SPORTident Short Range Radio

V1.1   16.09.2015

SPORTident SRR

The SPORTident short range radio (SRR) enables wireless transmission of SPORTident data records over distances of up to 8 metres. The radio is working in the licence free 2.4 GHz radio band and can be used worldwide. The following SPORTident products are enabled for SRR:

Data sources	Data receivers
- BSF8-SRR	- SRR radio dongle (connects to a PC)
- SIAC1	- SIGSM-DN (GSM modem)

SI-SRR uses two radio channels (named "red" and "blue") to achieve a robust data transmission with a low error rate. While the data sources use the two channels simultaneously, the data receivers always work at one and the same channel.

A typical application case for SI-SRR are the so called "online controls" in orienteering sport. Because the control point in orienteering can be placed at nearly any position in any terrain a wired data transmission from the control station can be uncomfortable or even impossible. SI-SRR creates a wireless data bridge to a receiver or repeater mounted some metres away.
In an AIR+ application records are transmitted by the SIAC when passing a checkpoint on the course. Again the receiver is placed just after the checkpoint.

BSF8-SRR

BSF8-SRR supports the transmission of the currently created data record (i. e. when punching with a SI-Card) with the operating modes **CLEAR**, **CHECK**, **START**, **CONTROL** and **FINISH**. The operating mode **'SIAC radio readout'** does not require a BSF8-SRR station and is only supported by SIAC1 (see next paragraph).
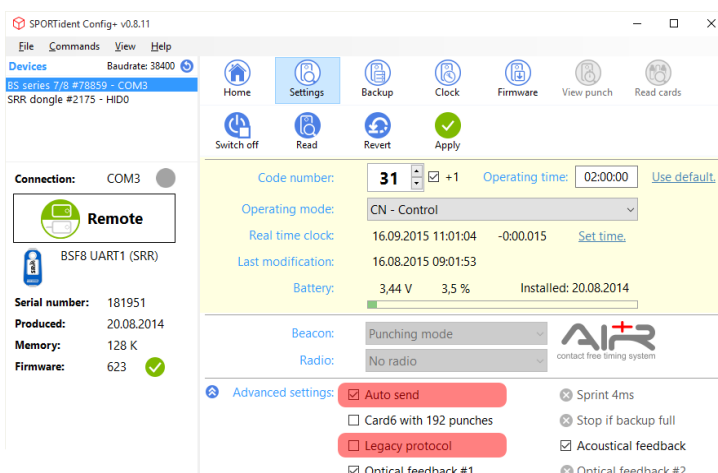
The BSF8-SRR has to be configured by using the software SPORTident Config+.

The following settings have to be set:
- Enable **'Auto send'**
- Disable **'Legacy protocol'**

To avoid unwanted energy consumption the radio module should only be activated (setting **'Auto send'**) when a radio receiver is present.

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SIAC1

Radio transmission of SIAC1 is initiated by contactless punching at a SPORTident station that is running in beacon mode. Beacon mode is supported by BS11 (large as well as small) and BSF8 since firmware 600.

Even though the SIAC does the radio transmission, the confirmation of the station determines which data is sent by the SIAC – essentially at each contactless punching the station tells the SIAC which data to send. The SIAC needs to be in active mode (turned on).

There are three different radio options available when configuring your beacon units with Config+:
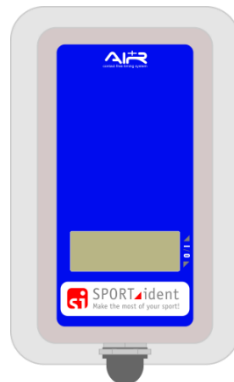
- **'No radio'** (default),
- **'Send last record'**,
- **'Send all unsend records'** or
- **'Send all card contents'**
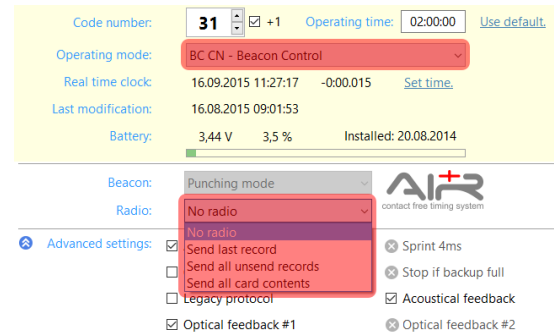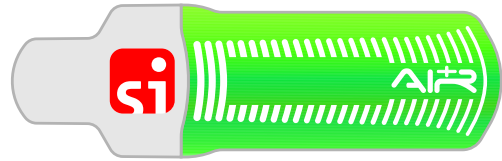
The following devices are capable of triggering the SIAC1 to send radio data when configured in the operating modes **Beacon Start**, **Beacon Control** or **Beacon Finish**:

| BS11-BL | BS11-BS | BSF8 |

In a special case: A BSF8 with the operating mode '**SIAC radio readout'** makes the SIAC send all its card punch records when punched directly – even when the SIAC is turned off.

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SRR dongle
The SRR dongle receives data records sent from BSF8-SRR or SIAC1. The device features an USB interface for easy connection with PC, laptop or other standard communication equipment.

Because the SRR dongle works at one radio channel permanently this channel has to be configured by Config+.

To profit from the frequency agility of the SI-SRR, two receivers are required, operating at the red and blue channel, respectively. For correct functionality it is important to check that the receivers do not work at the same radio channel.
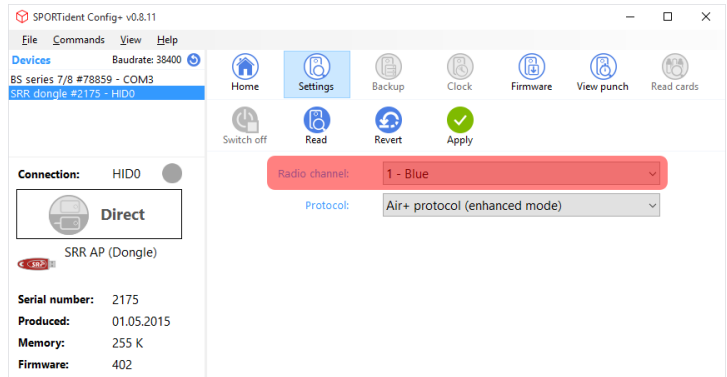
The SRR dongle is able to manage up to eight connected SRR stations. There is no upper limit for SIACs.

Data received by the device can be computed by standard event software. Also Config+ features a simple monitor function to visualise the SRR functionality. Select the SRR Dongle as your target device and choose the feature 'View punch'. This will bring up the following view, the dongle is ready to receive data now.
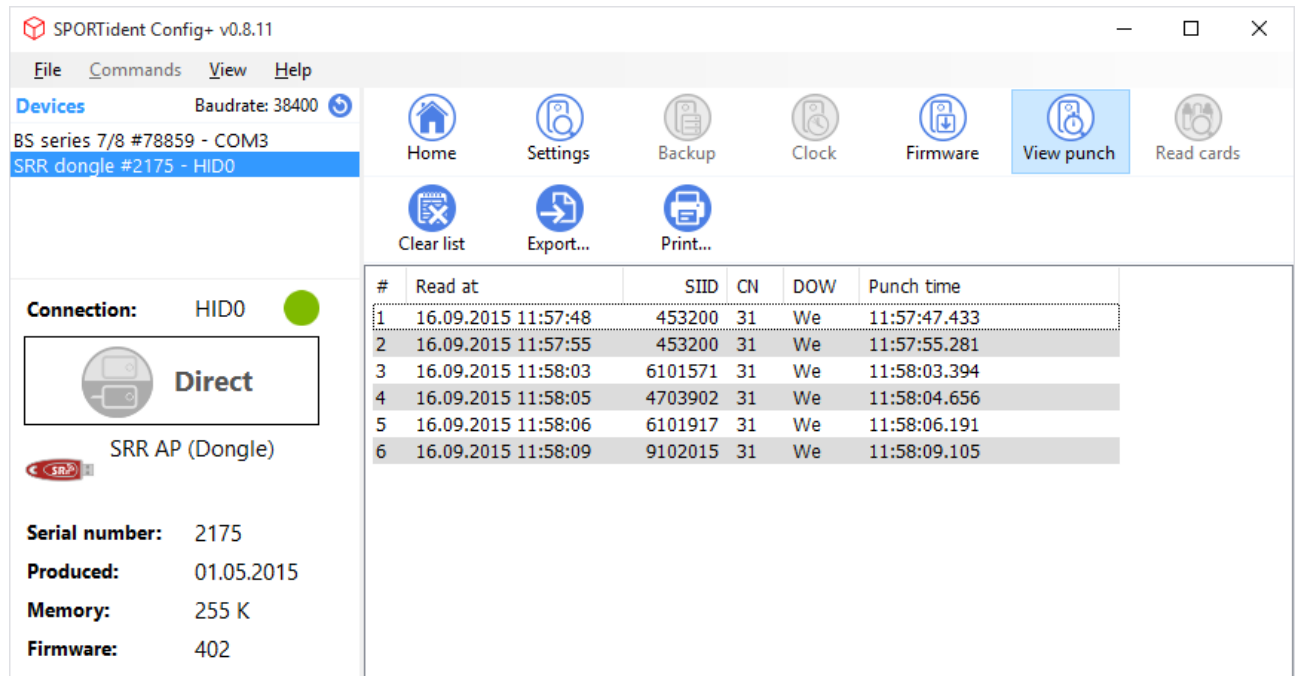
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SPORTident offers the software SI-Reader as a universal data capture program. SI-Reader features a huge number of data output and storage possibilities including writing into local and remote databases.

SPORTident supports the integration of the SRR receiver by offering the device as a module for easy integration into customer hardware projects.
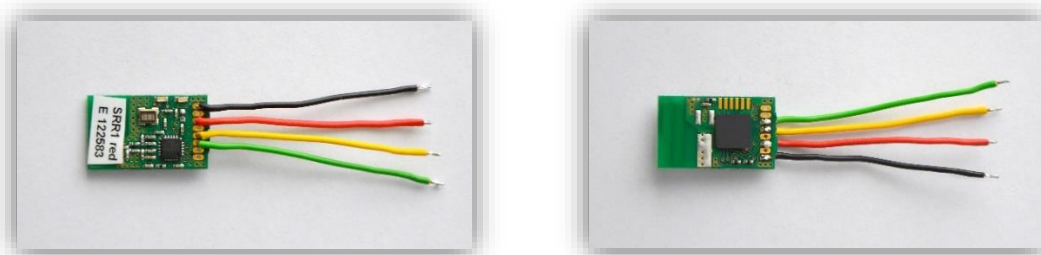
SIGSM-DN

The SIGSM-DN GSM modem features two built in SRR receiver modules (red/blue) and automated data transmission to a remote database by using the mobile network. No SRR-specific configuration is needed.
Transmitted data are assigned to a pre-defined and active event at transmission time. SPORTident offers a monitor website. There is an interface to access the data for further evaluation and integration into customer projects.