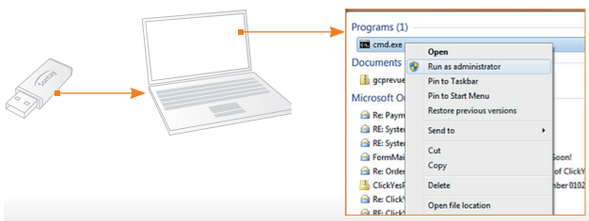
SonNet Wireless Sensing System

A Quick Start Guide for SonNet Radio System

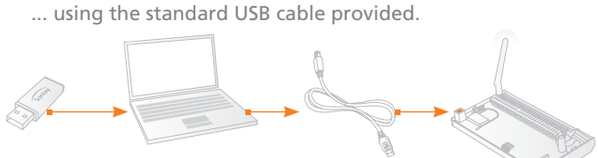
1 Install Configuration and Monitoring Software (CMS)

... onto a PC or laptop computer. Please see page 19 of full User Manual for detailed instructions.



2 Connect the receiver to the PC and start the CMS

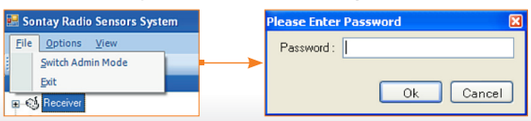
... using the standard USB cable provided.



... start the CMS applicaton by clicking the icon on the deskop.

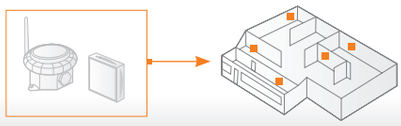
3 Log on at administrator level

... by clicking <File> then <Switch Admin Mode>. The default password is "admin". System: Windows 7.



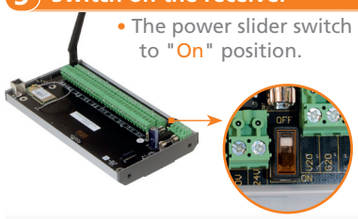
4 Mount all routers, sensors and the receiver

... in accordance with the plan made using the Site Survey Kit. Note the MAC address of each device.



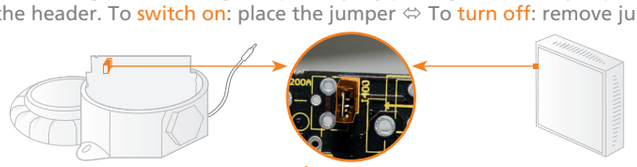
5 Switch on the receiver

- The power slider switch to "On" position.



6 Power up all 24V routers and battery sensor nodes

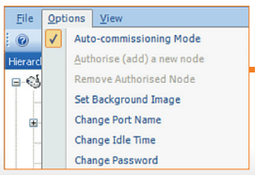
... after first checking power wiring and polarity, by placing the power jumper across both pins of the header. To switch on: place the jumper ⇔ To turn off: remove jumper.



First Step: 24V wired Routers — Jumper on the bord — Second Step: Sensor Nodes

7 Authorisation of the devices

... by clicking <Options> then <Auto Comissioning Mode> where devices can be automatically authorised.

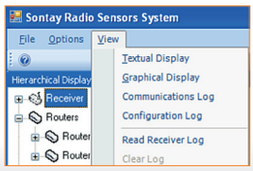


Wait 15 minutes ... for the network to form

... Do not click anything whilst this is happening.

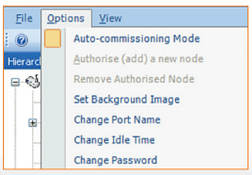
8 View a list of all devices

... by clicking <View> and <Textual Display> to show a list of devices with expandable information.



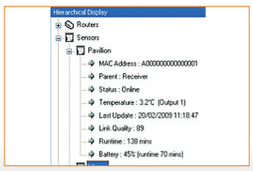
9 Turn off Auto Commision Mode

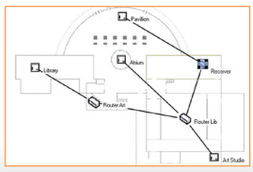
- When network is formed turn off Auto Commision Mode by clicking <Options> and <Auto Commisioning Mode> and make sure tick is removed.

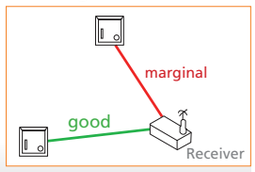


10 Organise the devices in a graphical view

- To show a graphical view of all devices click <View> and <Map Display>.
- A floor plan can be selected here for the display. Now the devices can be dragged and dropped into the correct position on the floor plan. The links are automatically drawn between the devices.
- The link quality is shown in colour with green for good and red for marginal.

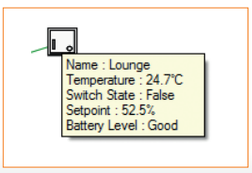






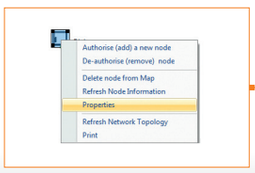
11 See a summary off a device

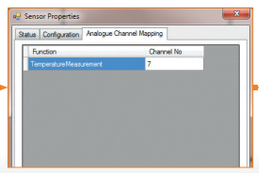
- Hover the mouse over the device to see a quick summary of the parameters.

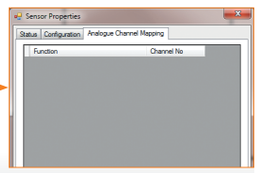


12 To map a sensor parameter to a receiver

- To map a sensor parameter to a receiver output channel, right click on the device, select <Properties> from the menu, then select the <Analogue Channel Mapping> tap.
- Select a function (such as temperature or setpoint) to map, and then select the receiver output to map to. Click the <Set Analogue Mapping> button to complete.







SonNet Wireless Sensing System

A Quick Start Guide for SonNet Radio System

At a Glance

The Sontay® SonNet Radio Sensor System consists of a combination of:

- **RS-RX** receiver (20 or 40 outputs)
- **RS-TB** battery powered temperature sensors (nodes)
- **RS-RB** battery powered RH&T sensors (nodes)
- **RS-TP500** routers
- **RS-TP** routers with temperature sensors
- **RS-RP** routers with RH&T sensors

The temperature sensors are available in the same formats are conventional Sontay® range, including:

- Space mount, including setpoint and momentary switch options
- Duct mount
- Immersion
- Outside air (with or without solar radiation shield)
- Strap-on
- Flying lead

The RH&T sensors are available in the same formats are conventional Sontay® range, including:

- Space mount, including setpoint and momentary switch options
- Duct mount
- Wall mount
- Outside air

Batteries

Note that battery powered nodes use Lithium-Thionyl Chloride batteries and are non-rechargeable.

Do not recharge, short-circuit, crush, disassemble, heat above 100°C (212°F), incinerate, or expose the battery contents to water.

Do not solder directly to the cell. Lithium-Thionyl Chloride batteries should be stored in a clean, cool (not exceeding +30°C), dry and ventilated area.

Space mounting battery powered sensors use AA size types, while plant mounting battery powered sensors use 2/3 A size Lithium Thionyl Chloride types. The receiver and routers require a permanent 24V supply.

Disposal of Batteries - Warning! Fire, Explosion and Burn Hazard. All batteries must be disposed of in accordance with EC Directive 2006/66/EC, amended by EU Directive 2008/12/EC.

A combination of up to 70 routers and nodes can be used to form the radio network. Where a router is used to extend the communications range of a battery powered node, that node becomes the router's 'child'. A router can support up to 16 'children', and a router with children can itself be a child of another router.

The installation of the SonNet system can be planned and verified using the Site Survey Kit (see the SSK Quick Start Guide).

Installation

Refer to product datasheets for full technical specifications and installation notes.

Sensors, whether battery powered or 24V router types, have configurable parameters to optimise system operation. These are:

- Measurement interval
- Significant change of value for;
- Temperature
- RH
- Setpoint level
- Label (10 character limit)
- Receiver output channel mapping

Receivers, and routers without sensor features, have no configurable parameters apart from labels.

Step by step guide to install the SonNet Radio System

1. Install the Configuration and Monitoring Software (CMS) on to a PC or laptop. The PC connects directly to the receiver via a standard USB 2.0 interface.
2. Connect the receiver to the PC running CMS using a standard USB cable. Start the CMS application by clicking the desktop icon.
3. Log on at administrator level by clicking <File> then <Switch Admin Mode> (default password is admin).
4. Mount all routers, battery powered nodes and the receiver in accordance with the plan made using the SSK. Note the MAC address of each device.
5. Switch on the receiver by setting the power slider switch to the ON position.
   - To power the system receiver, slide the On/Off switch on the PCB to the ON position (towards the edge of the PCB). To power the system receiver, slide the On/Off switch on the PCB to the OFF position (away from the edge of the PCB).
6. Power up all routers, after first checking power wiring and polarity, by placing the power jumper across both pins of the header.
   - To power a 24V powered router (space mount or plant housing mount, jumper J200 must be fitted. To switch off, remove J200.
   - 24V routers must be powered before battery powered sensors
7. Power up battery powered nodes.
   - To power a battery powered node (space mount or plant housing mount), jumper J400 must be fitted. To switch off, remove J400.
8. In the CMS, click on <Options> then <Auto Commissioning Mode>. This places the receiver in a special mode where SonNet devices can automatically be authorised into the radio network, and is denoted by a tick beside the menu option and a message in the status bar at the bottom of the CMS window stating "Auto Commissioning Mode". If the receiver is not set in auto commissioning mode, the network will be locked and no devices will be allowed to join unless specifically authorised to do so. See system user manual for more details.
9. Allow at least 5 minutes for the network to form. No user intervention should be required.
10. Clicking <View> then <Textual Display> will show a list of all devices on the network. Each device is expandable to show:
    - Default label
    - MAC address
    - Parent (where applicable)
    - Status
    - Link quality
    - Run time
    - Battery level (where applicable)
11. NB When the network is completely formed and all devices are listed and are on-line, it is important to turn off auto commissioning mode by clicking on <Options> then <Auto Commissioning Mode> to lock the network. This is denoted by no tick beside the menu option and a message in the status bar at the bottom of the CMS window stating "Network Locked". Note than no alterations to node labels etc. can be made while the system is in auto commissioning mode.
12. Clicking <View> then <Map Display> will show a graphical view of all devices on the network. A user definable background image, such as a floor plan, can be selected for the map display.
13. Drag and drop all devices from the hierarchical display onto the map display, depicting where the devices are located. Note that links are automatically drawn between devices.
14. Hover the mouse cursor over any device in the map display to see a quick summary of parameters.
15. Link quality is shown by colour, red for marginal, orange for good and green for very good. Hovering the mouse cursor over a link will display the link quality textually.
16. To map a sensor parameter to a receiver output channel, right-click on the device, select <Properties> from the menu, then select the <Analogue Channel Mapping> tab. Select a function (such as temperature or setpoint) to map, and then select the receiver output to map to. Click the <Set Analogue Mapping> button to complete. For complete details for the CMS and setting configurations, see the SonNet System User Manual.