or incidental damages. This limited warranty gives you specific legal rights; you also have other rights which may vary from state to state. As with all fine electronic equipment, do not subject your unit to extreme temperatures, humidity or moisture. Do not leave it in direct sunlight for long periods of time.

REPAIR SERVICE INSTRUCTIONS

Warranty Repair

To receive warranty service, you must include a legible photocopy of your original dated sales receipt to verify your proof-of-purchase date. Providing that warranty conditions have been met, your equipment will be repaired without charge.

Normal Non-Warranty Repairs

Should your repair cost exceed 50% of the retail purchase cost, you will be provided with an estimate advising you of your options.

Within your letter, advise us of the payment method you prefer to use. Horizon Service Center accepts VISA or MasterCard. Please include your card number and expiration date. Mail your system to:

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