Product Specification Sheet
WNC-RP-UL1069
Wireless Repeater



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The WNC-RP-UL1069 UL1069 Wireless Repeater is a commercial-grade, high-reliability infrastructure component designed to extend the signal range, penetration, and coverage area of a wireless nurse call system.

Operating on a robust 900 MHz frequency-hopping spread spectrum (FHSS) network, this repeater dynamically captures, decodes, and re-transmits data packets from all compatible wireless bedside stations, emergency pull cords, and mobile nurse call devices.

Engineered specifically to meet the stringent life-safety performance standards required for acute care environments, the WNC-RP-UL1069 ensures that critical patient alarms bypass structural obstacles like thick concrete, steel framing, or fire-rated walls. By providing intelligent network routing and signal redundancy, it bridges long-distance communication gaps between remote patient wings and the primary central master console without introducing packet collisions or latency.

Architects' and Engineers' Specifications

The Wireless Range Extension Device shall be a supervised, high-power network repeater, model Wireless Nurse Call SKU: WNC-RP-UL1069. The unit must be listed under the UL1069 standard for Hospital Signaling and Nurse Call Equipment to ensure structural and signaling compliance within acute healthcare and skilled nursing facilities.

The repeater shall operate within the 900 MHz frequency-hopping spread spectrum (FHSS) band. It must be technically engineered to receive, decode, validate, and re-transmit life-safety RF alarm packets originating from supervised bedside stations, emergency stations, and mobile duress components.
The repeater hardware shall require physical network mapping via a dedicated 8-Port Ethernet Switch to interface with the central computer console or designated console receivers, which include the MV200Z, 200Plus, 400Z, or 500Z series.

The device shall feature full supervision, transmitting periodic diagnostic health and check-in signals to the central master console. Any interruption in primary power or communication status must trigger a visual and audible fault alarm at the master station.

Emergency operational continuity must be maintained by an internal, rechargeable second battery backup assembly contained within the repeater housing. The repeater enclosure shall be surface-mountable on walls or ceilings, constructed of high-impact flame-retardant material, and feature external LED indicators displaying active status for primary power, battery status, and RF telemetry traffic.

Specifications

- **Operating Frequency:** 900 MHz Spread Spectrum (Frequency Hopping)
- **Signal Processing:** Automatic packet extraction, validation, and re-transmission
- **Required Network Interface:** Requires an 8-Port Ethernet Switch connection
- **Console Compatibility: MV**200Z, 200Plus, 400Z, 500Z, & PC-Based Platforms
- **Primary Power Input:** Dedicated AC Adapter / Power Supply unit
- Secondary Power Backup: Internal long-life rechargeable battery backup assembly
- **Mounting Profile:** Surface wall-mount or ceiling-mount configuration
- **Enclosure Material:** High-impact, flame-retardant commercial housing
- **Diagnostic Indicators:** On-board LEDs for Power, Battery, and RF Status activity

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Features

- **900 MHz Spread Spectrum Technology:** Captures, deciphers, and amplifies alarm signals across a broad array of channels, minimizing signal degradation and multi-path interference.
- **Intelligent Packet Routing:** Decodes incoming RF data packets and re-transmits them at maximum legal power output while preventing duplicate signal loops within the system architecture.
- **Continuous Polling & Supervision:** Fully supervised by the master computer console; transmits real-time status checks-in to report active power state, RF signal strength, and diagnostic health.
- **Network Backbone Integration:** Integrates into the system infrastructure via an 8-Port Ethernet Switch pipeline, enabling a hybrid wireless/wired structural backbone for maximum reliability.
- **Secondary Emergency Backup Power:** Equipped with an on-board, long-life rechargeable battery array to maintain critical life-safety packet transmission during primary AC power failures.
- **Compact, Surface-Mount Footprint:** Housed in a durable, impact-resistant enclosure engineered for high-wall or ceiling mount applications out of the reach of patients or unauthorized personnel.
- **Automatic Field Self-Healing:** Seamlessly reroutes emergency signals through alternative neighboring repeaters or receivers if a sister component undergoes a structural or profile event.
- **Dynamic Programming Retention:** Retains its internal device configurations, system pairing matrices, and zone definitions inside non-volatile memory during total power interruptions, requiring no field re-programming upon power restoration.
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- **Status Diagnostics:** Includes exterior-facing LED diagnostic indicators providing visual confirmation of primary AC power, battery charging status, and RF transmission/reception activity.

Equipment Options

The WNC-RP-UL1069 plays a vital role in scalable system architectures and coordinates seamlessly with the following core infrastructure and peripheral elements:

- **Primary Master Consoles:** Natively compatible with the WNC-SERVR-UL1069 PC Computer Console, as well as the MV200Z, 200Plus, 400Z, and 500Z wireless console receivers.
- **Peripheral Transmitters:** Amplifies data streams originating from UL1069 Wireless Single Bed Stations (WNC-BS-UL1069), Dual Bed Stations, and Waterproof Pull Cord Stations (WNC-PC-UL1069).
- **Mobile Duress Equipment:** Reliably routes tracking alerts from Wireless Neck Pendants, Wrist Transmitters, and Under-Counter Security Buttons.
- **Required Network Hardware:** Requires integration with a certified 8-Port Ethernet Switch component for master network synchronization.

Compliance and Certification

- **UL Standards:** Fully listed and certified to the UL 1069 Standard for Hospital Signaling and Nurse Call Equipment, satisfying the mandatory structural and signaling benchmarks for acute care hospitals and skilled nursing facilities.
- **NFPA Compliance:** Adheres to all technical signaling and system redundancy mandates outlined in the NFPA 99 Health Care Facilities Code.
- **FCC Status:** Compliant with FCC Part 15 regulations for intentional radiators within the 900 MHz ISM band, ensuring safe co-existence alongside sensitive biomedical telemetry systems.
- **RoHS Status:** Manufacturer utilizing certified lead-free and non-hazardous materials in full alignment with global environmental restriction guidelines.

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