# Manual



Version 7/2012

## Local wireless network for

- **Radon-Scout (all versions incl. PMT)**
- **RTM1688, RTM 1688-2**
- **Analog Radon Sensor, Analog Progeny Sensor, Indoor Air Sensor**
- **RTM2200, RPM2200, EQF3200, EQF3220, A2M4000**
- **MyRIAM, DOSEman, DOSEman PRO (only versions with internal adapter)**

Common

The Net Monitors network allows the wireless communication between a Computer and one or more instruments. The range of the network reaches a few hundred meters in case of inter-visibility. Obstacles like walls trees etc. will decrease the range significantly.

To create a network, a PC adapter (coordinator) and at least one instrument adapter (endpoint) are required.

Coordinator

The coordinator uses an USB interface for PC connection. The power for the adapter is also supplied by the USB. The toggle switch beside the USB connector allows the changing of the baudrate from 9600 to 11520 bps. Which setting have to be used depends on the application software used with the adapter:

dVISION and dCONFIG:        9600 baud

Radon Vision, MyRIAM:        115200 baud

Endpoint

Beside the antenna connector, the endpoint offers one socket to connect the data cable of the instrument (4 pins) and one more socket to connect an external power adapter (2 pins). The instrument adapter may be powered alternatively by two AA batteries which can be replaced easily. Because the adapter can be directly connected to the serial port, also older instruments can be equipped with network functionality.

Connection process

As soon as the coordinator has been connected to the PC, all endpoints within the network area will be scanned periodically. That means, if a new instrument enters the link area it becomes associated after a while (few seconds). The coordinator provides a dynamic list containing the information of the instrument connected to the endpoint. If a connection shall be established, the used application software offers this list to select the desired instrument.

If an endpoint becomes powered and connected to an instrument, it reads the instrument ID and sends the information to the coordinator. That means, if a new instrument shall be

connected to an endpoint which has been used for another instrument before, the endpoint must be powered off/on again to provide the correct instrument ID.

Both adapters are equipped with a short antenna to ensure a non-directed (ball like) link range. This allows the endpoints to be located around the coordinator without respect to the position. To increase the link power it is possible to connect a directed antenna to the sockets of the adapters for example in case of stationary use.

## Installation of the coordinator

A Windows device driver for the coordinator must be installed before the unit can be used. The driver is just available if SARAD instruments with USB interface are already used with this PC. Otherwise use the CD to install the drivers correctly. Attention, the installation procedure will run two times, once for the USB and a second one for the VCP (virtual com port).

## Software integration

All actual version of SARAD software are already prepared for the Net Monitors network operation. As soon as an action with instrument access is carried out (e.g. instrument setup), a list with all available instruments appears at the screen. A simple click at the desired instrument directs this action to this device.

## Technical Data

| | |
|---|---|
| Link frequency | 2.4 GHz |
| Maximum link power | 100 mW |
| Transfer protocol | IEEE802.15.4, ZigBee |
| Antenna connector | SMA |
| Power consumption | |
|     Standby outside coordinator link range | 100 µA |
|     Standby within coordinator link range | 1 mA |
|     Transmitting / Receiving | 40 mA |
| Battery | 2 x AA (1.5 or 1.2 Volts) |
| Dimensions | |
|     Coordinator | approx. 100 x 60 x 25 mm |
|     Endpoint | approx. 115 x 70 x 28 mm |