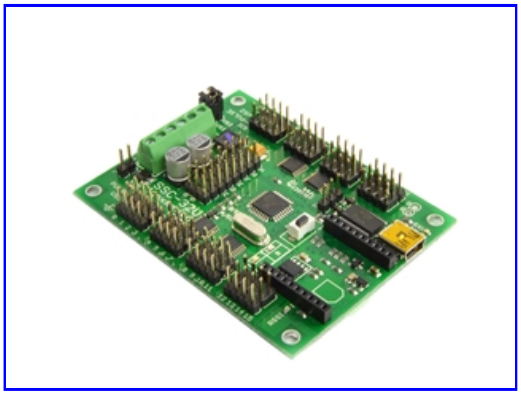

SSC-32U USB Servo Controller

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The long awaited update to the SSC-32 has arrived! This is one of the best dedicated servo controllers available and allows you to control up to 32 servo channels with 1uS resolution as well as access to 8 analog I/O. The SSC-32U includes bidirectional communication with query commands, synchronized, or "group" moves, a built-in 12 Servo Hexapod Gait Sequencer, improved power circuit and much more!

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User Guides

- SSC-32U User Guide

Specifications

- Firmware = 2.50USB
- Microcontroller = Atmel ATMEGA328P
- External EEPROM = 512 bit
- Internal Sequencer = 12 Servo Hexapod (Alternating Tripod)
- Serial input: USB, 3.3V Xbee, TTL UART, N81
- Baud speeds = 9600, 38.4k, and 115.2k select via button; (others via register configuration)
- RC PWM Outputs = 32 (Servo or TTL)
- Inputs = 8 analog I/O (10bit resolution, 6 Static or latching digital))
- PC interface = USB mini B (USB cable included)
- Microcontroller interface = 0.1" Headers
- Servo control = Up to 32 servos plug in directly
- Servo type supported = Futaba, Hitec and general 0.1" spaced 3-pin R/C
- Servo travel range = 0.5ms to 2.5ms (most RC servos travel 180°)
- Servo resolution = 1uS (~0.09° for 180 degree servos, if servo permits)
- Servo speed resolution = 1uS / Second
- Servo motion control = Immediate, Timed, Speed or Synchronized.
- PC board size = 3.0" x 2.3" (mounting holes set 0.15" from each edge)
- Logic power: Auto select between VS1 and VL
- VS peak current = max 15 amps per side
- VS steady current = max 3-5 amps per side recommended

Information

The SSC-32U USB servo controller is a dedicated RC servo controller with some big features. It has high resolution (1uS) for accurate positioning, and extremely smooth moves. The range is 0.50mS to 2.50mS for a range of about 180° (for most R/C servos). There are also 8 separate analog input pins which allow you to query sensor values. There are three terminal blocks for powering options, though in contrast to the previous SSC-32, for most applications when powering the SSC-32U from a 6 supply, VL does not need its own power supply. The logic circuits have large capacitors to protect against brownouts, as well as auto power select so the VL=VS jumper isn't needed in most situations.

The motion control can be immediate response, speed controlled, timed motion, or a combination. A unique "group move" allows any combination of servos to begin and end motion at the same time, even if the servos have to move different distances. This is a very powerful feature for creating complex walking gaits for multi-servo walking robots. The servo's position or movement can be queried to provide feedback to the host computer.

In addition to being an advanced but easy to use servo controller with plenty of I/O, there is even a 12 servo Hexapod sequencer built in; this allows complete control of all aspects of the alternating tripod gait simply by transferring a few values from the host controller. The board has pins for communicating with other boards such as microcontrollers (like Arduino), as well as XBee headers. These XBee headers allow you to use the SSC-32U with wireless XBee modules, or Bluetooth / RF / WiFi modules which have an XBee footprint.

The SSC-32 Servo Controller board can be easily controlled with the free SSC-32 Servo Sequencer Utility. It is available as a free downloadable utility which makes it easy to experiment with robotics and animatronics. This utility is an example of the

type of program which can be built using FlowBotics Studio (also directly compatible with the SSC-32U), which includes this program as an open source demo project. The SSC-32 Servo Sequencer Utility program enables you to easily move servo motors, calibrate their position, store and playback motion sequences, upgrade the SSC-32 firmware and more.

Downloads

The SSC-32 Servo Sequencer Utility is available here.