

RS5 - Quick Start Guide

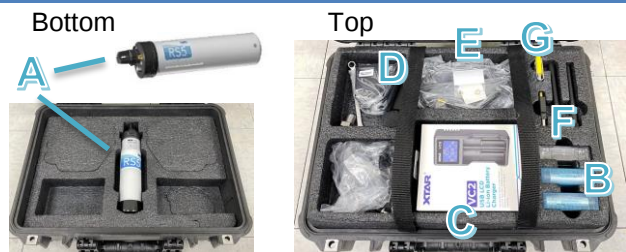
Getting started with the RS5 System



This is a quick reference guide to get started with the RS5 system. For more detailed information, refer to the User Manual which can be found on the USB drive included with the system or via the **Manual** button in the RSQ software. It is highly recommended that you review the manual. <Ctrl> + click on a section in the table of contents will take you directly to that section. Also, it is a PDF and easily searchable.

What's in the Case?

RS5 Standard System



RS5 Max GNSS System



Standard Components

A	RS5
B	Li-Ion rechargeable batteries
C	Li-Ion Battery Charger to USB
D	Charger adapter for wall outlet
E	Radio antenna extension cable
F	SonTek BLE5 Bluetooth dongle and (2) radio antenna
G	USB flashdrive, software and manual
Max DGNSS Components – added to standard list above	
H	DGNSS smart antenna with separate charger
I	RS5 to DGNSS antenna cable (DB9)

Max RTK Components – added to standard list above

J,K	RTK rover and base (with battery compartment) antenna
L,M	Puck and pole attachment for base station
N	RTK rover to RS5 cable
O	RTK rover bolt attachment for HB Micro boat
P	HB Micro GPS Stand Extension bracket for radio antenna
Q	GPS base station stand (optional)

Windows Software Installation

Install the RSQ software from the included USB drive or download and install from <https://www.sontek.com/software-downloads>

Getting Started – Hardware setup

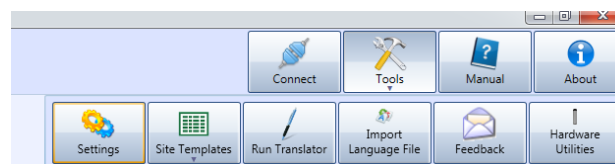
- Charge both included Lithium Ion batteries by connecting the battery charger to the AC/DC power supply via the USB connector.
- Install a charged battery into the RS5 with the positive terminal facing down into the compartment. LED light will start flashing white quickly then red to indicate system is powered on and in Stand-by mode ready for connection.
- Connect supplied antenna cable to radio antenna, and antenna cable to RS5 connector labeled with a Bluetooth icon.
- Mount radio antenna on antenna mast.
- If equipped with GNSS, mount GNSS antenna on antenna mast and then connect to RS5 using supplied RS5-GNSS cable.

If using Geode DGNSS antenna, be sure to charge the antenna separately and power it on by pressing the button. If using SonTek RTK, insert a separate RS5 battery into the base station (if used) and power it on by pressing the button.

- Connect USB radio to USB port; the light will start blinking green indicating the radio is powered and change to blinking blue once successfully connected to an RS5.

Getting Started – Software setup and connection

- Open RSQ software
- First time only –specify data directory to save measurements. Click on **Tools** icon and then choose **Settings**:



- Click on the [folder] icon to the right of the blank field **Data storage location** and choose where you want to save measurement files.

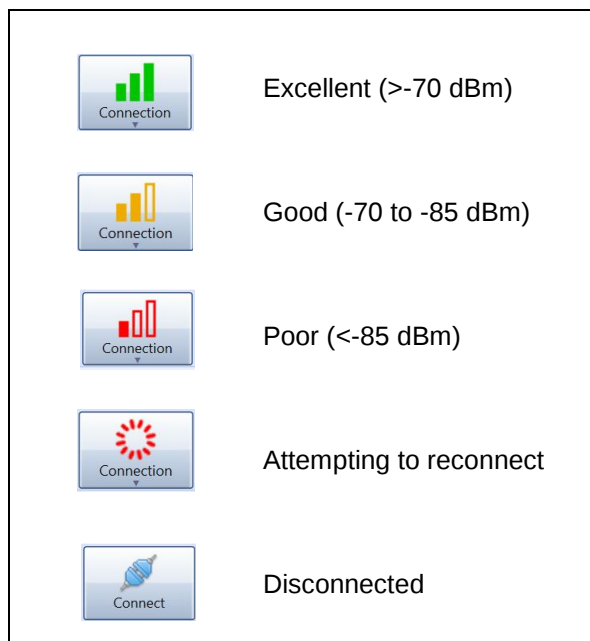
- Click on the **Connect** button



- Click **Connect** then enter your RS5 serial number in the format RS5#####. Example below:



- You are now connected. Bluetooth signal strength is indicated by the icon below. You can click on this icon while connected to see the connection health and RSSI (Received Signal Strength Indicator) measured in dBm, with the range of -20 to -85 dBm being the healthy range. The green bars also indicate the general strength and health of the connection



- Next, Click the **New Data Collection** button and choose **Moving Boat** or **Stationary**

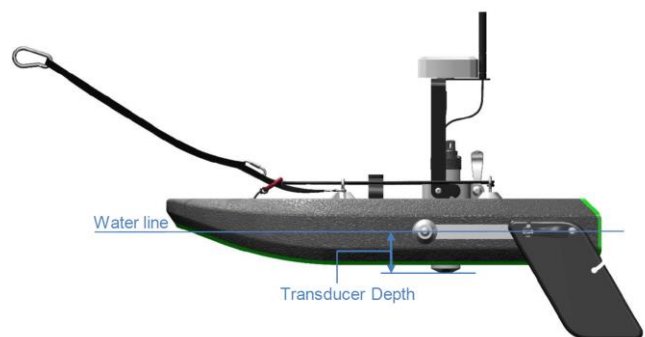


- Step through the Smart Page section by section to complete the configuration of your system and site information. Once complete you can save as a template so that you don't have to re-enter configuration and site data each time you visit the site.
- The system is now ready to be put in the water and make a measurement.

Important Considerations

- Setup the entire system: RS5, boat, cables, etc. exactly how you will use them during the measurement before performing the compass calibration. If you make changes to the system setup after the compass calibration, i.e., move the RS5 ADCP up or down in the clamp (a transducer depth change), you **MUST** recalibrate the compass.
- If using GNSS or the loop moving bed test method you **MUST** calibrate the system's compass **AND** enter the magnetic declination. It is good practice to always calibrate the compass. The magnetic declination for your site can be found here: <https://www.ngdc.noaa.gov/geomag/calculators/magcalc.shtml>. If accessed from your phone or if you allow your browser to access your location it will automatically find your magnetic declination. Otherwise, enter your latitude and longitude (lat/long) or a street address to find your lat/long.
- Transducer depth must be accurately measured and entered.** If incorrect, your discharge measurement will be biased either high or low, because the cross-sectional area will be calculated incorrectly. **Transducer depth** is defined as the distance that the vertical beam transducer is submerged below the water surface.

$$\text{Transducer depth} = \text{boat draft} + \text{RS5 extending below boat}$$



Technical Support

SonTek Technical Support is available 24 hours a day, 7 days a week.

Tel: +1-858-546-8327
 Fax: +1-858-546-8150

Email: support@sontek.com
 Web: www.sontek.com