SpreadNet ®

Model SN915-BUS
RF Receiver
Installation Instructions

The SpreadNet® Model SN915-BUS RF Receiver is specially designed to operate directly with the Sierra® family of control panels.

Mounting Location
The RF Receiver should be mounted on the wall for optimum performance. To determine the maximum distance between the Receiver and Control Panel, refer to Table 1.

Table 1 (below) shows a comparison of wire size to maximum distance between the Receiver and the Control Panel for UL certified installations.

AWG	Max. Distance (m / ft)
22	27 m / 90 ft.
18	70 m / 230 ft.
16	111 m / 365 ft.

Table 1 - Wire distances for U.L. installations

Receiver orientation is not a problem, as the unique antenna design of the SpreadNet RF Receiver automatically compensates for variations in signal direction. Two antennas orientated at right angles reduce problems associated with noise and signal fading.

When choosing a location to install the SN915-BUS RF Receiver, you should avoid areas near screens, metal window frames, circuit breaker boxes, metal air conditioner and heater ducts. These areas interfere with the receiver's ability to pick up signals or are sources of high noise and radio frequency interference.
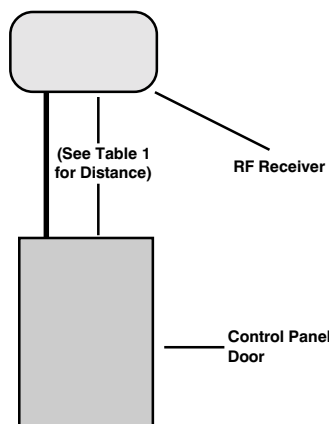
Figure 1 - Mounting Location

Mounting Procedure
To mount the SN915-BUS, orient the unit as shown in Figure 2. Loosen the cover retaining screw on the front of the Receiver and open the front panel. The front and rear housings may be separated for easier installation. Remove the knock-outs for wiring the Receiver to the control panel.
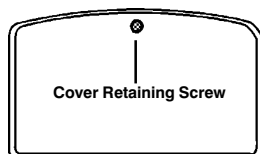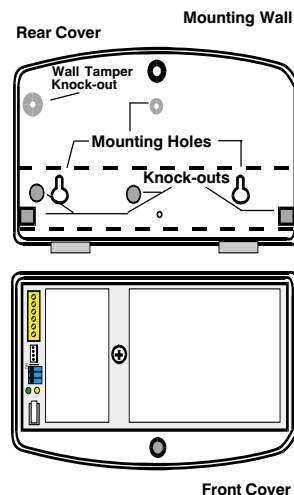

Figure 2 - Receiver Housing

Use the rear cover as a template to mark the mounting holes (see Figure 3). Drill the holes as necessary. Route the receiver wiring through the knock-outs.

Receiver Tamper Setup
Both a cover and a wall tamper are provided with a single tamper switch. The cover tamper is always active. To activate the wall tamper, remove the knock-out in the rear housing (as shown in Figure 3) and install a screw in the wall. Leave enough of the screw head exposed to depress the tamper switch when the cover is closed.

If the receiver is used in an outdoor environment or requires additional backup battery protection, the SN915-BUS RF Receiver may be removed from its standard enclosure and mounted in an auxiliary housing. Tamper protection is provided by connecting an external, normally-open tamper switch to the Tamper terminals as shown in Figure 4, below.

All tampers are reported via the keypad data bus (KY+ and KY-).

Figure 3 - Receiver Mounting

Wiring the Receiver
Pull the 4-wire cable (common, power, KY+, and KY-) through the rear cover. Mount the Receiver in the desired location as shown in Figure 1. Connect the SN915-BUS Receiver to the Control Panel as shown in Figure 4. Be sure to observe polarity. The SN915-BUS derives its power from the Control Panel via the V+ (to panel KPWR) and GND (to panel C) terminals. The SN915-BUS Receiver is electronically protected against reverse polarity.
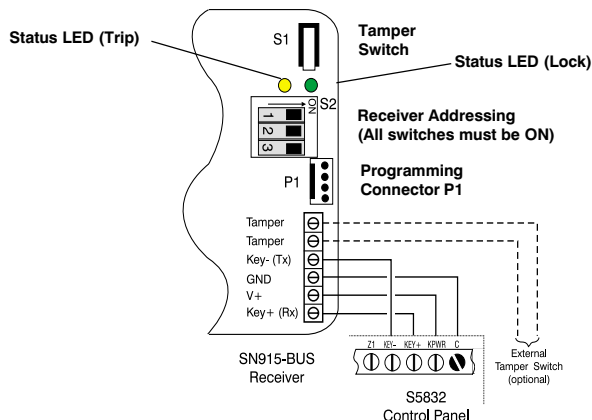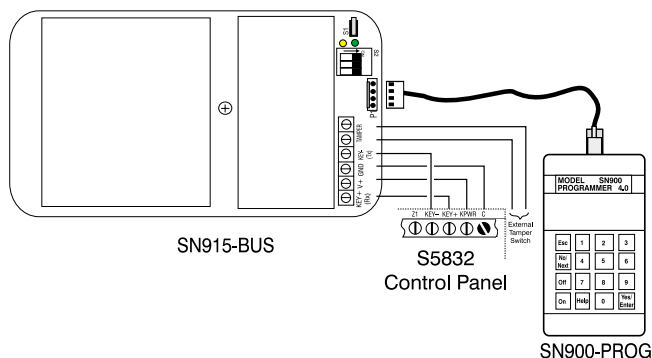

Figure 4 - Wiring the Receiver

Initial Set-Up and Programming
The initial step in setting up a SpreadNet system for use with the Sierra control panel is to determine the Channel # and Property Code. This requires the SN915-BUS Receiver be wired to the Sierra control panel, as shown in Figure 4, above. In addition, the SN900-PROG Handheld Programmer must also be connected to the SN915-BUS RF Receiver.

Using the interconnect cable supplied with the Programmer, connect the SN900-PROG Programmer to connector P1 on the Receiver (see Figure 5 on the next page).

NOTE: The Channel # and Property Code must be determined prior to programming any of the system's transmitters. When scanning for Channel # and Property Code, use the procedure outlined in the SN900-PROG Programming Instructions (P/N 5-051-136-00 Rev C or later). **When using SN900 v4.0, you must write down the Channel # and Property Code in order to program the Sierra control panel**

SN915-BUS
S5832
Control Panel
SN900-PROG

Figure 5 - Connecting the RF Programmer

(version 1.1), the information is not stored in the receiver.

Initial Set-Up and Programming (cont.)

After the Channel Number and Property Code have been selected, the system transmitters may be programmed. Refer to the Installation Instructions included with each transmitter for the proper setup procedure.

NOTE: The configuration of the SN915-BUS requires an SN900-PROG with version 4.0 or later firmware.

Programming the Control Panel

The program information (Channel #, Property Code, and transmitter Supervisory Rates) used by the SN915-BUS Receiver is stored in the Sierra control panel. This information is obtained by the receiver 30 times per second.

The Sierra S5832 control panel stores the programming information in Block 8. The data may be entered using any keypad in the system. Refer to the S5832 Installation Instructions for additional information.

NOTE: A Read/Edit option is available when using a combination of the SN900-PROG v5.0 and the S5832 v1.2. To determine your panel version, press the [Bypass] and [Cancel] keys on the alphanumeric keypad simultaneously. For additional details, refer to the SN900-PROG Programming Instructions (P/N 5-051-136-00 Rev C or later).

Testing the Transmitters and Receiver

After the individual transmitters have been installed and programmed, the RF Programmer can be used with the RF Receiver to measure transmitter reception characteristics.

The SN915-BUS RF Receiver has two status LEDs to aid the installer with installation and placement of Transmitters. When a signal is received, the Yellow (Trip) LED will flash. Once the signal has been verified as having the correct Channel #/Property Code for the system, the Green (Lock) LED will flash. The LEDs will flicker rapidly, indicating RF activity.

For additional information about programming and testing, refer to the SN900-PROG Programming Manual.

FCC NOTICE

The Model SN915-BUS generates and uses radio frequency energy. If not installed and used in accordance with the manufacturer's instructions, it may cause interference to radio and television reception. The Receiver has been tested and found to comply with the specifications in Part 15 of FCC Rules for Class B Computing Devices and FCC Part 15 Subpart C, Specifications for Intentional Spread Spectrum Radiators.

If this equipment causes interference to radio or television reception - which can be determined by turning the equipment on and off - the installer is encouraged to correct the interference by one or more of the following measures: 1) Reorient the antenna of the radio/television. 2) Connect the AC transformer to a different outlet so the control panel and radio/television are on different branch circuits. 3) Relocate the control panel with respect to the radio/television.

If necessary, the installer should consult an experienced radio/television technician for additional suggestions.

CAUTION: IntelliSense does not support field changes or modifications to any of the SpreadNet RF equipment unless they are specifically covered in this manual. All adjustments must be made at the factory under the specific guidelines set forth in our manufacturing processes. Any modification to the equipment could void the user's authority to operate the equipment and render the equipment in violation of FCC Part 15, Subpart C, 15.247.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Termination Summary Label

After the system has been installed, programmed and tested, the installer should complete the Termination Summary Label, included with the installation kit. A partial sample of the Termination Label is shown below with an assortment of zones filled out.

Property Code: Identifies the Transmitter and Receiver as belonging to a particular system.

PROPERTY CODE: 1 2 3 4		CHANNEL: 1		DATE: 10/3/96	
ZONE #	TRANSMITTER LOCATION	TX TYPE	CHECK IN INTERVAL	SNR	BATTERY DATE
1	Front Door	SN930	30	76/13	10/3/96
2	Back Door	SN930	30	70/15	10/3/96
3	Living Room	SN940	300	35/15	10/3/96
4	Master Bedroom	SN960	0	28/5	10/3/96
5					
6					
7					
8					

Transmitter Location: The physical location of the Transmitter within the premises.

TX (Transmitter) Type: Which of the various SpreadNet Transmitters is used in that particular location. (i.e. Door, PIR, Smoke, etc.)

Check-In Interval: The Supervisory Rate for each Transmitter (in seconds). Acceptable Rates are: 30, 120, or 300 seconds. A Supervisory Rate of 0 is used for unsupervised transmitters.

SNR: The Signal-to-Noise Ratio of the Transmitter showing Signal strength and Noise level in decibels (dB).

Battery Date: The date the batteries were installed or last replaced.

Upon completion, the label may then be placed inside the rear cover of the RF Receiver or inside the Control Panel for future reference.

NOTE: The SN915-BUS Receiver is suitable for UL Grade A service.

For UL installations, the minimum signal-to-noise ratio (SNR) measurement for each transmitter in the system is 25 dB and is calculated as follows:
Max. Signal (dB) - Max. Noise (dB) = >25 dB

Specifications

Power Requirements:
170 mA at 8.8 - 14 VDC

Dimensions:
20 cm x 10.5 cm x 4.5 cm
7.875" x 4.125" x 1.75"

Weight:
311 g. (11 oz.)

Approvals:
FCC Part 15
IC
UL Listed
C-Tick

Operating Frequency:
902 - 928 MHz Spread Spectrum

Operating Environment:
0° to 60° C / 32° to 140° F
Up to 95% relative humidity
(non-condensing)

Tamper Input:
Requires External,
Normally-Open Switch

INDUSTRY CANADA

Operation is subject to the two following conditions: (1) this device may not cause interference, and (2) this device must accept any interference that may cause undesired operation of the device.

IntelliSense