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Developer's Kits for
SQUIGGLE® RV Micro Motor,
NSD-2101 Driver and NSE-5310 Position Sensor

New Scale Technologies

FEATURES

- Easy push-button operation demonstrates forward and reverse motion
- Intuitive PC software facilitates detailed evaluation and system requirements definition
- Powered by two 3 V batteries

SYSTEM COMPONENTS

- **SQL-RV-1.8-6-12** SQUIGGLE RV motor
- **NSD-2101** motor drive IC
- **NSE-5310** position sensor (closed loop kits only)
- New Scale Pathway™ Software
- USB connector cable and user guides

Evaluate the world's smallest linear motor in an integrated motion system

This New Scale developer's kit allows engineers to evaluate a tiny, closed loop motion system reference design with integrated SQUIGGLE RV (reduced voltage) micro motor, NSD-2101 piezo motor driver and NSE-5310 position sensor. The kits demonstrate the performance of these tiny components – the smallest of their kind – in an integrated motion system.

Define system specifications for custom development

This developer's kit is designed to help engineers define system specifications for subsequent development of custom micro motion modules with New Scale Technologies.
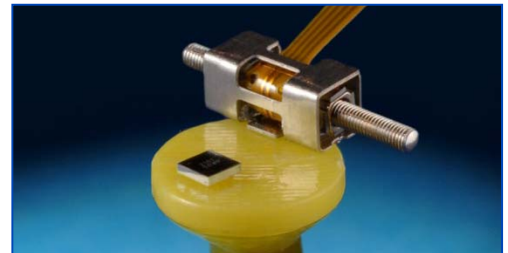
Integrated components

- **SQL-RV-1.8-6-12 SQUIGGLE® RV micro motor.** The world's smallest linear motor at 2.8 x 2.8 x 6 mm features 6 mm travel, 30 gram force stall force and 0.5 µm resolution.

- **NSD-2101 motor driver.** The drive IC generates ultrasonic signals to drive the SQUIGGLE motor and accepts feedback from the position sensor. It is integrated into the MC-3300-RV motor controller, which provides the USB interface to a PC.

- **NSD-5310 position sensor** (closed-loop kits only). Magnetic sensor array with on-chip digital encoding has 0.5 µm resolution with a size as small as 3.9 x 2.5 mm. The kit includes an 11mm magnet.

- **Mechanical reference design.** The SQUIGGLE RV motor (and NSE-5310 sensor in closed-loop kits) is integrated into a slide assembly demonstrating proper mounting, loading and alignment.
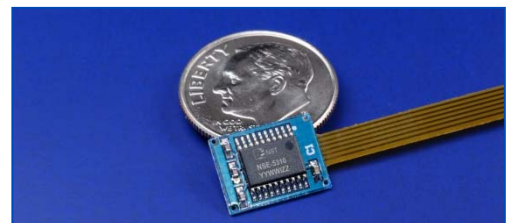
Also included is New Scale Pathway™ Software for Windows with USB connector, intuitive user interface and ActiveX command library that enable easy evaluation of the motor and position sensor. You can build custom programs using the intuitive scripting interface, and port the scripts and ActiveX commands to your embedded hardware.

Developer's kits demonstrate system performance of an integrated SQUIGGLE motor, NSD-2101 driver and NSE-5310 position sensor.
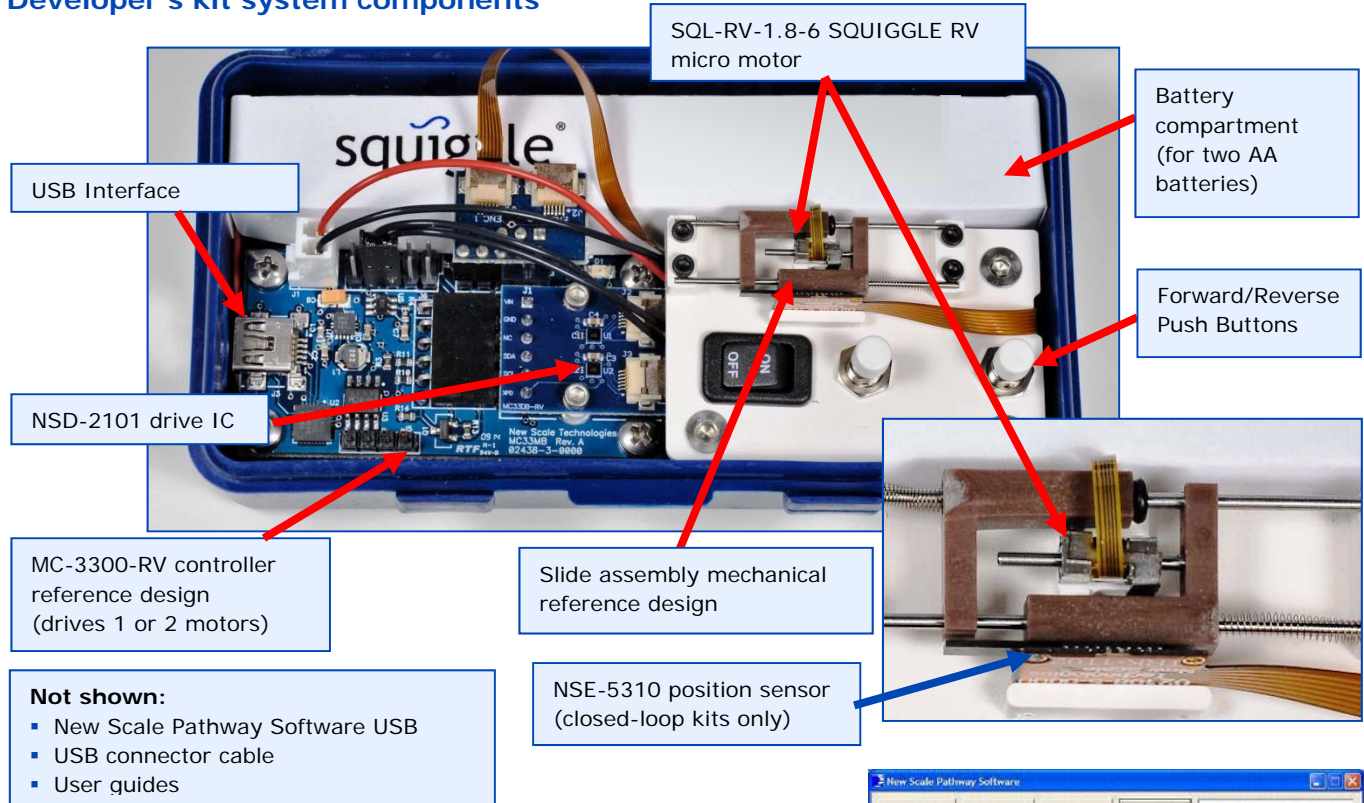

SQUIGGLE RV motor and driver – all kits integrate an SQL-RV-1.8 SQUIGGLE RV motor and NSD-2101 drive ASIC into a mechanical and electrical reference design.

NSE-5310 position sensor – closed-loop kits include an NSE-5310 sensor. Evaluate the sensor and/or the performance of a closed-loop SQUIGGLE motor system.
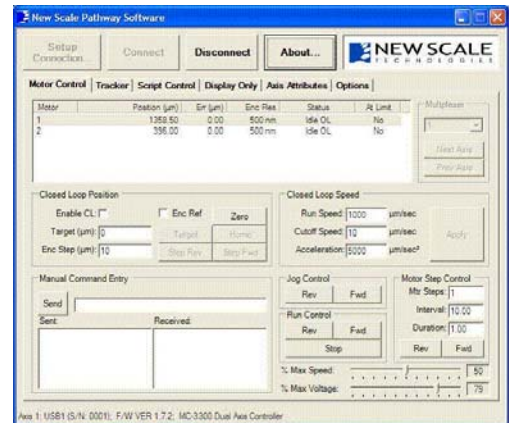
Developer's kit system components

SQL-RV-1.8-6 SQUIGGLE RV micro motor

USB Interface

Battery compartment (for two AA batteries)

NSD-2101 drive IC

Forward/Reverse Push Buttons

MC-3300-RV controller reference design (drives 1 or 2 motors)

Slide assembly mechanical reference design

NSE-5310 position sensor (closed-loop kits only)

Not shown:
- New Scale Pathway Software USB
- USB connector cable
- User guides

Ordering information

Developer's kits are available from distributors.

Next Step: Custom product development

New Scale integrates its motors, drivers, position sensors and micro mechanical assemblies into **small, precise and smart** motion systems that are tailored to your unique requirements and easily integrated into your next-generation instruments. Use the developer's kit to get a sense for what we can do with these components and our expertise in micro-mechatronic system design. Then contact New Scale to discuss your motion system needs.

New Scale Pathway™ Software is a flexible, sophisticated development tool with easy-to-use graphical user interface and intuitive scripting environment.

New Scale Part Number	Description
DK-RV-1.8-33	SQUIGGLE RV motor open-loop developer's kit: • one SQL-RV-1.8-6-12 SQUIGGLE RV motor mounted in a reference integration slide assembly • one battery-operated MC-3300-RV motor controller (incorporates the NSD-2101 driver) • USB connector cable • New Scale Pathway™ Software for Windows
DK-RV-1.8-TRK-33	SQUIGGLE RV motor closed-loop / NSE-5310 position sensor developer's kit: • one SQL-RV-1.8-6-12 SQUIGGLE RV motor mounted in reference integration slide assembly • one NSE-5310 position sensor and 11mm magnet • one battery-operated MC-3300-RV motor controller (incorporates the NSD-2101 driver) • USB connector cable • New Scale Pathway™ Software for Windows

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