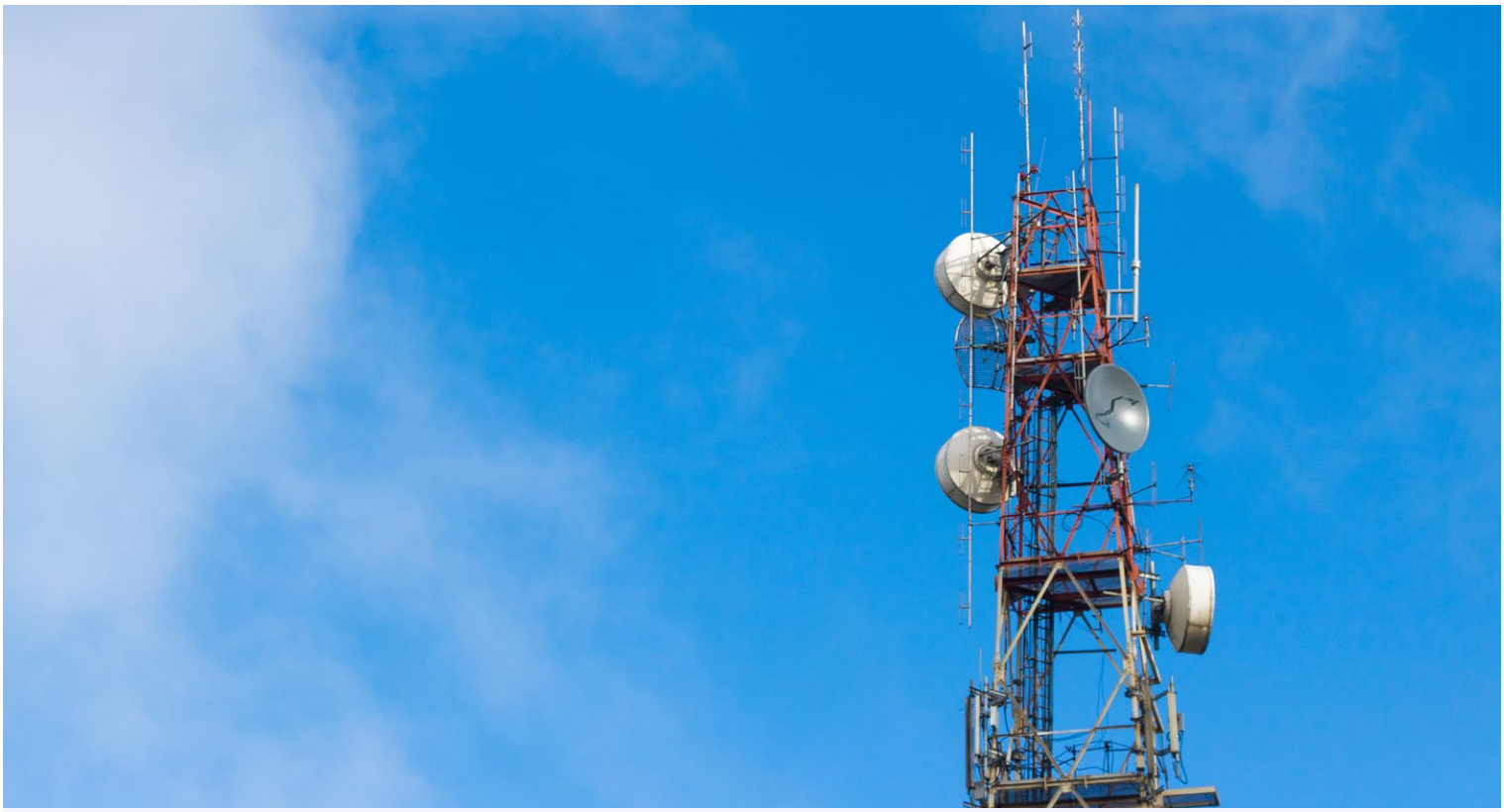
SEL Solutions for Land Mobile Radio (LMR) Systems

Dependable clocks, network and monitoring devices, and computers for first-responder systems

- Achieve high-quality audio by synchronizing your repeater sites with SEL satellite clocks.
- Build resilient, deterministic, and cybersafe networks with SEL Ethernet and time-division multiplexing (TDM) solutions.
- Monitor your remote installations and networks in real time with SEL automation controllers.
- Run your critical software on SEL rugged computers.
- Strengthen your system reliability with rugged equipment designed and built in the United States.
- Receive no-cost expert technical support backed by a ten-year, no-questions-asked warranty.



Secure, Dependable Performance for LMR Systems

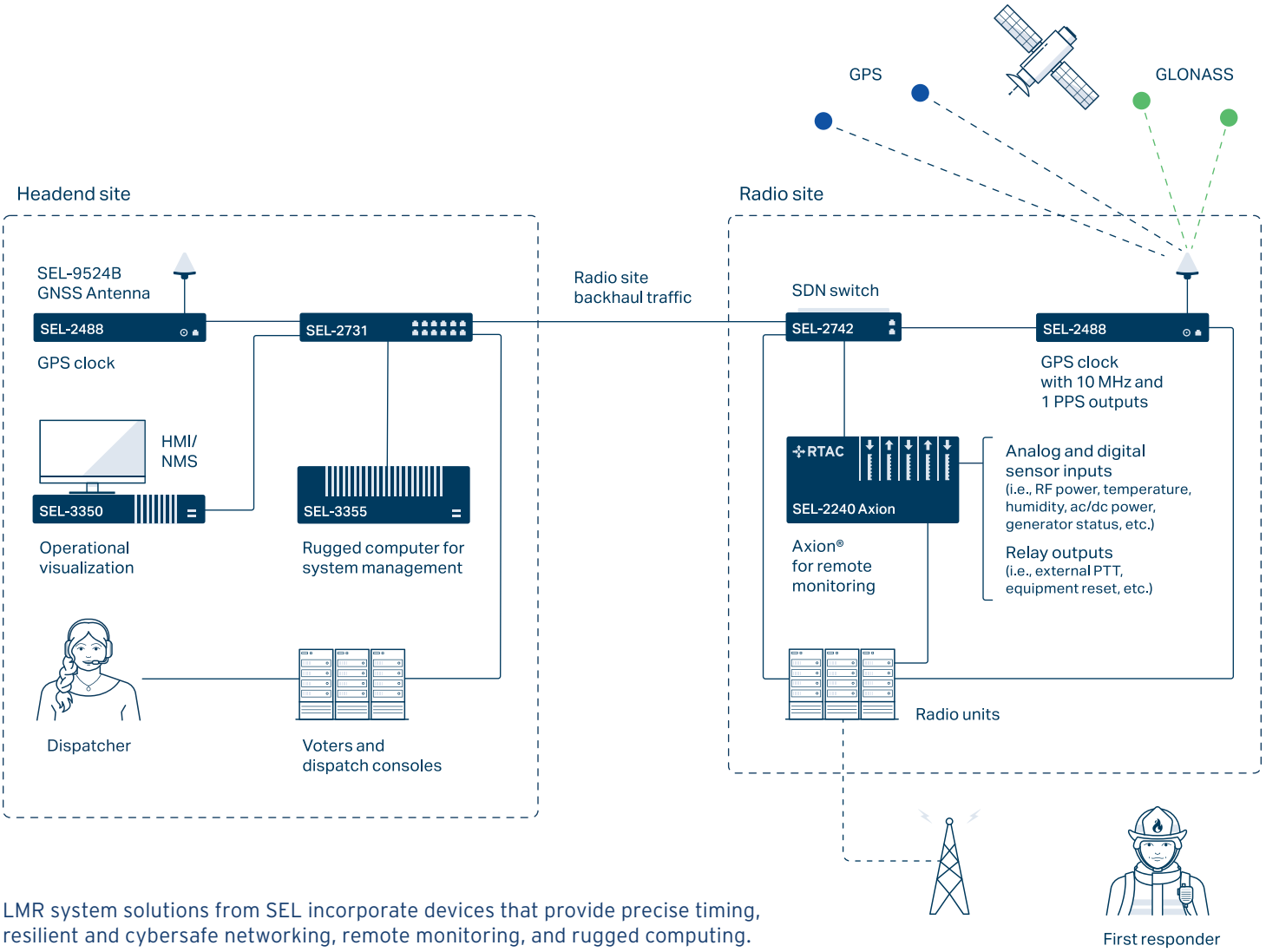
When all else fails, emergency communications need to be the last service standing.

At SEL, we're known for supporting many critical systems the public depends on. Our devices are installed throughout the global electric power system and many other industries that demand continuous availability, like petroleum refineries and water and wastewater systems. Any time a first responder relies on electric power to charge their handheld radio, they're probably already being served by SEL technology.

Just like the other critical systems we protect, emergency services require rugged and highly reliable equipment. Our solutions are purpose-engineered to meet those requirements by operating dependably with no human intervention for years, all while withstanding environmental extremes from −40° to +85°C (−40° to +185°F). We understand that your LMR system uptime is critical. That's why our solutions have short lead times, typically ten days or less, and are interoperable with major radio vendors.

Our goal is to let radio managers focus on transmitting a quality audio signal from their public safety answering point (PSAP) to a first responder—because their radio system is always synchronized, dependable, cybersecure, and easy to monitor. And because we back our solutions with a ten-year warranty, no-cost repair service, and complimentary around-the-clock support based in the United States, radio managers can always reach an SEL engineer for help.

End-to-End LMR System Support



LMR system solutions from SEL incorporate devices that provide precise timing, resilient and cybersafe networking, remote monitoring, and rugged computing.

Precise Timing

The SEL-2488 Satellite-Synchronized Network Clock ensures your audio clarity by keeping each repeater site in sync—and never requires downtime for periodic maintenance.

- Leverage GPS signals to establish timing precision, then distribute time and frequency via multiple 10 MHz and 1 pulse per second (PPS) outputs or achieve time synchronization through the Precision Time Protocol (PTP).
- In the event of a GPS disruption, ensure reliable timekeeping with redundant internal timekeeping, which offers a holdover accuracy of up to 2.5 milliseconds after 24 hours.
- Maintain compliance with Criminal Justice Information Services timekeeping requirements for call recording equipment, thanks to precisely synchronized equipment in PSAPs.
- Build a complete precise-time solution with accessories like the SEL-9524 GNSS Antenna, LMR-400 coaxial cabling, and gas tube coaxial surge protector.

Resilient and Cybersafe IP Networks

SEL network switches with operational technology (OT) software-defined networking (SDN) secure and isolate your traffic, so nothing can happen on your network that you don't want.

- Improve network security and uptime with SEL OT SDN switches that secure and isolate Ethernet traffic, such as in repeater sites that collocate emergency radio communication systems with other services.
- Eliminate broadcast storms caused by network loops, using proactive traffic engineered circuits.

Flexible Networking

The SEL ICON Integrated Communications Optical Network enables 911 PSAPs to flexibly support analog and digital voice traffic, and both TDM and Ethernet transport.

- Flexibly transport voice services with the ICON, including 2- and 4-wire voice and radio over IP (RoIP) circuits, enabling 911 PSAPs to support analog and digital voice traffic.
- Seamlessly migrate legacy network technology to packet-based Ethernet communications at your own pace, thanks to ICON support for both TDM and Ethernet transport.

Remote Monitoring Devices

The SEL-2240 Axion® and SEL Real-Time Automation Controller (RTAC) remote monitoring devices let you proactively monitor and maintain your LMR system, all from a central interface.

- Collect field data, such as operational and environmental information, at each repeater site with the Axion, and transmit it to a central location.
- Consolidate and organize your field data onto a central interface with the SEL RTAC, enabling you to quickly diagnose and fix issues without traveling to remote repeater sites. When travel is necessary, it allows you to prepare before making the trip.
- Streamline your network monitoring and control down to one graphical, web-accessible interface that quickly alerts users to system irregularities via the visual display and through email.

Rugged Computing

SEL rugged computers are engineered to withstand extreme environments while running critical software.

- Rely on computers proven to be ten times more reliable than traditional industrial computers, thanks to error-correcting code (ECC) memory technology, innovative temperature management, and a design free of moving parts.
- Protect the operation of critical software with computers built for harsh environments, such as remote field equipment shelters and repeater sites.

We're ready to help make your LMR system more dependable. Contact us today to learn more!

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