



SQ-2300 Drive Electronics

Bench top controller for SQUIGGLE motors

Compact bench top drivers generate the ultrasonic signals that drive the piezoelectric devices in SQUIGGLE motors and closed-loop stages.

Each SQ-2300 controller drives one motor. Multiple SQ-2300 controllers can be driven simultaneously from a single computer screen using the software provided. Alternatively, the SQ-2306 drives up to six motors in multiplexed sequence for multi-axis, "set-and-hold" positioning.

When used with a bench top controller, each SQUIGGLE motor has a "smart" connector that stores the motor's optimum drive parameters. These parameters are downloaded to the controller.

The controller sends drive signals to the motor based on the input you provide from a PC, analog input, or manual handset. The controller can also accept input from position sensors for closed-loop motion control.

Control the SQUIGGLE motor's motion using one of these methods:

- **Computer control** – connect the drive electronics to your PC through a USB port or hub. The new **ActiveX command library** makes operation easier than ever: Call ActiveX commands from the New Scale application or third-party software such as LabVIEW. Or build custom scripts using the intuitive scripting interface.
- **Analog control** – a 0 volt to 3.3 volt input command corresponds to +/- the maximum velocity.
- **Manual control** – use the optional handset.

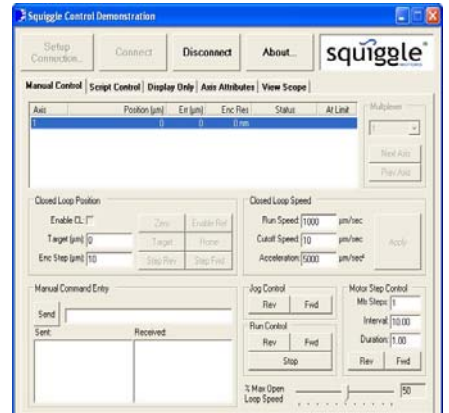
Drive Electronics Specifications

Drivers	SQ-2300	SQ-2306
Number of Motors	One	Six
Input Power	12 or 24 Volts @ 500 mA. AC wall adapter provided.	
Typical Current	< 200 mA	
Output Voltage	~ 200 V RMS	
Electrical On/Off Time	0.100 ms	
Speed Control (Selectable)	PWM duty cycle adjust (motor rapidly turns on/off) OR changing output voltage	
Computer Control	USB with control software and ActiveX library	
Closed Loop Integration	Digital (quadrature RS-422) or Analog (0-3.3V) input	
Dimensions (l x w x h)	3.5" x 4.2" x 1.6"	5.5" x 6.0" x 2.6"

Handsets	SQ-2301 Single-Axis	SQ-2301M Multi-Axis
Speed Control	Control knob: continuously variable from $\mu\text{m}/\text{sec.}$ to $\text{mm}/\text{sec.}$	
Direction	JOG FWD button: forward motion JOG REV button: reverse motion	
Motor Selection	Not applicable	AXIS button: toggle motors 1-6
Connection	RS-485 on SQ-2300 front	RS-485 on SQ-2306 front



SQ-2300 drive electronics with SQ-2301 manual handset.



Software provides point-and-click PC control via USB port. The **ActiveX** command library includes commands for open-loop and closed-loop operation.



SQ-2300 drive electronics (rear) with USB interface, motor, and power connections.



SQ-2306 controller drives up to six motors for multi-axis, "set and hold" positioning.

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