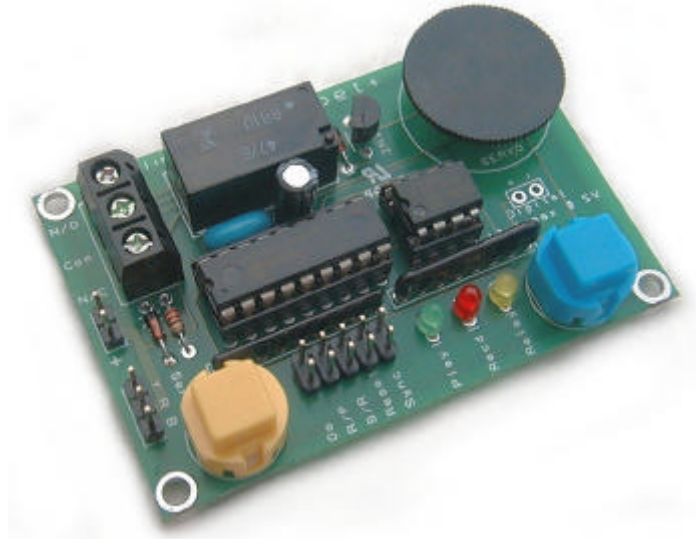


Puppet+ Board (Part #1-918)



The Puppet + board provides up to 4 minutes of recording and playback time for one servo channel and one digital (relay) output channel. The board supports sequential recording facilities, daisy chaining and loop play with variable inter-loop timing and automatic start-up positioning.

Connections

Power Supply Header

The module requires +5V DC at currents up to 0.5 amps depending on servo used.

Servo Header

Standard 3-pin header to connect to standard servos- observe polarity.

The module generates pcm signals between 0.5 and 2.5msec long repeated every 20msecs. Note that most servos are generally only rated for 1-2msec pulses so care should be taken at the extreme ends of the travel to ensure the motor is not damaged.

3-Way Terminal Block

Switched relay outputs. The relay is rated at 30V DC @ 1 Amp

Controls

Go Switch

Press and release to record the servo and digital actions.

Press and release to initiate playback

R/P

Selects either record mode (jumper in place) or playback mode (jumper out).

S/R

Selects either loop play (jumper out) or single shot play (jumper in).

Reset

Resets the module. Briefly short the Reset pin pair to reset the controller

Sync

Used for daisy-chaining multiple modules- connect subsidiary module Go pins to the sync output. Output normally high (+5V)- drops to 0V for 50msecs at the beginning of each playback or recording session.

Digital

Press to activate the relay either in standby or record modes.

Potentiometer

Adjusts the servo position during standby and when recording.

Adjusts the inter-loop delay period when loop play selected – the minimum delay period is approximately 5 secs

Operation

First recording-

Apply power to the module with only the S/R jumper in place- if all is well then the servo should respond to movement of the position control and the relay operate when the Digital switch is pressed.

Insert the R/P jumper- the red led will start to flash. The module is now ready to begin recording of the servo and digital channels

[Since this is the first recording since power was applied to the module, the recording will commence at the start of memory. For follow-on recordings please see below.]

Digital and servo movements are recorded together.

Press and release the GO button to record- - the red led stays lit. Adjust the servo position using the movement control and the digital by pressing the DIGITAL button. Press and release the GO button to pause the recording session- re-press to continue. In pause mode, the green led will light when the servo is in the last recorded position- this is a guide to ensure smooth splicing of subsequent recording sessions. If you move the position control the green led will extinguish and will only re-light when the servo is in the exact same position it was at the end of the previous session.

To exit recording mode, remove the R/P jumper whilst the module is paused (ie red led flashing)

Playback

Single shot playback:

Ensure only the S/R jumper is in place. Press and release the GO button to playback the recorded session.

At the end of the session, the servo will move to the position dictated by the position control.

Looping Playback:

Remove the S/R jumper (ie no jumpers in place)- the position control potentiometer will be read at the end of the session and the interloop delay time calculated from this value. The minimum period is approximately 5 secs, the maximum time approximately 50 seconds. At the end of the session, the servo will move smoothly to its start-up position to avoid sudden actions.

Follow-on Recording

Module still powered up after a previous session:

The module will remember the last saved position details- proceed as though starting a new recording except that with the red led flashing- adjust the servo position until the green led lights to ensure a smooth continuation of actions

Module newly powered up:

Playback the stored moves – this will load into the module the location of the last move. Proceed as per the standard follow-on recording above.

Existing session prematurely terminated:

Playback the stored moves. At the required termination point, insert the R/P jumper. This will stop playback and load into the module the position of the last move. Proceed as per a standard follow-on recording- recording will begin at the point playback was stopped.