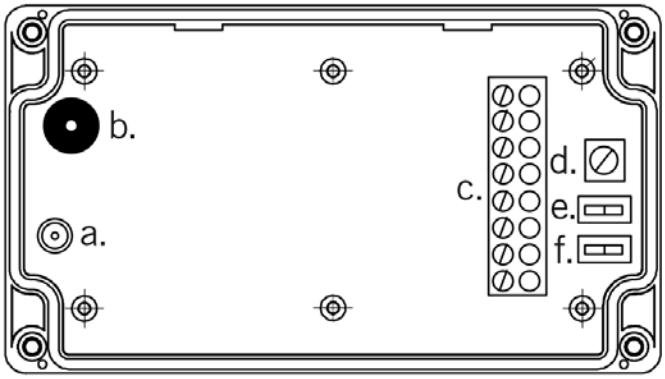
Farpointe Data®
Readers • Credentials

QUICK START GUIDE
WRR-44-OSDP RANGER® LONG-RANGE 433-MHz RECEIVER WITH OSDP SUPPORT

This Quick Start Guide is intended for experienced installing technicians. It is a basic reference to ensure all connections are properly made. Installation and wiring of systems must be in accordance with the National Electrical Code, ANSI/NFPA 70.

1.0 Introduction
Long Range Transmitters and Receivers with an integrated receive antenna comprise Farpointe Data's high frequency, long-range identification solution known as Ranger. Intended for security access control applications, Ranger's wireless communications are based upon a secure, digital, anti-playback routine. The four-channel Ranger Receiver (Channels A, B, C & D), model WRR-44-OSDP, allows Ranger Transmitter data to be sent over four separate outputs. However, OSDP is limited to Channel A. Formatting of the OSDP output is dependent upon the data encoded on each individual Ranger Transmitter.

2.0 Receiver Layout


Legend:
a. Antenna Connector
b. Audio Beeper
c. 10-PIN Terminal Block
d. Read Range Adjustment
e. Antenna Switch
f. Beeper Switch

3.0 Cable Requirements
Cable, 22 or 24 AWG [65 mm or 51 mm] twisted pair, over-all shield and UL approved (Belden 8273, or equivalent).
Maximum bus length: 4,000 ft – 24 AWG (1,219 m)
Maximum distance between: 1,640 ft – 24 AWG (500 m)

4.0 Output Formats
The SIA standard OSDP protocol is supported for clear and secure channel communication.
Default Address: 0
Default Baud rate: 9600bps (bits per second)
Default Secure Channel Key:
SCBK_D = 0x303132333435363738393A3B3C3D3E3F.

OSDP Protocol Technical Support:
SIA OSDP Application Profile: Basic Reader (OSDP v2.2 and higher)

5.0 Grounding
Shield (drain) continuity must run from the Receiver to the access panel. Further, the shield and Receiver ground must be tied together at the access panel, and must connect to an earth ground at one point only.

6.0 Power
Power required is 12 VDC nominal at 120 mA. The Receiver may be powered by the access panel. A linear power supply is recommended for best operation.

7.0 Mounting
The Receiver may be mounted indoors or outdoors. The base of the enclosure includes a drill template providing mounting provisions to a wall box (standard North American and European), as well as pre-drilled holes in the four corners allowing mounting to a flat surface. Use supplied #6 mounting screws, or equivalent security screws, for installation.

8.0 Read Range Adjustment
As shipped, the Receiver is set for the maximum read range, which is nominally up to 200 feet (61 m). For optimal read range, it is important that the Receiver be mounted as far from potential interference sources as possible. These sources may include, but are not limited to, large metal and concrete obstructions, as well as magnetic fields and radio transmissions. Further range varies based on the height a Receiver is installed, how a user may hold a Transmitter when being used, and where the Transmitter is being used. Read range may vary for each installation. Read range may be reduced by gently adjusting the Receiver's range pot in the counter-clockwise direction.

9.0 Read Mode
Reader (OSDP "PD") operation is controlled by the access panel (OSDP "ACU") per the OSDP specification.

10.0 External LED Indicator
Refer to the information below for explanation on the Receiver's external LED indicator operation:

LED State	Description
Green	Initial power up
Amber	Normal powered on state
Flash Green	An activated Transmitter button press has been received and processed
Flash Red	A non-activated Transmitter button press has been detected
Off	Receiver is not powered on, or failed to power up successfully

11.0 Antenna Switch
As shipped, the Receiver's Antenna Switch is set in the INT (internal) position. Read range can be extended using a separate, external antenna attached to Receiver's on-board 6.19 mm SMA jack connector. If a separate, external antenna is used, then the switch should be set in the EXT (external) position. For installations requiring a separate, external antenna, please refer to the WRR-44 External Antenna Reference Document.

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12.0 Beeper Switch

As shipped, the Receiver's Beeper Switch is set in the ON position. If the installation technician prefers to disable the beeper and External LED Indicator, then the Beeper Switch should be set in the OFF position.

13.0 10-Pin Terminal Block Reciever Cabling

Terminal	Function		Output Channel
AD0	Button One	RS-485 Tx+	A
AD1	Button One	RS-485 Tx-	A
BD0	Button Two	Data 0	B
BD1	Button Two	Data 1	B
CD0	Button Three	Data 0	C
CD1	Button Three	Data 1	C
DD0	Button Four	Data 0	D
DD1	Button Four	Data 1	D
GND	Power	OVDC (Ground)	–
+VDC	Power	12VDC Nominal	–

NOTES: Apply positive voltage only to the +VDC Pin on the Terminal Block. Output Channel A can have OSDP capability added, but must be specified at time of order.

14.0 Connection

Connection must be done in accordance with NFPA 70. Do not connect to a receptacle controlled by a switch. Connect to a power limited DC voltage source.

15.0 Troubleshooting

Possible Cause	Corrective Action
No data received/Transmitter not enrolled	Transmitter must be clicked twice to be learned by the Receiver upon initial Receiver power up
OSDP misconfiguration, not configured for OSDP, secure channel mismatch	Confirm panel is configured for OSDP. Confirm panel and reader are both configured for Secure Channel (or both unencrypted.) Confirm PD address and speed.
Incorrect cabling	Verify gauge, connections and cabling length
Not enough power	12 VDC recommended
Incorrect card used	Verify if card technology is supported
Reader/access panel not properly grounded	Earth ground needed—verify shield and reader ground are tied at access panel and connect to ground at one point
Supply generating interference	Linear power supply recommended, verify switching power supply before use

Operating Temperature: –40° F to 149° F (–40° C to +65° C)
Operating Humidity: 5% to 95% relative humidity non-condensing

IP Rating: IP67

Many Farpointe Data Readers carry the following certifications:

FCC Compliance Statement: 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.

Caution: Changes or modifications not expressly approved by Farpointe Data could void the user's authority to operate the equipment.

Product can be used without license conditions or restrictions in all European Union countries, including Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Spain, Sweden, United Kingdom, as well as other non-EU countries, including Iceland, Norway, and Switzerland.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause unde-sired operation of the device.

Cet appareil est conforme à Industrie Canada exempts de licence standard RSS (s). Le fonctionnement est soumis aux deux conditions suivantes : (1) ce dispositif ne peut pas provoquer d'interférences et (2) ce dispositif doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement du dispositif.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Farpointe Data reserves the right to change specifications without notice.

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