WIRELESS DETECTION INC.

APARTMENT
ALERT SYSTEM

SYSTEM REPEATER
USER GUIDE

MODEL SR002

Preliminary Manual

Table of Contents

Important Safety Instructions

1)   Read these instructions.
2)   Keep these instructions.
3)   Head all warnings.
4)   Follow all instructions.
5)   Clean with only dry cloth.
6)   Do not install near any heat sources such as radiators, heat-registers, stoves or other apparatus that produce heat.
7)   Improper installation of this device, may affect the operation of the apparatus.
8)   Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as liquid has been spilled or objects have fallen into the apparatus, does not operate normally, or has been dropped.
9)   There is no user serviceable part inside.
10)   Use only the recommended batteries.

FCC NOTE: (For U.S.A. and Canada)

1) Changes or modifications not expressly approved by Wireless Detection Inc. could void the user's authority to operate the equipment.

2) This product has been tested and complies with the specifications for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance to the instructions, may cause harmful interference to radio or television reception, which is found by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.
Increase the separation between the equipment or devices.
Connect the equipment to an outlet other than the receiver's.
Consult a dealer or an experienced radio/TV technician for assistance.

3) The antenna used for this device must be installed to provide a separation distance of at least 20cm (8 inches) from all persons, and must not be co-located or operating in conjunction with any other antenna or transmitter other than those contained within this device.

NOTICE: This equipment complies with the FCC RF Exposure Limits. A minimum of 20 centimeters (8 inches) separation between the device and the user and all other persons should be maintained.

Operation

The System Repeater (SM002) provides a link between the Fire Warning System (FWS002) and the System Manager (SM002). When the System Repeater receives a transmission, the data is analyzed for validity, and only then is it repeated. This ensures that the receiving unit only gets accurate information.

By linking the SM002 and the FWS002 with the System Repeater (SR002), the SR002 greatly extends the transmission distance between the FWS002 and the SM002. When two or more System repeaters are liked together; this range is extended even further. When programmed the SR002 only receives transmissions from the group of unit's with the same programming information.

The System Repeater operates from both AC and DC (batteries) power sources.
The Li-on rechargeable batteries provide a backup for up to 24 hours; this enables the placement of the repeater at locations with timed AC sources.

Features

900 MHZ Spread Spectrum Transceiver Design.
62 channels of operation, gets the signal through.
96 bit protocol and checksum error detection eliminates false alarms due to radio interference.
Complete Wireless operation.
Backup Battery powered, up to 24 hours of operation.
RSSI LED Display for easy set up.
CW test mode; for analyzing the placement of repeaters, Fire Warning Systems and System Manager.
Rechargeable Lithium-Ion Batteries for years of service.

Setting up the System Repeater

Putting the Batteries in the System Repeater

1) Open the Repeater door.
2) Locate the battery holder and insert the battery.
3) Close the Repeater door.

NOTE: Use only Batteries provided by Wireless Detection Inc.
Incorrect use of batteries can result in hazards such as leakage and bursting.
Please observe the following:
Don't mix new and old batteries together.
Don't use different kinds of battery together.
Although they may look similar, different batteries have different voltages.
When disposing of used batteries, please comply with governmental regulations or environmental bylaws that apply in your country or area.

Programming the Apartment address in the System Repeater

1) Apply power to the repeater.
    a. Connect the power module to a 120VAC power source.
    b. Connect the 12VDC power module connector to the System Repeater.
2) Open the Repeater door.
3) Insert programming plug into the programming receptacle JP7.
4) Close the repeater door.
5) Remove power.

Note: Instructions for programming are in the APARTMENT ALERT PROGRAMMER MANUAL. Programming the repeater is recommended after the batteries have been fully charged and after the placement of the repeaters has been determined. If the batteries have not been charged, then an active AC source must be available.

Warning: If the repeaters are not programmed, than proper operation is not possible.

Installation Instructions

Where to place the System Repeater

WARNING: *The System Repeater requires the use of a 120VAC power converter, and the lithium ion battery. Failure to do so may cause catastrophic system failure.*

Develop a layout of the apartment (building) complex.
Place a point on the layout that will cover all placements of the FWS002 in a radius of 250 ft. (76.2 meters) or less. Place a repeater at this point. Repeat this procedure for each placement of the repeater. After the layout is finished, each apartment building(s) address is programmed to the corresponding repeater.

Each repeater should be placed where it is less than 1000 ft. (304.8 meters) from the nearest repeater or System Manager unit. This distance can be greater, depending on the placement of the repeater.
If any repeater is greater than 1000 ft. (304.8 meters) to the System Manager, than the affected repeater(s) need to be linked together. This is done by determining the shortest path for each affected repeater to link with the next closest repeater that will reach the System Manager. To link one repeater to another, program each repeater with the building addresses of the other repeater that is farthest from the System Manager in that link. Multiple links can be made to a specific repeater. Please refer to the repeater linking diagram.

The repeaters must be located close to an accessible 120VAC source.

Where not to place the System Repeater

Do not place the repeater behind any brick walls, trees, or shrubbery.
Do not place the repeater inside any type of vault.

Putting the System Repeater in CW mode for test

During the installation process, it may be necessary to transmit the carrier signal for determining the proper placement of the other System Repeaters and the System Manager.

1) Open the System repeater, with the security key.
2) Press and hold the CW switch until the sounder starts chirping and the CW LED starts flashing. The unit is now in CW mode.
3) To exit CW mode, press and hold the CW switch until the sounder stops chirping and the CW LED stops flashing. The unit is now ready for normal operation.

WARNING: *After performing the CW test, the System Repeater must be placed back in normal operation, that is; the sounder is not chirping, the CW LED not flashing.*
Failure to do so; will cause catastrophic system failure.

4) Close the System Repeater and lock.

Reading the RSSI display

During the installation process, it may be necessary to read the signal strength of the Fire Warning System unit, the System Manager, and other System Repeaters for determining the proper placement of the System Repeaters.

1) Open the System repeater, with the security key.
2) Press the DISPLAY ON switch. The RSSI display will turn on.

   Note: The RSSI display will not work when the unit is in CW mode.

3) Press the DISPLAY ON switch again. The RSSI display will turn off.

WARNING: *After performing the CW test, the System Repeater RSSI display must be turned off for normal operation.*
Failure to do so; may cause catastrophic system failure.

4) Close the System Repeater and lock.

Installation

WARNING: The System Repeater must be installed to provide a separation distance of at least 20cm, (8 inches) from all persons. Changes or modifications not expressly approved by Wireless Detection Inc. could void the user's authority to operate the equipment. There are no user serviceable parts, for making adjustments to the power gain, antenna or operation of the transceiver.

This is where the user instructions for mounting the System Repeater to an exterior location is placed.

SPECIFICATIONS

General

Power requirements	12VDC Power Module
	Lithium Ion Battery pack 8.2Vdc
Battery life	approx. 24hrs.
Power consumption when transmitting	2.1W
Power consumption in standby	> 360mW
Weight	? lbs
Dimensions	?(W) x ?(H) x ?(D)
Operating temperature	32°F to 158°F (0°C to 70°C)
Color	white cover

Transmitter specifications

Transmitter type	900MHZ. ISM FSSH
Operating band	902 to 928 MHZ
Channels	62
Modulation	FSK
Channel Bandwidth	118.2KHZ.
Transmitting power	3/4W

WARRANTY

This manual is complete except for detailed descriptions on how to physically mount the unit, any company logo's to be included, warrant notices and liability disclaimers.

This manual is subject to change without notice.