GEN^2

Model OI-9900

WireFree Repeater

Operation Manual

Revision 2.3w

OOOOOTIS
INSTRUMENTS INC.

Product Overview

The Gen II WireFree *Repeater* OI-9900 is a wireless device that receives messages from a sensor assembly and repeats the identical message to a receiver/monitor, allowing for greater distance between devices than with a sensor assembly/monitor setup alone.

The *Repeater* operates with 12-35 Volts DC, and is equipped with two antennas and two radios: Gen II 900MHz or Gen II 2.4 GHz.
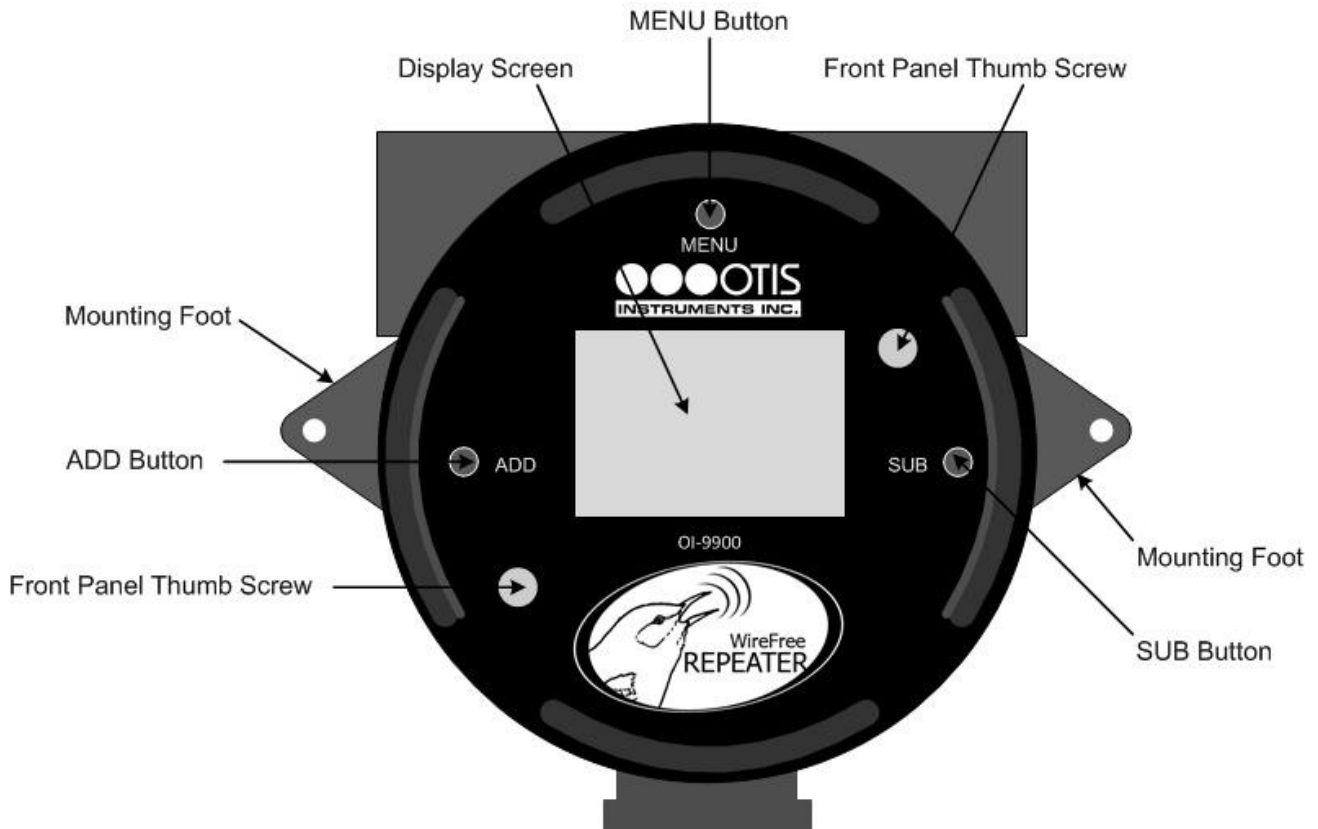
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Introduction

This document is an Operation Manual containing diagrams and step-by-step instruction for proper operation of the Otis Instruments, Inc. Gen II WireFree *Repeater* OI-9900. This document should be read before initial operation of the product.

Should a question arise during the use of the product, this document will serve as a first reference for consultation. If further questions arise, or if the device is not working properly, please contact the sales representative of this product.
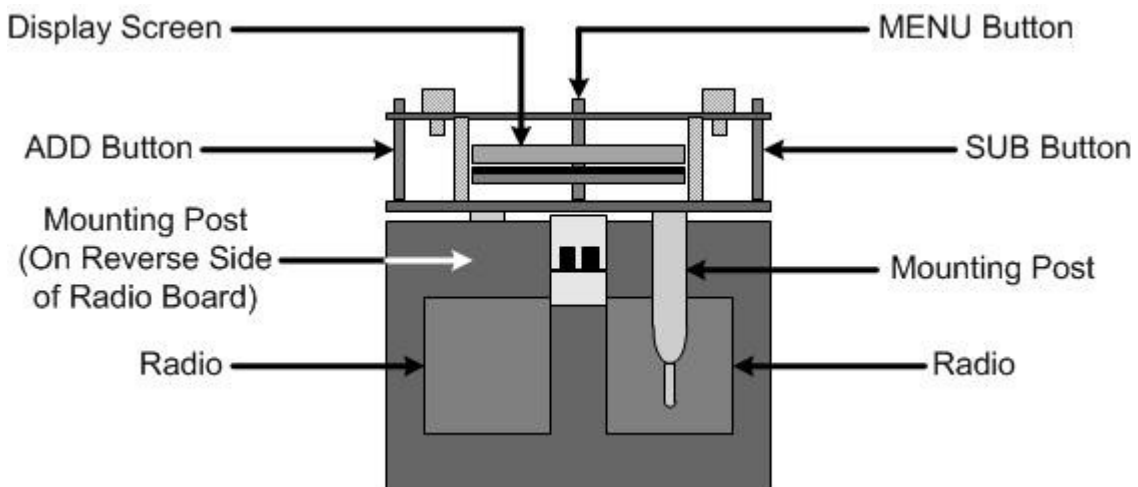
Complete System Diagrams

The following diagram should be consulted for identification of the OI-9900 system and components.

Complete System (External)

Complete Diagram (Internal)

Complete Diagram (w/ Antennas)

Front Panel Thumb Screw

ADD Button

Mounting Foot

Antenna Connector

Antenna Fitting

Antenna

Front Panel Thumb Screw

Connector

SUB Button

Mounting Foot

Distance between antennas must be at least 5 feet

Antenna Connector

Antenna
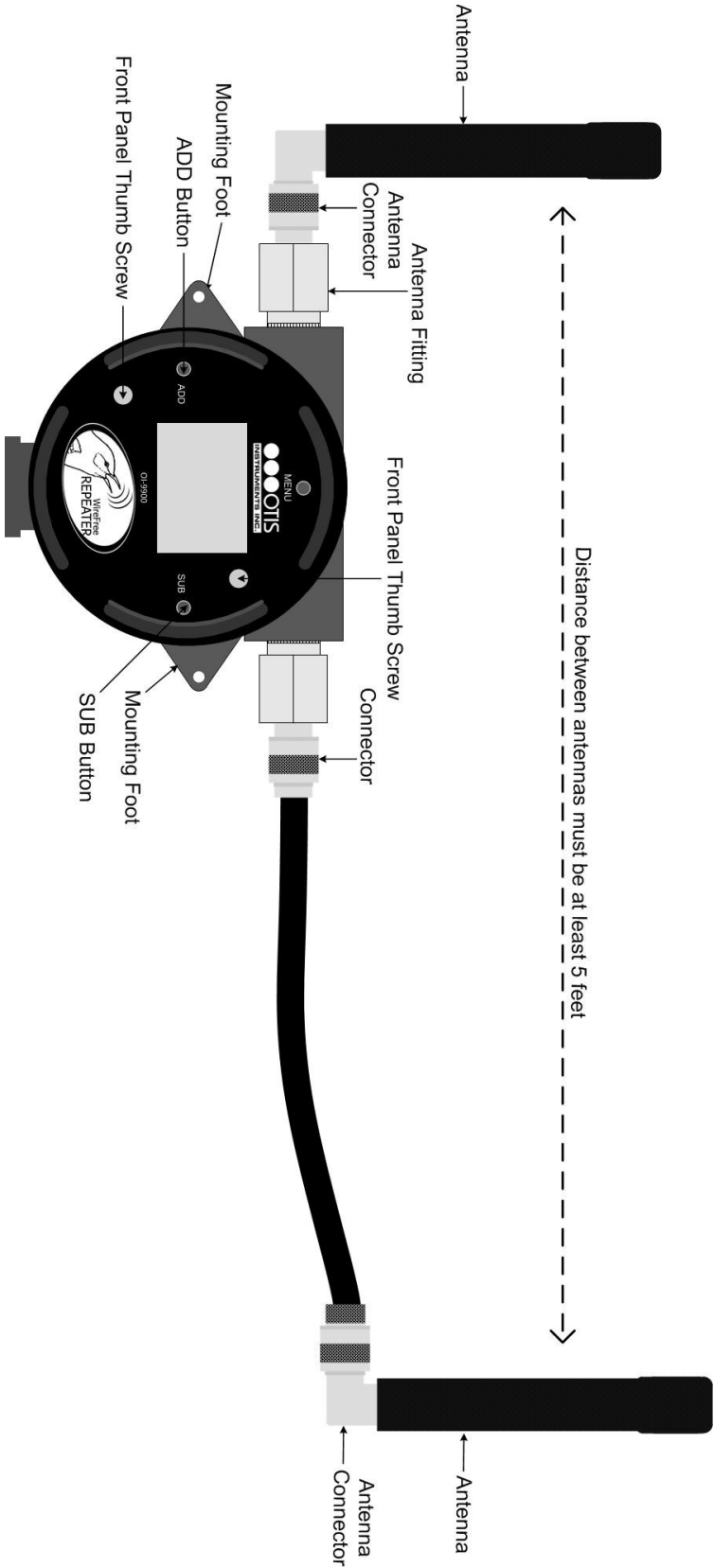
Power Supply Configuration

If it is necessary to attach a new power cord to the OI-9900, the following instructions should be consulted.

NOTE: Verify that there is no power being sent from the power supply while wiring the unit.

1. Unscrew, remove and set aside the explosion-proof Moore lid.
2. Using your thumb and forefinger, firmly grip the Front Panel Thumb-Screws and lift it out of the Moore enclosure.

NOTE: Do not use any metal object to remove the Terminal Board.

3. Lay the components on the enclosure rim so that the internal components are exposed.
4. Run the power supply cord through the hole on the bottom of the enclosure, using the proper certified cable gland.
5. Connect the positive wire (red) to the power supply terminal block labeled "+12-35 VDC".
6. Connect the ground wire (black) to the power supply terminal block labeled "GND".
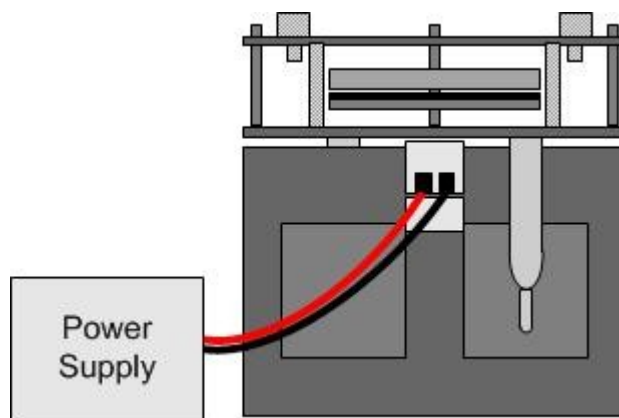
7. Replace the unit back in the Moore enclosure by matching each mounting post to its corresponding eyelet inside the enclosure.
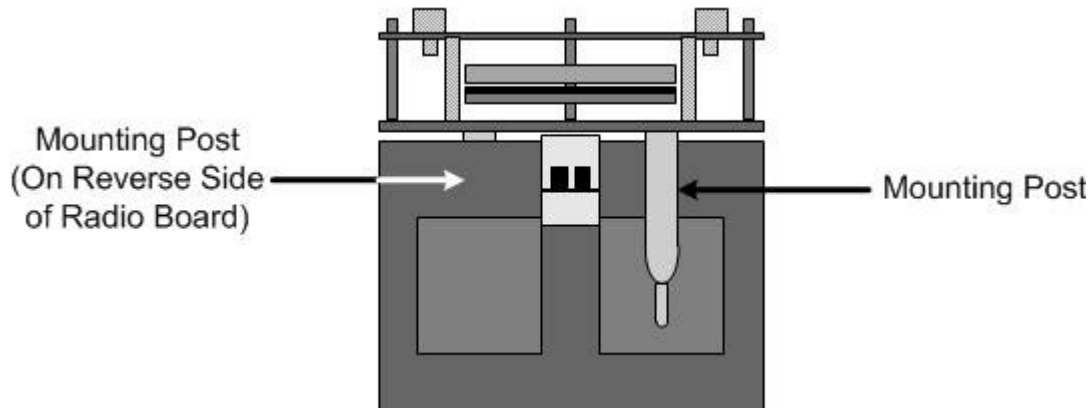
8. Verify that each mounting post is properly fitted in its corresponding eyelet inside the Moore enclosure.

9. Verify that the sealing ring (located on the threads of the open Moore enclosure) is still in place.

10. Place the Moore enclosure lid on top of the Moore enclosure base.

11. Rotate the lid until it is tightly screwed in place (approximately 20 rotations).

12. Apply +12-35 Volts DC power from the controller/monitor/power supply to the unit.

13. The device will then count down from 20 to 0.

- From 20 to 17, the Display Screen will show the *Repeater* logo.
- From 16 to 13, the Display Screen will show the Otis Instruments, Inc. logo.
- From 12 to 9, the Display Screen will show the Gen II logo.
- From 8 to 5, the Display Screen will show the WireFree logo.
- From 4 to 0, the Display Screen will show the device's:
  - Model # (OI-9900)
  - Serial # (Ex: V00001)
  - Version (Ex: 1.0)
  - Build (Ex: 1)

Power Supply Configuration cont...

14. When the following screen is displayed, the device is in Normal Operating Mode and ready to operate.

Normal Operating Mode

When in Normal Operating Mode, the OI-9900 *Repeater* will receive a radio messages from a WireFree sensor assembly and relay that message to the designated WireFree monitor. When sending a signal, the Display Screen will show an arrow crossing the screen from the left antenna graphic "A" to the center antenna graphic. Once received, the display screen will show a second arrow crossing the screen from the middle antenna graphic to the right antenna graphic "B". When there is no link, the arrow will not pass out of the center antenna graphic toward antenna graphic "B".

When a primary monitor is detected for Network "B", the display screen will show "Link". When no primary monitor is detected for Network "B", the display screen will show "~~Link~~".

While in Normal Operating Mode, the display screen will also show the: current Network I.D. Setting of both Networks "A" and "B", Model # (OI-9900), serial #, and build date.

NOTE: The manufacturer requires that the attached antennas be kept a minimum of 10 feet apart.

NOTE: No faults (or readings of any kind) will be displayed on the 9900. If there is another primary on startup, an option will be given to change the Network A network ID.

Menu Mode

Menu Mode allows the user to configure: Network I.D. A, Network I.D. B, and Contrast.

Setting Network I.D. A

1. Touch and hold an Otis Instruments, Inc. distributed magnet against *MENU* for approximately 6 seconds to enter Menu Mode.
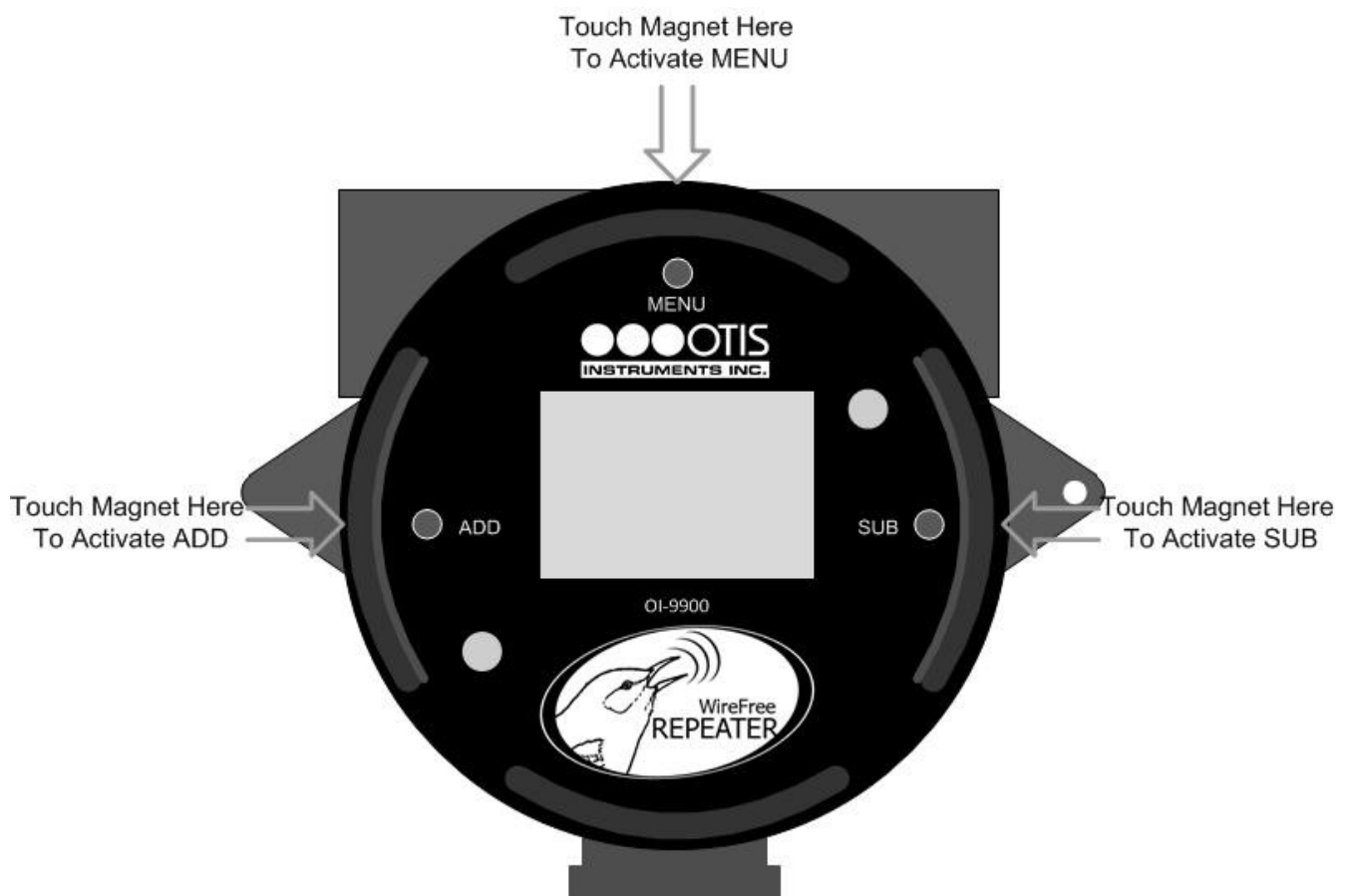
Setting Network I.D. A cont...

2. The display screen should resemble the following illustration:

3. Touch the magnet to *ADD* (increase) or *SUB* (decrease) to manipulate the Network I.D. value.

    NOTE: The Network I.D. of the sensor assembly should match the value of Network I.D. A.

    NOTE: Network I.D. A can not be the same as Network I.D. B

4. Once the desired Network I.D. A value is displayed on the screen, continue to the next step.

Setting Network I.D. B

1. After the Network I.D. A value has been selected, touch *MENU*.

2. The display screen should resemble the following illustration:

3. Press *ADD* (increase) or *SUB* (decrease) to manipulate the Network I.D. B value.

> *NOTE: The Network I.D. of the monitor should match the value of Network I.D. B.*

> *NOTE: Network I.D. B can not be the same as Network I.D. A*

4. Once the desired Network I.D. B value is displayed on the screen, continue to the next step.

Setting Contrast

1. After the Network I.D. B value has been selected, touch *MENU*.
2. The display screen should resemble the following illustration:

3. Press *ADD* (increase) or *SUB* (decrease) to manipulate the Contrast value.
4. Once the desired Contrast value is displayed on the screen, touch *MENU* to return to exit the Basic Menu Mode and return to Normal Operating Mode.

Specifications

Operating Voltage: +12-35 Volts DC

Current Draw: 150mA at 24 Volts DC

Channels: 32 (receives transmissions from up to 32 devices)

Radio Options (two radios included): Two Gen II radios:
- 2.4 GHz ISM, 100mW
- 900 MHz, 200mW

Networks (Settable):   1-78 (2.4 GHz)

1-52 (900 MHz)

Operating Temperature: -40º F to +129º F

-40º C to +54º C

Fuses: PTC (automatic resettable)

Non end-user replaceable

Display: Graphical LCD (102 x 64), transflective, sunlight readable, LED backlight

Interface: Three push buttons (*MENU*, *ADD*, *SUB*); three corresponding magnetic, non-intrusive switches; non-intrusive calibration

Enclosure: Otis-Blue explosion/flame-proof

Certifications: CSA certified, Class 1, Div I, Groups C and D; Ex d IIB, Zone 1 Aex d IIb

Warranty: Hardware: One-year (Limited)

Warranty Statement for **The *Repeater* OI-9900**

Hardware

Otis Instruments, Inc. (Manufacturer) warrants its products to be free of defects in workmanship and materials—under normal use and service—from the date of purchase from the manufacturer or from the product's authorized reseller. The hardware for this device is under a one-year limited warranty.

The manufacturer is not liable (under this warranty) if its testing and examination disclose that the alleged defect in the product does not exist or was caused by the purchaser's (or any third party's) misuse, neglect, or improper installation, testing or calibrations. Any unauthorized attempt to repair or modify the product, or any other cause of damage beyond the range of the intended use, including damage by fire, lightening, water damage or other hazard, voids liability of the manufacturer.

In the event that a product should fail to perform up manufacturer specifications during the applicable warranty period, contact the product's authorized reseller or return the product directly to the manufacturer with a Return Material Authorization (RMA). This number will be assigned upon contacting our service department at 903.566.1300 or service@otisinstruments.com. The manufacturer will--at its option and expense--repair or replace the product, or deliver an equivalent product or part to the purchaser at no additional charge.

Any replaced or repaired product or part has either a 90-day warranty or the remainder of the initial warranty period (whichever is longer).

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