AN INTERVIEW WITH SHEP SHEPPARD
ON THE BENEFITS OF RANGER® LONG-RANGE RECEIVERS AND TRANSMITTERS

Farpointe Data®
Readers • Credentials

Stephen "Shep" Sheppard, Farpointe's Key Accounts Sales Manager, knows a thing or two about security. Commencing with a degree in criminal justice, Sheppard went on to serve as a Sergeant in the U.S. Marine Corps, assigned to the Marine Helicopter Squadron One (HMX-1) Presidential Security Unit. After participating in the safe and timely transport of President Ronald Reagan, Sheppard embarked on a 30-year career in the security industry. Today he can be found traveling the globe building relationships with electronic access control system professionals, assisting them in bringing the latest contactless identification solutions to their customers.

"Farpointe's efficient, competent and timely supply are vitally important to our partners," Sheppard points out. "They depend on the quality of our RFID products: 2.4-GHz mobile, 433-MHz long-range, 13.56-MHz high-security smart card and 125-kHz proximity," adds Sheppard. "It's especially interesting to see how recently the market for long-range reading has blown open. This may be attributable, in part, to our low return rate. Ranger® is built to last!"

Stephen "Shep" Sheppard serving in the U.S. Marine Corps, assigned to the Marine Helicopter Squadron One (HMX-1) Presidential Security Unit. Shep is the Marine circled in red.

*WRR-22 and WRR-44 Receivers with WRT-2+ and WRT-4+ Transmitters, along with the **NEW** WRT-2M Mini Transmitter*

The Reader sat down with Sheppard to discuss Farpointe's long-range offering, **Ranger**, and the many benefits this versatile solution provides electronic access control professionals.

The Reader (TR): What applications are ideal for the Ranger Receivers and Transmitters?

Shep Sheppard (SS): Ranger is a long-range radio frequency identification (RFID) solution. It can be used to solve a number of demanding access applications that call for extended read ranges, such as parking lots, alarm activation, building entrances, marina gates, facility lock-downs, remote door opening, and more. It is great for any application where pressing a button is more convenient, and oftentimes more fun, than presenting a card.

Even more, Ranger is an ideal solution for those applications where it's critical to move larger vehicles through a secure portal. For example, aircraft in and out of a hanger or tractor trailers moving in and out of terminals. For the later, often times the private property on the unsecure side of a gate allotted for trucking is limited and local authorities frown greatly on a spill over onto public roadways. It's easy to envision this leading to a public safety issue and result in fines. Competing solutions may have inconsistent range and cannot quickly move multiple, large vehicles through these areas. The added range reliably provided by the Ranger may eliminate this stack-up.

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Integrated LED!

"I really appreciate the solid performance of the Ranger's 433-MHz frequency. For a long-range reader solution—*that has to work*—I would, and have, recommended the Farpointe Ranger product"
Dan Gramlich, Technical Director
Galaxy Control Systems

TR: How easy is Ranger to use and operate?
SS: Very. The individual push buttons allow the user to activate the specific device desired from a distance. There is no need to dig a credential out of a pocket or purse, and present it to a reader. Plus, each Transmitter includes an LED letting users know if a button has been pushed. Users will find the them familiar, as they are pretty much same size as a typical car remote, and can be easily carried on a standard key ring.

TR: What is the read range?
SS: 200 feet with the model WRR-44 Ranger Receiver. That's about 61 meters for our metric friends. Ranger Receivers and Transmitters operate on the harmonized 433-MHz frequency, so site licenses are not required. Furthermore, the read range is adjustable by rotating a small dial located on the Receiver board (model WRR-44). This allows the installer to customize the read range on-site for a specific location. In addition, if longer read range is required, a remote antenna may be used. Important to note here too is the fact that with Ranger, line-of-sight is not required.

TR: What are the options for configuring the buttons?
SS: Ranger Transmitters can be ordered in two-button (WRT-2+ and WRT-2M) or four-button (WRT-4+) configurations, with each button corresponding to its own individual Wiegand output on the Ranger Receiver. As mentioned previously each Transmitter includes an integrated LED to indicate both positive button press and battery strength. As an example, let's take the WRT-4+ Transmitter. Each button on the Transmitter can be customized to correspond to a specific function. For example, button one may access the parking garage, button two the front door, button three the server room and button four sounds the building's alarm. And all these control applications run wirelessly through a single, four-channel Ranger Receiver, the WRR-44, and then onto the electronic access control system itself.

Ideal applications include:
- Parking lots
- Alarm activation
- Building entrances
- Facility-wide lock-downs
- Dock and marina gates
- And more!

With Ranger Transmitters, the access coding for long-range button press and traditional presentation are the same.

TR: Can Ranger be used with standard access control systems?
SS: Certainly! The Ranger is universal and supports 26-bit Wiegand, as well as custom Wiegand formats. Transmitter coding is sequential, exactly as ordered, with no over or under runs. Also, the WRT-2+ and WRT-4+ Transmitters can be equipped with a potted proximity or contactless smart card module, allowing the Transmitter to be used as a traditional presentation-style credential. They can be ordered custom with a proximity module, offering technology support of native Pyramid, as well as certain HID® and AWID® 125-kHz proximity protocols. Or a 13.56-MHz contactless smart card module is an option, such as MIFARE® Classic, or today's benchmark, MIFARE® DESFire® EV1 or EV2. This makes the Transmitter compatible and interoperable with both our CONEKT™ mobile smartphone access and Delta® contactless smart card reader and credential solutions.

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TR: What is the cost of ownership?

SS: Not much. Ranger Transmitters are powered by an easily replaceable CR2032 lithium battery, perhaps the most common coin cell style battery on the market today. Installed in the Transmitter it is indeed designed to last the lifetime of the access system. In fact this high-energy, low-cost battery has been tested with the Transmitter to exceed a staggering 250,000 button presses or, said differently, 71 presses a day for ten years! If the battery should ever need replacing, which I think is unlikely, know that it is available off-the-shelf at local drug stores. With a low cost of ownership, the Ranger is simply the best value in a long range RFID.

TR: Is the Ranger Receiver difficult to install?

SS: No. It is simple. An installing technician will find it as simple as a proximity reader. Ranger Receivers feature a number of on-board LEDs and an audio tone. They allow a single technician to (1) easily calibrate the individual Receiver's read range, (2) determine if a Transmitter is enrolled, and (3) identify the channel from which a Transmitter's Wiegand data is being outputted—all without DIP switches! Ranger Receivers are ETL listed to the UL 294 standard, can be installed indoors or outdoors, and ship standard in an IP-65 rated enclosure. Where appropriate, a drill template is included for installing on a U.S. or European sized wall box. Also included are four pre-drilled holes, one in each corner of the enclosure, allowing installation to any flat surface. Finally, need to pipe the install with electrical conduit? It's easy as every side of the enclosure is flat.
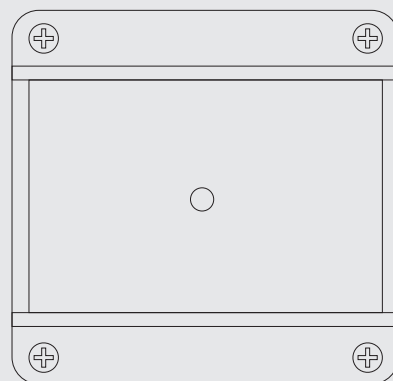
I should also point out that the Receiver's integrated PCB trace antenna offers omni-directional coverage, allowing it to be installed out-of-sight and collect transmissions through building materials, making Ranger a natural for installations in correctional, educational and parking applications.

TR: You brought up indoor and outdoor install ability of the Receiver. How robust is the Ranger Transmitter?
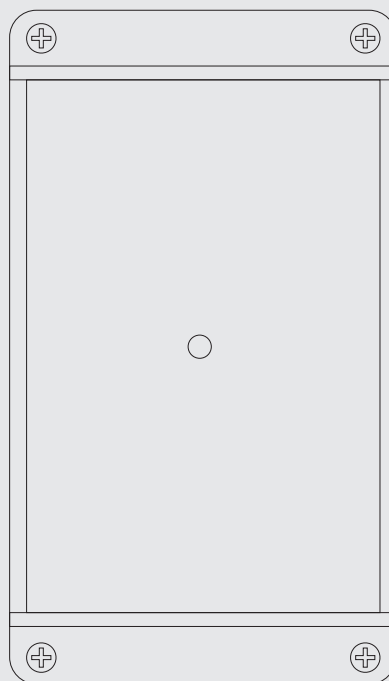
SS: According to this old Jarhead: Tough. Like the Receivers, Ranger Transmitters are also ETL listed to the UL 294 standard. They are appropriate for use indoors or out. They've been self-certified to an ingress protection rating of 65, and thrive at both a bayside marina and desert golf community. The enclosure is water- and weather-resistant and snaps together securely without a screw. Each button is molded of hard plastic and includes raised numbering 1 through 4—they resist wearing, cracking and jamming. These Transmitters are built to endure the most challenging natural environments, withstanding temperatures from −40° F to 122° F (−40° C to +50° C).
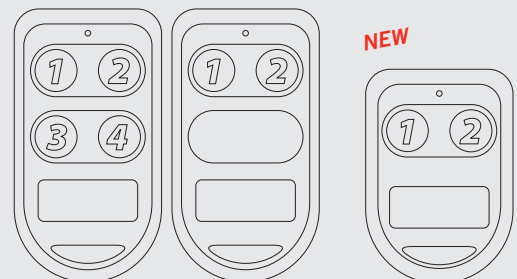
Ranger facts:
- Read range up to 200 feet (61 m)*
- Supports MAXSecure™
- ETL Listed to the UL 294 standard

ETL Listed
Intertek

> **"Our Ranger system has been working flawlessly, and is hands-down the best access control investment we've made at Kolea."**
> *Trenton Johnson,*
> *Facilities Manager*
> *Kolea, Waikoloa, Hawaii*

NEW

WRR-22
3.3"W × 3.3"H × 1.9"D
(84mm × 84mm × 48.3mm)

WRR-44
3.4"W × 6.3"H × 2.3"D
(86.4mm × 160mm × 58.4mm)

WRT-4+ and WRT-2+
1.45"W × 2.5"H × 0.56"D
(37mm × 63.5mm × 14.2mm)

WRT-2M
1.4"W × 1.95"H × 0.47"D
(35.6mm × 49.5mm × 11.9mm)

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TR: What is the failure rate of these products?

SS: 0.04%. This figure is taken from our actual returns data, and includes all Ranger Receivers and Transmitters returned for any technical reason compared to total shipments. I think you'll agree that this percentage speaks for itself.

TR: So much talk today revolves around hacking. Is Ranger secure?

SS: Taking into account the public's growing awareness of hacking in the electronic access control environment, we've taken steps. First, users can take advantage of the impressive read range, which allows the Ranger Receiver to be installed on the secure side of an installation, out of harm's way. Second, an element of the Ranger Transmitter-to-Receiver long-range, over-the-air protocol takes advantage of a secure, digital anti-playback routine. It is based on a custom enhanced rolling code variant of the Tiny Encryption Algorithm (TEA). The anti-playback feature virtually eliminates the risk of code sniffing and unauthorized cloning. Third, Ranger supports MAXSecure™. MAXSecure is a unique Farpointe offering providing a higher-security handshake, or code, between the Transmitter and Receiver to help safeguard against credential duplication and ensure that this specific end-user's Receiver will only collect data from these specially coded Transmitters. MAXSecure offers tangible advantages to both the end-user and the integrator.

Further on this topic, an end user may have a fundamental access scenario, but is very particular regarding aesthetics. Or with more and more glass portals it is sometimes difficult to even mount a traditional reader on a surface. Ranger can provide the all-elusive "invisible reader." With its superior read range, the Receiver can be installed back at the panel, thus eliminating the need to have a traditional reader mounted at the door. This makes the discerning end-user happy, and saves time and the cost of running a cable for a traditional reader.

TR: Can this product be privately labeled?

SS: Absolutely! Like all Farpointe products, the Ranger line can be labeled with an end user, integrator or OEM's name and contact information. This can assist with corporate branding efforts, as well as help the end-user know who to call for additional Transmitters.

TR: Where can Ranger Receivers and Transmitters be purchased?

SS: I encourage interested parties to contact their preferred electronic access control system providers.

Alternatively, if they have questions or requests, they should always feel free to reach out to us at Farpointe, directly at telephone +1-408-731-8700, or refer to the our website.

> "Ranger Transmitters are true multi-technology remotes. Use the buttons for longer-range gate and perimeter access, and present it to a standard reader for traditional access."
> *Michael Danger*
> *Electronic Security Sales*

TOP 5 REASONS
LONG-RANGE IS A GROWING TREND

1. **Convenience:** Pushing a button is often more convenient, and more fun, than presenting a card.
2. **Security:** Sophisticated over-the-air encryption techniques reduces the threat posed by hackers and cloners.
3. **Aesthetics:** Long read range makes 'the invisible reader'—the Receiver mounted hidden from view in a security closet on the secured side of the door—a reality.
4. **Reliability:** Powered by a CR2032 coin cell battery and tested to more than 250,000 button presses, Ranger Transmitters are built to last the lifetime of the system.
5. **Compatibility:** With support for the industry standard 26-bit Wiegand format, as well as custom Wiegand formats, and OSDP, Ranger is compatible with standard electronic access control systems.

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