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DIYmall T0080

DIYmall HJ Digital RC Servo Tester ESC Consistency Tester Speed Controller

Model: T0080

Brand: DIYmall

1. Overview

The DIYmall HJ Digital RC Servo Tester is a versatile tool designed for testing the consistency and functionality of RC servos and Electronic Speed Controllers (ESCs). It allows for precise control and measurement of pulse width, making it ideal for hobbyists and professionals working with RC helicopters, airplanes, cars, and motors. This device can control up to four servos simultaneously.

Key Features:

- Controls up to 4 servos simultaneously.
- Supports 50Hz analog servo signals (20us cycle).
- Supports 125Hz digital servo signals (8us cycle).
- Supports 250Hz digital servo signals (4us cycle).
- Digital display for precise pulse width readings.

2. Product Components

The package includes one HJ Digital Servo Tester / ESC Consistency Tester. Familiarize yourself with the device's layout and connection ports.

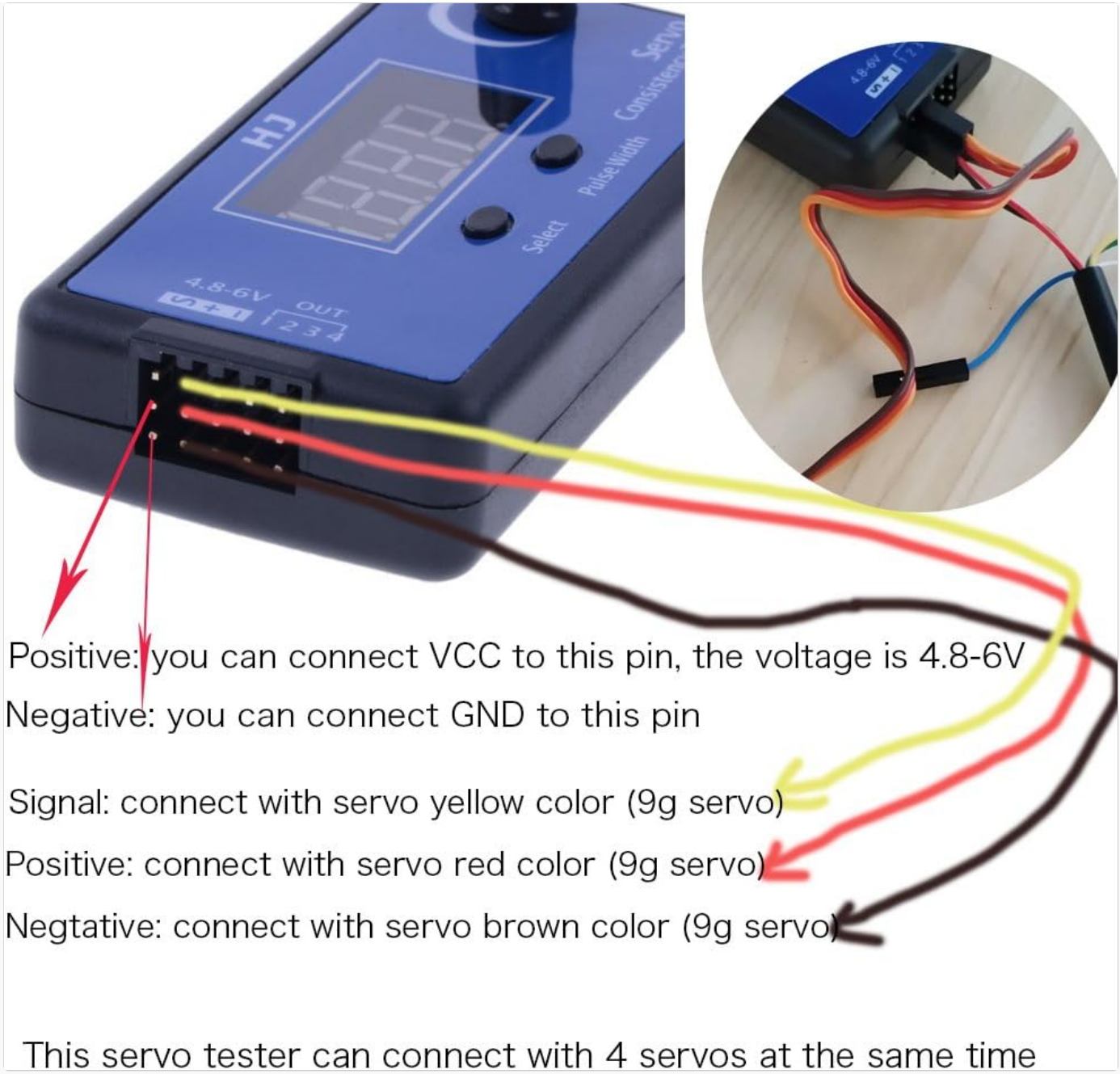


Figure 1: Front view of the HJ Digital RC Servo Tester with detailed pinout for connections. The display shows '8.8.8.8' and buttons for 'Select' and 'Pulse Width' are visible. The input voltage range (4.8-6V) and output channels (1-4) are labeled.

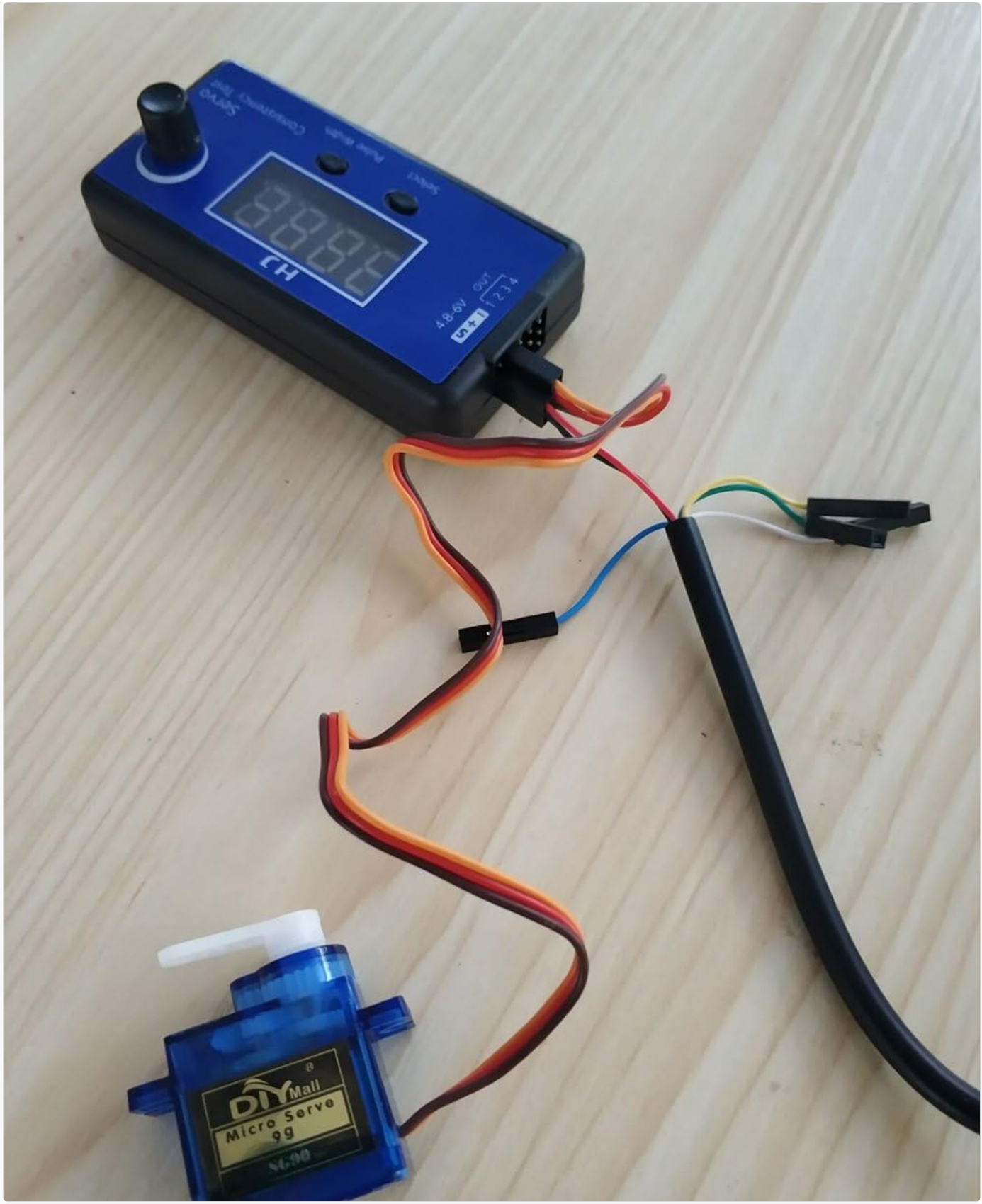


Figure 2: The HJ Digital RC Servo Tester connected to a micro servo, demonstrating a typical setup for testing. The servo is a blue 'Micro Servo 9g' model.

3. Setup and Connections

Proper connection is crucial for safe and effective operation. The servo tester requires a power source and correct wiring to the servos or ESCs.

Power Input:

- Connect the positive (VCC) wire of your power source (4.8V to 6V DC) to the 'Positive' pin on the input side.
- Connect the negative (GND) wire of your power source to the 'Negative' pin on the input side.

Servo/ESC Output Connections:

The tester has four output channels (1-4). Each channel has three pins for connecting a servo or ESC:

- **Signal Pin:** Connect the yellow (or white) signal wire from the servo/ESC.
- **Positive Pin:** Connect the red positive wire from the servo/ESC.
- **Negative Pin:** Connect the brown (or black) negative wire from the servo/ESC.

Ensure correct polarity when connecting. Incorrect wiring can damage the device or connected components.

4. Operating Modes

The HJ Digital RC Servo Tester features three operating modes and adjustable pulse width frequencies. Use the 'Select' button to cycle through the modes and the 'Pulse Width' button to change frequency settings.

Operating Modes:

- **S-1 Manual Mode:** In this mode, you manually adjust the servo's position using the rotary potentiometer. The digital display shows the current pulse width in microseconds.
- **S-2 Neutral Mode:** This mode sets the servo to its neutral (center) position, typically 1500 microseconds. This is useful for initial setup and calibration.
- **S-3 Automatic Mode:** The tester automatically sweeps the servo through its full range of motion (from minimum to maximum pulse width) repeatedly. This is useful for endurance testing or observing servo behavior across its travel.

Pulse Width Frequency Settings:

Press the 'Pulse Width' button to cycle through the following frequency settings:

- **50H (50Hz):** Analog servo signal cycle of 20 microseconds. This is the standard frequency for most analog servos.
- **125H (125Hz):** Digital servo signal cycle of 8 microseconds. Suitable for some digital servos.
- **250H (250Hz):** Digital servo signal cycle of 4 microseconds. Designed for high-speed digital servos.

5. Usage and Testing

The servo tester simplifies the process of checking servo and ESC functionality. Here are common use cases:

Testing Servo Travel and Centering:

Connect a servo to one of the output channels. Power on the tester. Use the 'Select' button to choose 'Manual Mode' (S-1) or 'Neutral Mode' (S-2). In Manual Mode, rotate the potentiometer to observe the servo's movement and verify its full range. In Neutral Mode, confirm the servo returns to its center position accurately.

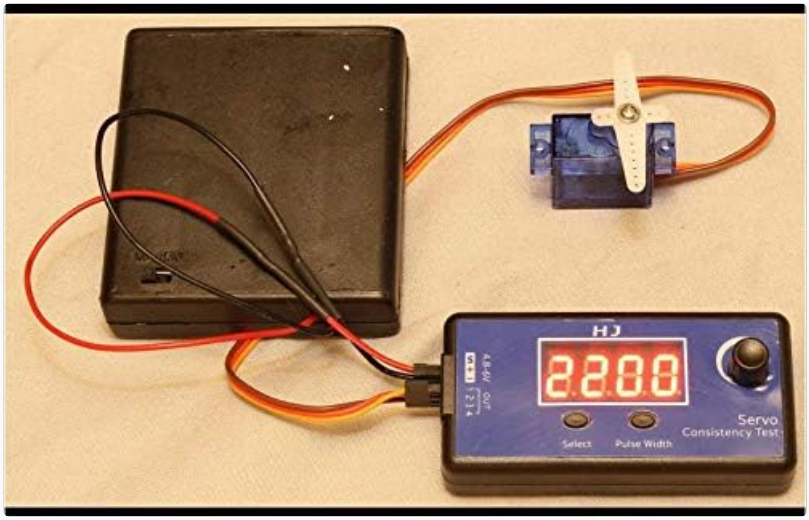


Figure 3: A typical setup showing the HJ Digital RC Servo Tester powered by a battery pack and connected to a servo for testing.

Consistency and Speed Testing:

For consistency and speed checks, especially with multiple servos, connect up to four servos to the output channels. Switch to 'Automatic Mode' (S-3) to observe synchronized movement and identify any lagging or inconsistent servos. Adjust the pulse width frequency using the 'Pulse Width' button to test performance under different signal conditions.



Figure 4: The servo tester connected to an oscilloscope, demonstrating its accuracy in generating pulse width modulation signals for advanced testing and analysis.

Official Product Videos:

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Video 1: DIYmall HJ Digital RC Servo Tester (0:18). This video demonstrates the basic functionality and operation of the servo tester.

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Video 2: DIYmall HJ Digital Servo Tester (0:43). A more detailed demonstration of the servo tester's features and how to use it with a servo.

6. Specifications

Feature	Detail
Brand	DIYmall
Model	T0080
Power Source	Battery Powered
Color	Blue + Black
Item Weight	0.03 Kilograms
Min. Operating Voltage	4.8 Volts
Measurement Type	Microseconds (us)
Output Signal Width	800~2200us

7. Troubleshooting

- **No Power/Display Off:** Ensure the power source is connected correctly (4.8V-6V DC) and the polarity is correct. Check for loose connections.
- **Servo Not Responding:** Verify the servo is correctly connected to an output channel with the correct polarity (Signal, Positive, Negative). Ensure the servo is compatible with the selected pulse width frequency (50H, 125H, or 250H).
- **Inconsistent Servo Movement:** This could indicate a faulty servo or an issue with the power supply. Test with a known good servo or power source. Ensure the selected pulse width frequency is appropriate for your servo type.
- **Unclear Instructions:** If the provided instructions are unclear, refer to online resources or product videos for visual guidance on connections and operation.

8. Warranty and Support

For any product defects or operational issues, please contact DIYmall customer support. While specific warranty details are not provided, the manufacturer has been known to offer replacements for faulty units. Keep your purchase receipt for any warranty claims.
You can typically find support contact information on the DIYmall official website or through the retailer where the product was purchased.

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