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

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.

- **NSE-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 for SQUIGGLE® RV Reduced Voltage Micro Motor, NSD-2101 and NSE-5310 position sensor

**Developer’s kit system components**

- **NSD-2101 drive IC**
- **MC-3300-RV controller reference design** (drives 1 or 2 motors)
- **SQL-RV-1.8-6 SQUIGGLE RV micro motor**
- **NSE-5310 position sensor** (closed-loop kits only)
- **Not shown:**
  - New Scale Pathway Software CD
  - USB connector cable
  - User guides
- **Slide assembly mechanical reference design**
- **Battery compartment (for two AA batteries)**
- **Forward/Reverse Push Buttons**
- **USB Interface**

**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.

**Ordering information**

Developer’s kits are available from select distributors. See http://www.newscaletech.com/technology/motors-for-oem.php for contact information.

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>DK-RV-1.8-33</strong></td>
<td>SQUIGGLE RV motor open-loop developer’s kit:</td>
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<tr>
<td></td>
<td>- one SQL-RV-1.8-6-12 SQUIGGLE RV motor mounted in a reference integration slide assembly</td>
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<td>- one battery-operated MC-3300-RV motor controller (incorporates the NSD-2101 driver)</td>
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<td>- USB connector cable New Scale Pathway Software for Windows</td>
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<tr>
<td><strong>DK-RV-1.8-TRK-33</strong></td>
<td>SQUIGGLE RV motor closed-loop / NSE-5310 position sensor developer’s kit:</td>
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<tr>
<td></td>
<td>- one SQL-RV-1.8-6-12 SQUIGGLE RV motor mounted in reference integration slide assembly</td>
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<td>- one NSE-5310 position sensor and 11mm magnet</td>
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New Scale Pathway™ Software is a flexible, sophisticated development tool with easy-to-use graphical user interface and intuitive scripting environment.