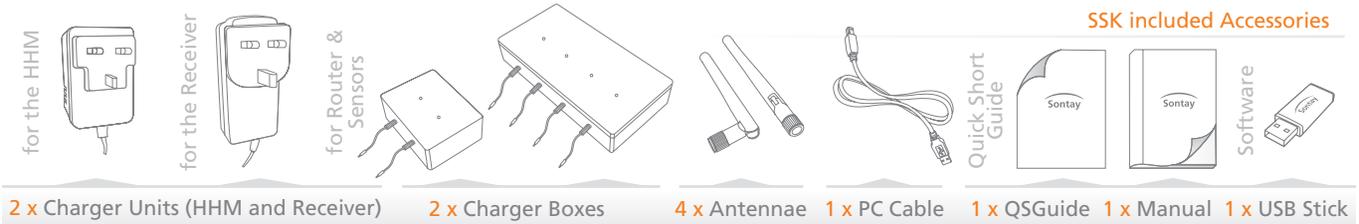
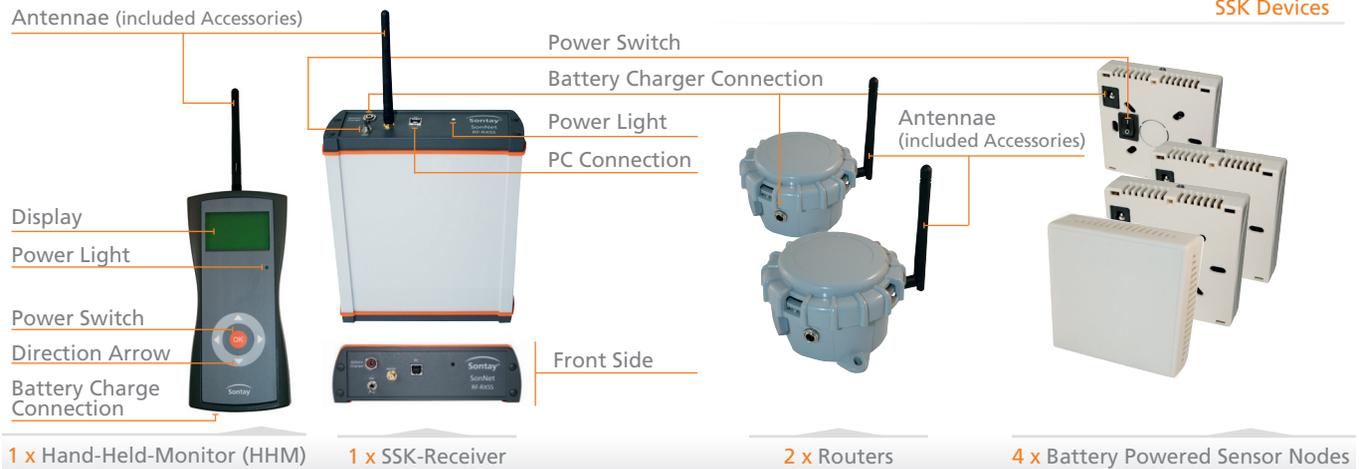


SonNet Wireless Sensing System

A Quick Start Guide for the Site Survey Kit (SSK)

Site Survey Kit (SSK) at a Glance



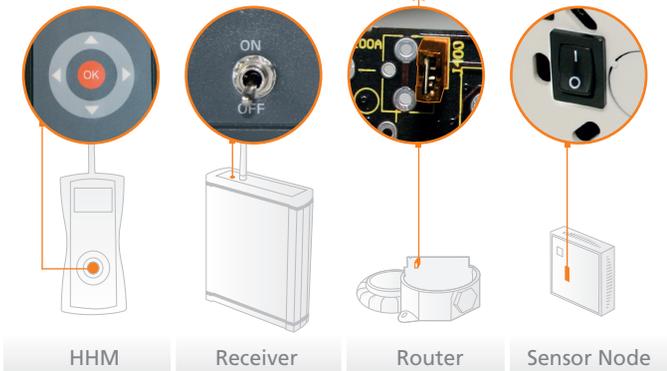
1 Charge your battery powered devices

The correct charger must be used for each SSK device!



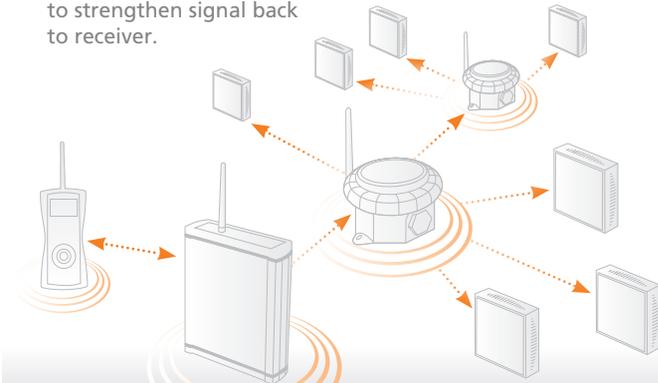
2 Switch on your devices

The router is switched on by placing the jumper!



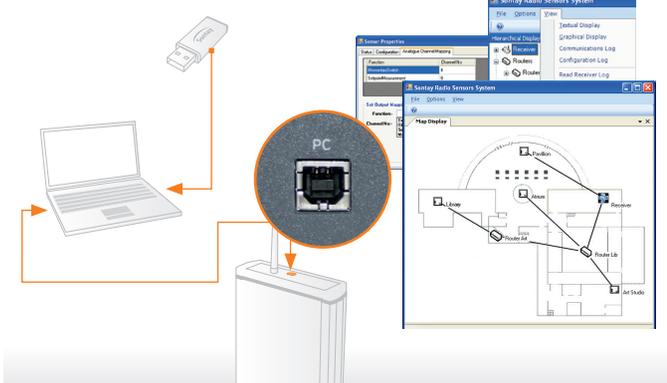
3 Place your devices around the building

Check signal strength on HHM. If marginal use a router to strengthen signal back to receiver.



4 Advanced: Install the CMS Software

The software is on the USB stick.



Warnings

- a) Note that the Sensor Nodes and Routers in the SSK use rechargeable batteries for convenience on site. Always charge all SSK Devices with the correct charger.
- b) There is a maximum limit of 16 "children" allowed per Router. That includes other Routers and as well as battery powered Sensor Nodes.
- c) SSK Nodes are fitted with a thermistor temperature element, and will report temperature and battery status to the HHM (or CMS). SSK Routers are not fitted with temperature sensing elements, and will only report link qualities and battery status.
- d) Batteries will be damaged if not charged by the correct charger. All batteries must be disposed of in accordance with EC Directive 2006/66/EC, amended by EU Directive 2008/12/EC.

SonNet Wireless Sensing System

A Quick Start Guide for the Site Survey Kit (SSK)

Site Survey Kit (SSK) at a Glance

The Sontay® SonNet Site Survey Kit (SSK) is designed to make the planning and installation of a SonNet radio sensor system simple and quick and to take the guesswork out of the radio communications aspect of the network.

The **SSK receiver** should be placed where the actual RS-RX system receiver will be installed (typically in a plant room or riser).

The **hand-held monitor (HHM)** communicates with the SSK receiver (via a router, if necessary), and the LCD display shows which nodes are on-line and the quality of the radio link to their "parent" devices.

Follow the **step-by-step** guide to determine where to position the receiver, any necessary routers, and to test that all sensor nodes can communicate with the receiver reliably when installed.

Powering Up SSK Devices

1. To power an SSK node, flick the switch on back to "1". To switch off flick to "0".
2. To power an SSK router, the battery must be connected and the jumper J400 must be fitted. To switch off, remove J400.
3. To switch on the HHM, press and hold the OK key for approximately 2 seconds. To switch off, press and hold the OK key for at least 2 seconds.
4. To power the SSK receiver, turn the On/Off switch on the housing cover so that it points downwards towards the charging socket. To switch off, turn the On/Off switch on the housing cover so that it points upwards away from the charging socket.

Using the SSK with SonNet Configuration & Monitoring Software (CMS)

Although not necessary to undertake a site survey, the CMS can be used with the SSK if required. After installing the CMS (see user manual), connect the SSK receiver to a free USB port on the PC.

After the drivers are installed, the CMS can be used to textually and graphically display the SSK network.

Using the HHM

The HHM displays all on-line routers and sensors on the radio system. Switch on the HHM. After initialisation, the LCD will display a list of devices which are connected directly to the receiver, together with link quality. Where a listed device is a router, to the right of that device will be a number which denotes the number of "children" the device has.

To get further information about a device, use the Up/Down arrow keys to select that device, then press the right arrow key to view more detailed information.

To display the MAC address and firmware revision number, use the right arrow key to select "more" then press the OK key. To go back to the main device list, use the Up/Down arrow keys to select "back", then press the OK key.

To place a device in verification mode, select the device from the list by using the Up/Down arrow keys, then press the right arrow key. Using the Up/Down arrow keys to select "verify", then press the OK key. The device will go off-line for a few seconds, before rejoining the network in verification mode.

Switch off the HHM when finished.

Step by step guide to performing a site survey

1. Ensure that the SSK receiver, HHM, and special battery powered SSK routers and nodes are fully charged. Always use the correct chargers provided for each device. Batteries will be damaged if not charged by the correct charger.
2. Place the SSK receiver where the system receiver will be placed, ensuring that the aerial is aligned vertically if possible.
3. Switch on the SSK receiver.
4. Switch on the HHM. After a brief period, the LCD display will show the HHM in the device list.
5. Place the battery powered sensor nodes where required by the site specification, taking care to ensure that the sensors are not placed:
 - In direct sunlight or near a source of heat
 - On a cold or hot outside wall, where conducted or radiant heat may affect the accuracy
 - Behind any obstruction likely to impede the radio signal (for example, a filing cabinet)
6. Using the HHM, observe whether each battery powered sensor node has communication back to the SSK receiver. If it does, observe the quality of the link, shown on the LCD display.
 - a. If the link quality is shown as good or v. good, no router is required for this node. Go to step 7.
 - b. If there is no communication, or the link quality is shown as marginal to the SSK receiver, you will need to position a router between the node and the receiver.
 - c. In this case, position a router between the node and receiver in a convenient location, remembering that a system router in the final installation will require a permanent 24V supply.
 - d. Observe the HHM again. The new router should be registered on the HHM.
 - e. Using the HHM, observe the link quality for the new router to the receiver. If the link is shown as good or v. good, proceed to step 6f. If the link quality is shown as marginal, select the new router and then navigate to "Verification" on the HHM menu.

Press the OK key to force the new router into verification mode. The node will go off-line for a short period, then rejoin in verification mode. The router will now try to find a better communications path back to the receiver via another router, if there is one already installed.

Note the link quality and the position of the router. It is recommended that a drawing or floor plan be used to mark device positions.
 - f. Using the HHM, select the node and then navigate to "Verification" on the HHM menu. Press the OK key to force the new router into verification mode. The node will go offline for a short period, then rejoin in verification mode. Note the link quality and the exact position of the router.
 - g. Where a router or node has been placed into verification mode, it must be returned to normal operating mode by resetting or power cycling prior to moving to step 7. If left unattended for more than 5 minutes, a router or node placed into verification mode will automatically return to normal mode.
7. Continue placing battery powered sensor nodes (and routers if required), until battery powered sensor nodes have been tested at the required points, good quality links are shown for all devices on the HHM, and complete coverage is demonstrated.