RiverSurveyor - Quick Start Guide

Working with Bluetooth or Spread Spectrum Radio

SonTek
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This is a quick reference guide to get started with the Bluetooth or Spread Spectrum Radio communications with a RiverSurveyor ADP (**S5** or **M9)** system.

For more detailed information, refer to the User Manual which can be found on the software CD or via **Start | All Programs | SonTek Software** after installation.

What's in the Case?

There are two wireless communications options available for purchase with the SonTek RiverSurveyor system. The first option is the Spread Spectrum (SS) Radio communications and the second is the Bluetooth communications. Both options require the Power Communications Module (PCM) to be connected directly to the ADP. Note that SS Radio and Bluetooth components **cannot** be combined with one another.

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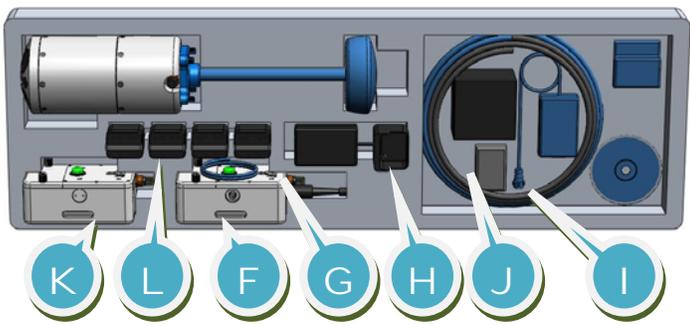
(Components shown in blue are described in other Quick Start Guides)

Spread Spectrum Radio Components	
F	Power Communications Module (PCM) – Spread Spectrum - with Dummy Plug and 8-Pin Power/Communication cable (1m)
G	Battery Pack for PCM (x2)
H	Battery Recharger
K	Spread Spectrum (SS) Base Station
L	Battery Packs for SS Base Station (x2)

Bluetooth Components	
F	Power Communications Module (PCM) – Bluetooth - with Dummy Plug and 8-Pin Power/Communication cable (1m)
G	Battery Pack for PCM (x2)
H	Battery Recharger
I	Parani Bluetooth dongle Kit
J	Mobile Phone and Lanyard

Measurement Tips when using the PCM

Prior to starting a measurement, please ensure:

- The dummy plug is inserted into the PCM.
- The connections on the PCM are secure by using the locking sleeves on the connectors.

Rechargeable Batteries

When fully charged, the NiMH rechargeable batteries have a working lifespan of over 5 hours of continuous use with the RiverSurveyor ADP.

Battery Lid

Battery Replacement
Unscrew the thumb screws on the battery lid of the box. The metal contacts on the rechargeable battery pack should be in contact with the metal springs in the battery compartment. Insert the battery pack and make sure the O-ring is clean and sealed. Close the lid and retighten the thumbscrews.

Battery Pack   Dummy Plug
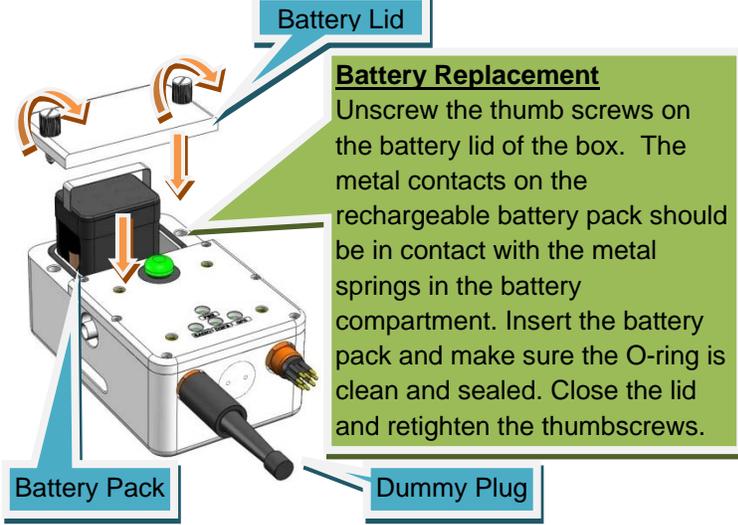
When recharging the batteries, please use the recharger provided with your system. Insert the battery pack into the charger and plug the charger into the wall. The light on the charger should be red while it is charging. A full charge will take about 1 hour or until the light turns green. A description of all of the possible light patterns can be found on the bottom of the charger.

Important Spread Spectrum Radio Facts

- The range is approximately 2 km (1.2 miles)
- Uses the SS Base Station for communications
- Uses the Windows software

SS Radio - Assembling the System

1. Insert the batteries into the PCM and the SS Base Station following the instructions above.
2. Connect one end of the Power/Communication cable to the ADP and the other end to the PCM.
3. The dummy plug must be connected to the PCM.
4. Connect the SS Base Station to the PC using the Serial Power/Communications cable
5. Press the two circular power buttons, one on top of the PCM and the other on the SS base Station. Both buttons will turn solid green.

Important Bluetooth Facts

- The range is approximately 60 m
- Uses the Windows software (for PC) or Mobile device
- For the Windows software, communications are using the Parani Bluetooth dongle or integrated Bluetooth in the PC. When using the Parani Bluetooth dongle and the Windows software, the Parani Bluetooth connection box must be checked.

- For the Mobile software communications are using the Mobile device.
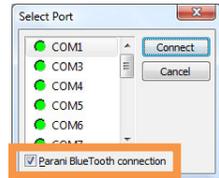
Bluetooth - Assembling the System

1. Insert the batteries following the instructions above.
2. Connect one end of the Power/Communication cable (F) to the ADP and the other end to the PCM.
3. The dummy plug must be connected to the PCM.
4. Press the circular power button on top of the PCM. The button will turn solid green.

Mobile Software Installation

Microsoft ActiveSync must be installed on the PC prior to installation of the Mobile software. Insert the RiverSurveyor Live CD-ROM into a PC. Click on the RiverSurveyor Live for Mobile instructions for information on how to install the mobile software.

Mobile Connection to the System

Please note that the Mobile Phone is a part of the Bluetooth PCM option. A Mobile Phone is not available for SS Radio systems.

Start the RiverSurveyor Live for mobile on the Mobile device. The software will automatically start searching for systems within range. Once connected, the software will display the Main Menu.

Pre-Measurement Tests

These tests should be run before any measurements to ensure the integrity of the system:

- Compass Calibration is necessary prior to all measurements and compensates for magnetic fields. In the **Utilities** menu in the software select **Compass Calibration**. Press the Start button and rotate the ADP through two complete rotations while varying pitch and roll.
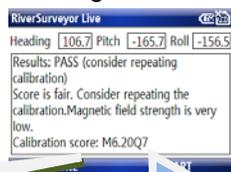
Magnetic Distortion (M) should be below 10. Keep your cell phone away from the system.

Calibration Score (Q) should be above 3

- In the **Utilities** menu, set the **System Time**
- In the **Download Recorder** menu, select **Download all files** and then **Format Recorder**.

Updating and Changing Settings

These settings are typically specific to the site and should be reviewed prior to starting a measurement.

Site Information
Enter all relevant information to the site and measurement. More information is better than less.
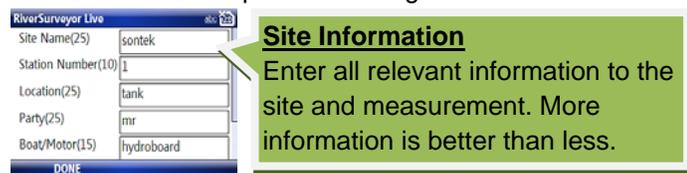
System Settings
Enter the depth of the vertical beam below the surface, Salinity and Magnetic Declination
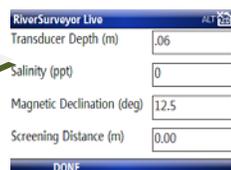
Status Icons

Icon	Description	Icon	Description
	Bluetooth connection		Depth
	Bottom-tracking		System
	RTK-GGA GPS		Battery
	VTG GPS		Data collection

Mobile Software Data Collection

To collect discharge data using the Mobile software:

1. Press the **Start** soft-key to start data collection, but note that this does not record any data. Instead it allows the data from the system to be viewed to make sure the system is operating correctly. Make sure that all indicators (shown at the top) are all valid (not red). Position the vessel at the start edge of the transect.
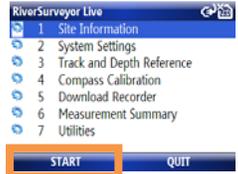
2. Press the **Start Edge** soft-key and collect at least 10 edge samples. Try to keep the vessel as stationary as possible during this time. Input the start edge information and press **OK**.
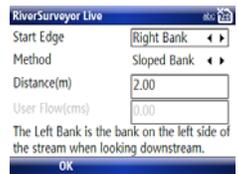
3. Press the **Start Moving** soft-key and the Transect window will be displayed. Try to keep the vessel speed and direction constant as you cross the river.

4. The data display can be changed at any time using the **1**, **2**, **3** or **4** numerical shortcuts or by pressing the **Menu** soft-key and selecting the desired view.

5. When the vessel reaches the end edge press the **End Edge** soft-key. Follow the same instructions as for the Start Edge (Step 2).
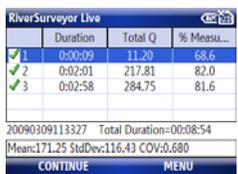
6. Press the **End Transect** soft-key upon completion of the end edge. This automatically opens the Discharge measurement Summary window to review all your measurements. To start a new measurement press the **Continue** soft-key and repeat steps 2 to 5 again or press the **Menu - Done** soft-key to stop.
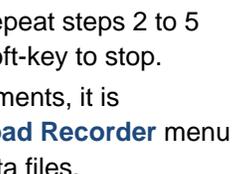
7. On completion of all your measurements, it is recommended to go to the **Download Recorder** menu and download all your collected data files.

Technical Support

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

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