Blue Point Engineering

Instruction I

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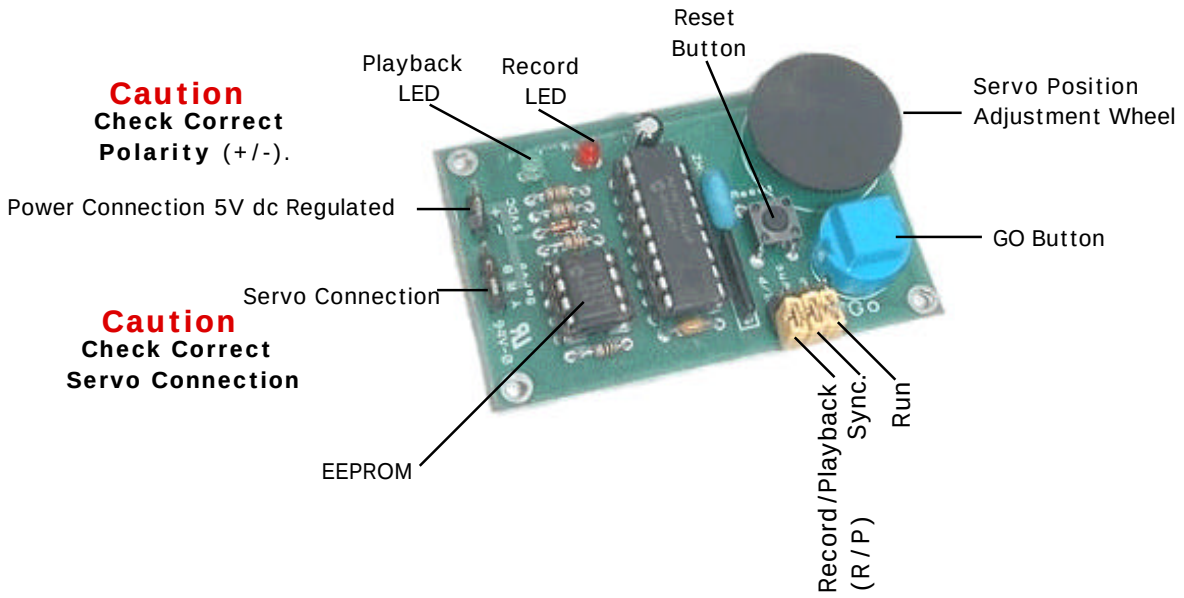
Pointing the Way to Solutions!

Puppet Board

Controller

(PCA-0010)

Puppet Board



The **Puppet Board** is a single (1) channel servo controller capable of recording up to 4 minutes of servo movement. Features include loop playback of recorded action with variable delay between loops, synchronized playback of several modules and the ability to build up a full recorded session in several recordings.

Power Connector- The Puppet Board requires a **regulated + 5 Volts DC** Power Supply to operate. **Note:** Observe the **correct power connector polarity** or damage may be caused to the Puppet Board and/or any connected servo. (Header pins on board allow for power connector).

Servo Connector- standard servo connector. (Yellow /or White, Red, Black -3 Pin Header)
Note: Observe the **correct servo connector polarity** or damage may be caused to the Puppet Board and/or any connected servo. On some servos white is used in place of yellow as the signal control line.

Go - Press to start either **Recording** or **Playback** depending on the currently selected pin jumper mode set on the puppet controller board. (R/P Pin Set)

Record LED- **Red** LED flashes when waiting to start recording and is on continuously during the recording sessions.

Playback LED- **Green** LED indicates playback in operation. Flashes during the delay period for loop playback operation settings. (also indicates the servo position, during recording add ons).

R/P Pins - (**R**ecord **/P**layback**) Jumper**- Jumper **IN** to select **RECORD** mode, jumper **OUT** to select **PLAYBACK** mode.

Sync Pins - Synchronizing pulse and ground connection for multiple module operation. Delivers a short negative pulse at the start of playback and record which may be used to trigger other Puppet Boards or modules connected together.

Go Pins- Jumper position that may be used in place of the Go! button. Insert the jumper(**IN**) for automatic playback looping mode. (Position Adjustment Control sets the delay time).

Reset Button - Reset the Puppet Board. The only way to interrupt a playback session or enable recording from the beginning of data space with the power connected. (Insert Jumper **R / P** (**IN**), Power on board, press the reset button).

Position Adjust Wheel - When in pause or recording mode, adjusts the position of the servo. Note that the controller generates signals to allow extended range servo operation- not all servos will physically move this amount so take care not to damage your servo by driving it into the end-stops for extended periods. In looping playback mode, the Position Adjust control adjusts the delay between successive playbacks, adjustable between 1 (counter clockwise) and 55 seconds (fully clockwise).

Recording

Starting a new recording:

- Connect a servo and suitable **regulated +5 Vdc power supply** to the puppet controller.
- Insert the **R / P** (**IN**) jumper, and turn **ON** the power- the **Red** LED will start flashing.
- Move the servo to the required start position (Potentiometer wheel adjustment).
- Press and **HOLD** the **Go** button to record all subsequent movements of the servo.
- Move the servo to the required positions needed. (Potentiometer wheel adjustment).
- Release the **Go** button, Releasing the Go button will suspend recording and hold the servo in the last recorded position-(the controller is now in **pause mode**) **You have two options at this point**. (**1**) Remove the **R / P** jumper to exit recording mode, **or** (**2**) press Go to continue with the recording session. (This feature adds existing recording session, see adding to recording below)

The total recording time available is approximately 4 minutes - the **Red** and **Green** LED's will flash when only 15 seconds of recording time remain.

Playback

- Remove the **R / P** (**R**ecord /**P**layback) jumper (**OUT**).
- Turn the Power **ON** to the Puppet controller.
- Press the Go button to playback, the controller will continue to play to the end of the recording. At the end of the playback, the module waits for the Go button to be pressed to start again. If the Go jumper is **IN**, the module assumes looping playback has been selected and will wait for a period of delay based on the position of the Position Adjustment Control wheel before beginning the next cycle automatically.

Note: The Servo arm may move to the new position set of the Position Adjustment Control, before restarting, when moving the Position Adjustment Control wheel after recording. Be sure to set the last position of the servo, if you are using the Looping playback option.

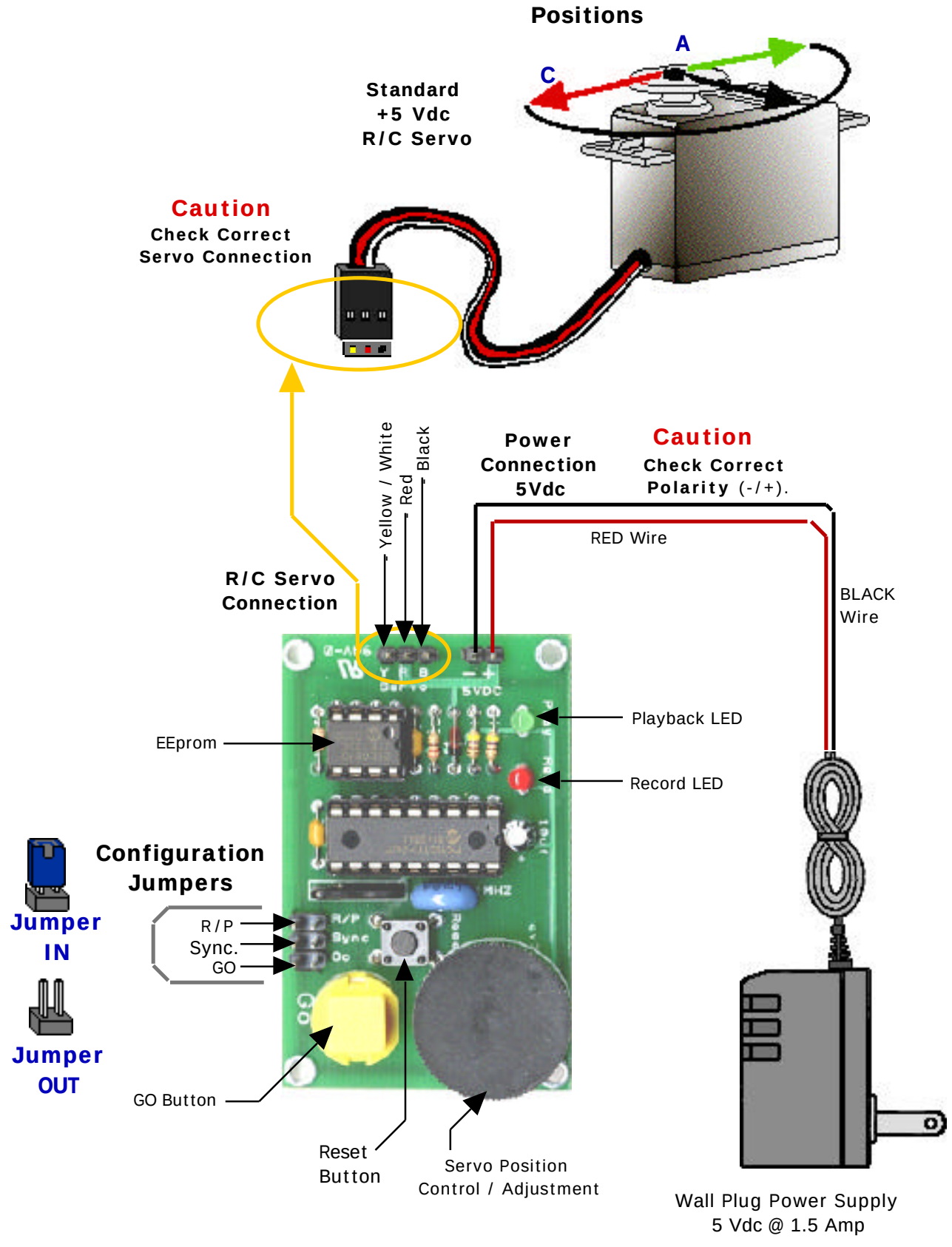
Adding to an existing recording session:

If you have removed the power supply or pressed Reset since your original recording was made then you must playback the existing session first otherwise you will enable recording at the start of the memory space and overwrite your existing session.

- Insert the RECORD jumper- the servo will automatically move to the last recorded position.
- Carefully rotate the servo position potentiometer until the **Green** LED lights- this indicates the servo position potentiometer and the current servo position are aligned so there will be no servo jitter between recording sessions.
- Press and hold Go to continue recording – the recording will be appended to the original session.

Note: If you wish to shorten a previous recording session- insert the RECORD jumper (**IN**) during playback at the point you wish to edit from. The Puppet Board will cease playback, go into Record mode, and wait for the **Red** LED flashing until you press the Go button.

Puppet Board Setup



Optional Battery Operation
Remote Application

Caution
Check Correct Polarity (-/+).

POWER

RED Wire

BLACK Wire

- Vdc

+ Vdc

7.0 -9.0 Vdc
2 Amp

+5 Vdc @ 1.5 Amp
Voltage Regulator

POWER

Battery Cells

Fuse

Battery Clip Connector

GO Jumper Pins

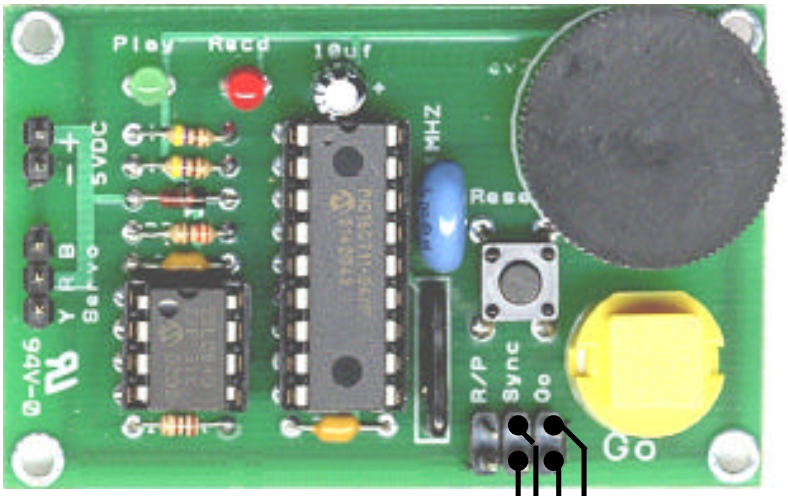
Remote GO Switch

Push Button (Momentary)

Remote Activation of the Puppet Controller

Synchronized Playback

Master Puppet No. 1



Remote GO Switch

Push Button (Momentary)

Slave Puppet No. 2