



BOSCH

Invented for life

Alternate Care Site Solutions

Quick Deployment Emergency Notification (QDEN and QDEN+)

- Patient Emergency Notification
- Hands-Free Patient Intercom
- Virtual Bed Rail
- Asset and Personnel Tracking
- Public Address
- Security

QDEN | QDEN+

Alternate Care Sites require systems designed to enable patients to request immediate assistance from medical staff. Medical personnel, operations staff, and security teams require situational awareness about patient requests for assistance, the locations of critical assets, personnel location, communication to specific areas or throughout the entire facility, and general security measures.

Bosch Security and Safety Systems has developed Quick Deployment Emergency Notification (QDEN and QDEN+) Solutions to allow medical facilities to quickly implement a wireless patient emergency notification system in Alternate Care Sites such as tents, convention centers, parking garages, hotels, and other facilities.

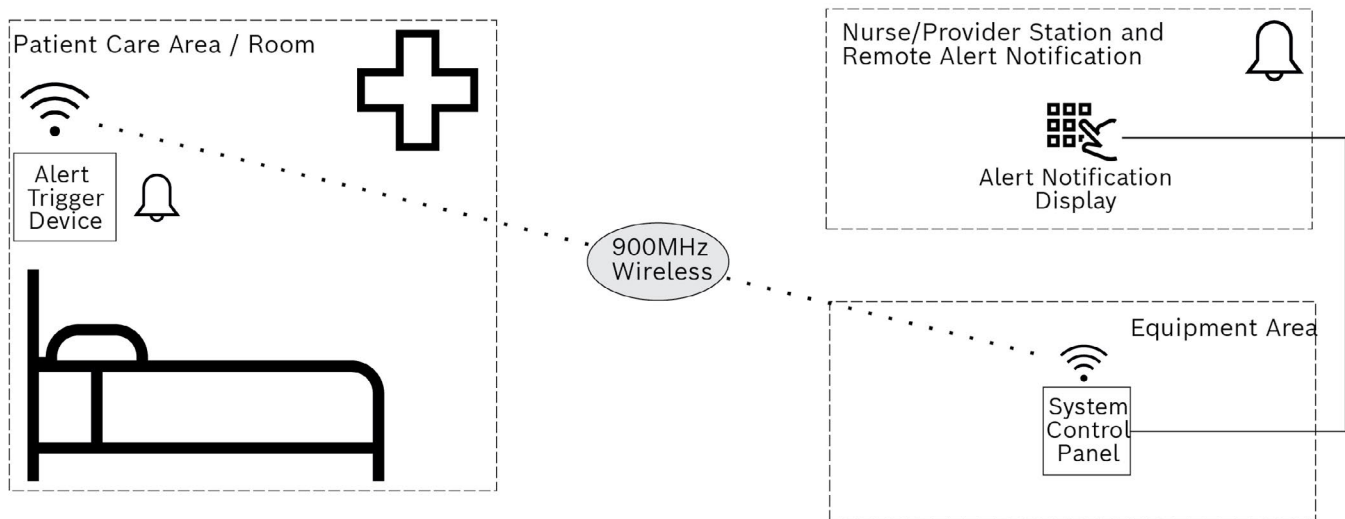
In addition to QDEN and QDEN+ Solutions, several additional systems can be integrated to provide patient intercom, provider transcribing communication, virtual bed rail, asset and personnel tracking, public address, access control, storage room and general security, and video surveillance.

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QDEN Patient Alert Solution

By implementing a scalable Bosch G Series Control Panel System, every patient bed is equipped with a personal alerting device which can transmit a signal wirelessly to a nurse or care provider station. The alert is received on a simple display until the alert is acknowledged by medical staff at the bedside or may optionally be received via text message or email. Alert devices can be pendant, pull cord, or push button as required by the application.



QDEN Solution Features:

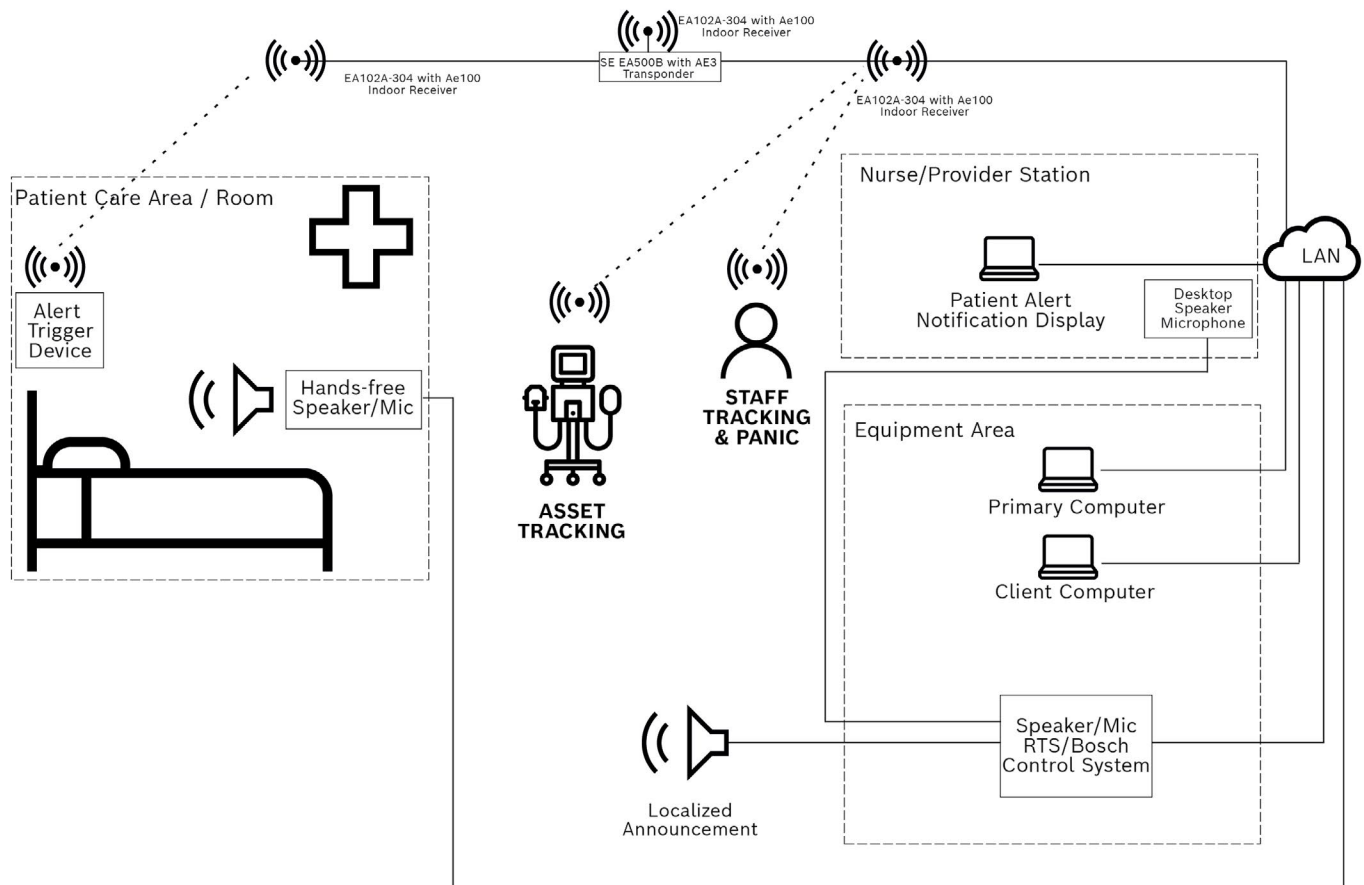
- ▶ Extremely rapid deployment using 900 MHz Spread Spectrum Wireless transmitters
- ▶ Ease of Set up
- ▶ Custom programming capability
- ▶ Multiple models of patient alerting devices
- ▶ Acknowledgment of alerts at nurse station keypad display and bedside acknowledgement
- ▶ Remote operation with capability to provide push notification via text or email
- ▶ Integrated Access Control for securing doors
- ▶ Manage sensitive areas:
 - Medication, PPE, and critical assets
 - Perimeter doors: secure doors, door-held-open alarms on commonly used doors
- ▶ Power back up on all main system hardware
- ▶ Integration to public address, video surveillance, asset tracking, and personnel tracking systems

QDEN System Primary Components:

- ▶ Master control panel (G Series)
- ▶ Keypad displays
- ▶ IP hardwire connectivity
- ▶ Cellular communication module for text and email
- ▶ Wireless transmitter, receiver, and repeater devices
- ▶ Patient alert devices: push button, pull cord
- ▶ System management software
- ▶ Optional access control modules – if door control is desired

QDEN+ Patient Alert Solution

Security Escort is implemented to rapidly deploy a wireless bedside help call and personal alarm system. Real time location system (RTLS) for personnel tracking to assist hospital operations to identify and locate essential critical equipment and personnel anywhere at the facility. Every patient bed is equipped with a personal alerting device which can transmit a signal wirelessly to a nurse or care provider station. The alert is received on a simple graphical display until the alert is acknowledged by medical staff at the bedside. The graphical user interface supports a large range of wireless transmitters for asset and personnel tracking. Security Escort can locate a person or asset wherever it is or as it moves around the facility. Alerts can be created if assets are being moved outside of a predetermined area or alarms can be created to notify administrators if an asset is being removed from the facility. The system can also be used by personnel to trigger a panic alarm. When in alarm, the system provides an alert to staff that an emergency is active.



QDEN+ Solution Features:

- ▶ Patient Help Call
- ▶ Associate patient care instructions to patient alerts
- ▶ Graphical user interface that easily identifies user or asset by location
- ▶ Real Time Location System (RTLS) tracks assets and personnel while in motion
- ▶ Patient wandering alarm capability
- ▶ IP camera call-up on alert or alarm
- ▶ Indoor/outdoor protection for 60,000+ users and assets
- ▶ Operates at 304 MHz
- ▶ Small, easy to carry wireless transmitters
- ▶ Auto-track on wireless moving alarms every 7 seconds and auto location of wireless transmitter (base on transmitter 30-90 seconds)
- ▶ Easy to mount bedside wireless transmitters
- ▶ Visual alert when an asset leaves an assigned area
- ▶ Man-down alarm, personnel tracking, and guard tour
- ▶ Post-alarm tracking and alarm map recall
- ▶ [More about Security Escort here >>](#)



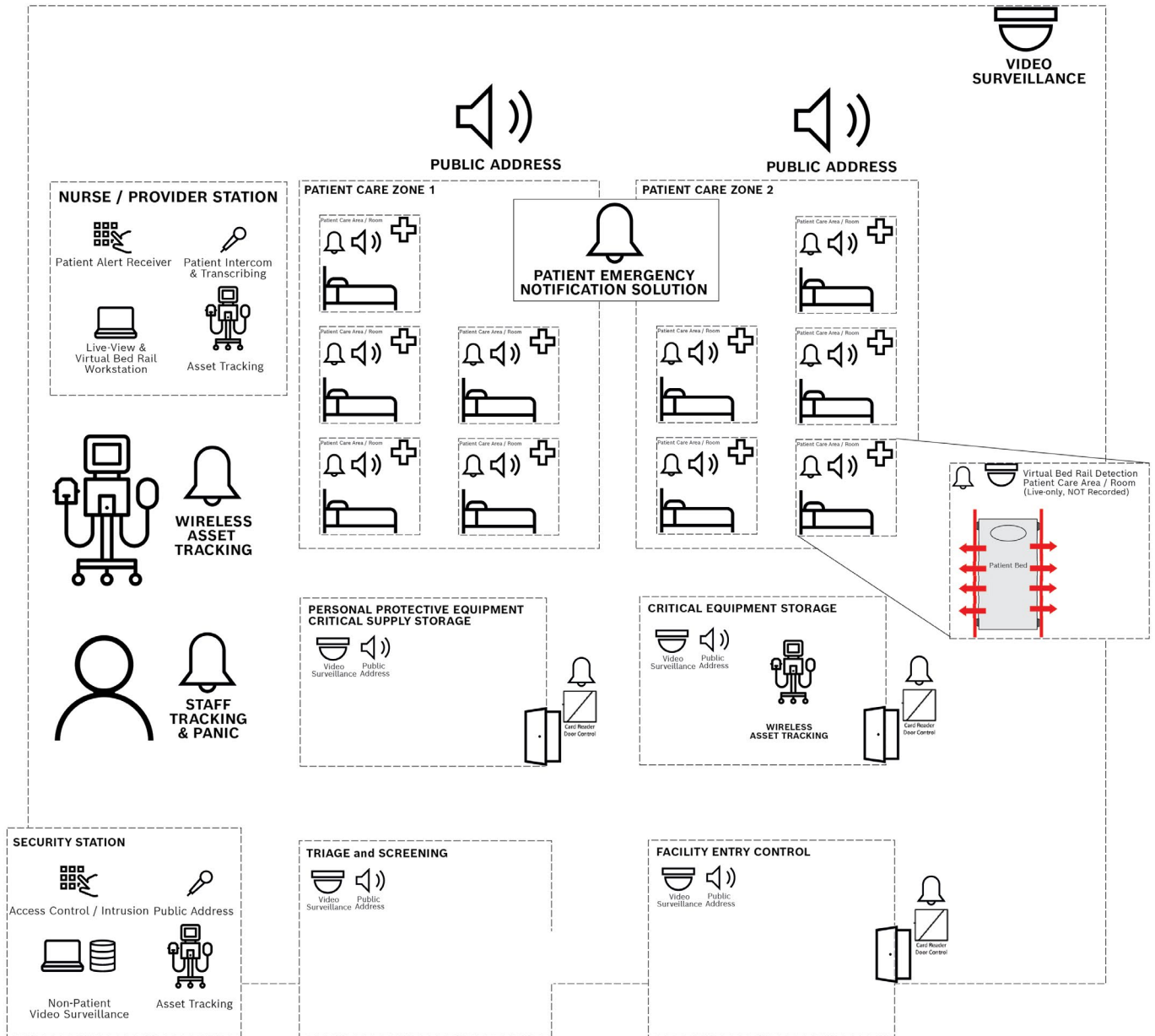
Asset Tracking Tag



Personnel Tracking Transmitter

Unified Solution

Complimentary systems are used with Bosch QDEN and QDEN+ to provide additional situational awareness and security.



Hands-Free Patient Intercom: RTS

Verbal, hands-free intercom communication from the patient room to the nurses' or providers' station provides context for the patient's request for assistance. This is especially true when access to the room or area may be restricted or limited.

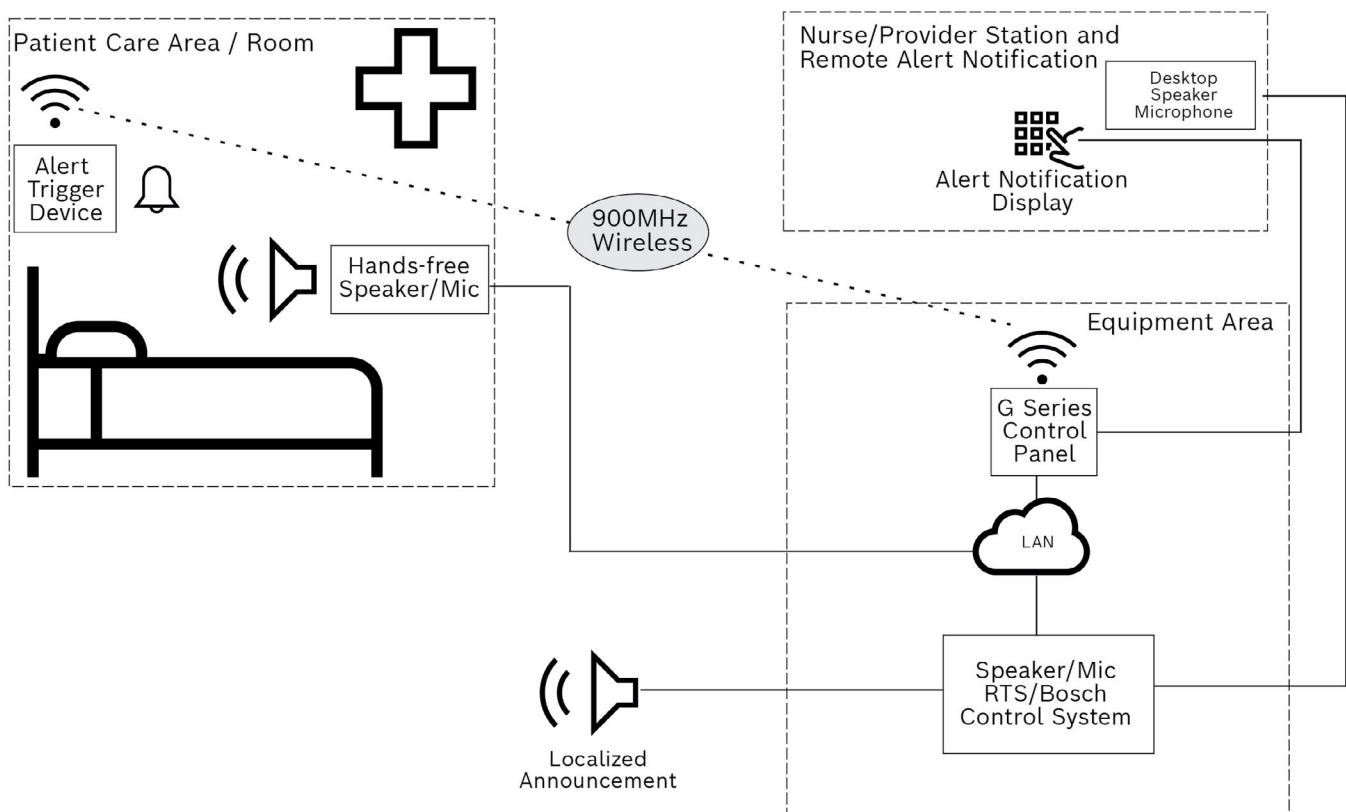
Transcription from an isolated room can be performed through the same hands-free system.



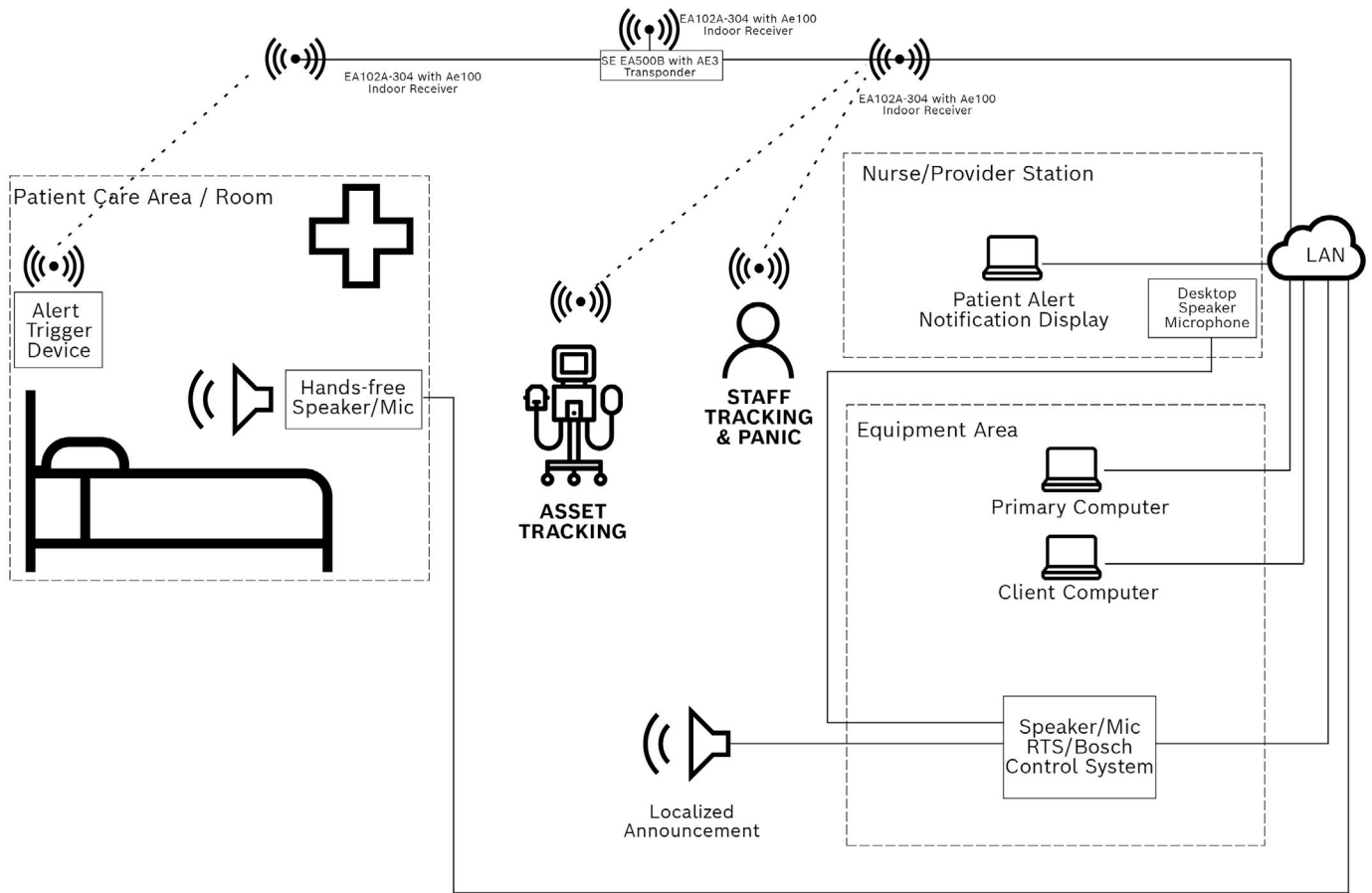
Features:

- ▶ Hands-free patient communication
- ▶ Provider to Scribe communication for transcribing
- ▶ Multi-room audio communication from nurses' station
- ▶ Integration to other systems for simplified operation

Conceptual Diagram: QDEN with RTS Intercom



Conceptual Diagram: QDEN+ with RTS Intercom



Public Address: PRAESIDEO

Public address is used to provide audio messaging to a specific area of a facility or broadly to the entire facility, both indoors and outdoors.

PRAESIDEO is the world's first fully digital, networked, public address, paging, and emergency sound system. The system's unique optical network offers total freedom in system design, interference-free audio, and a high level of redundancy and supervision to ensure every message is delivered. This is something traditional PA systems cannot offer. It is fully programmable and interfaces with other security systems.



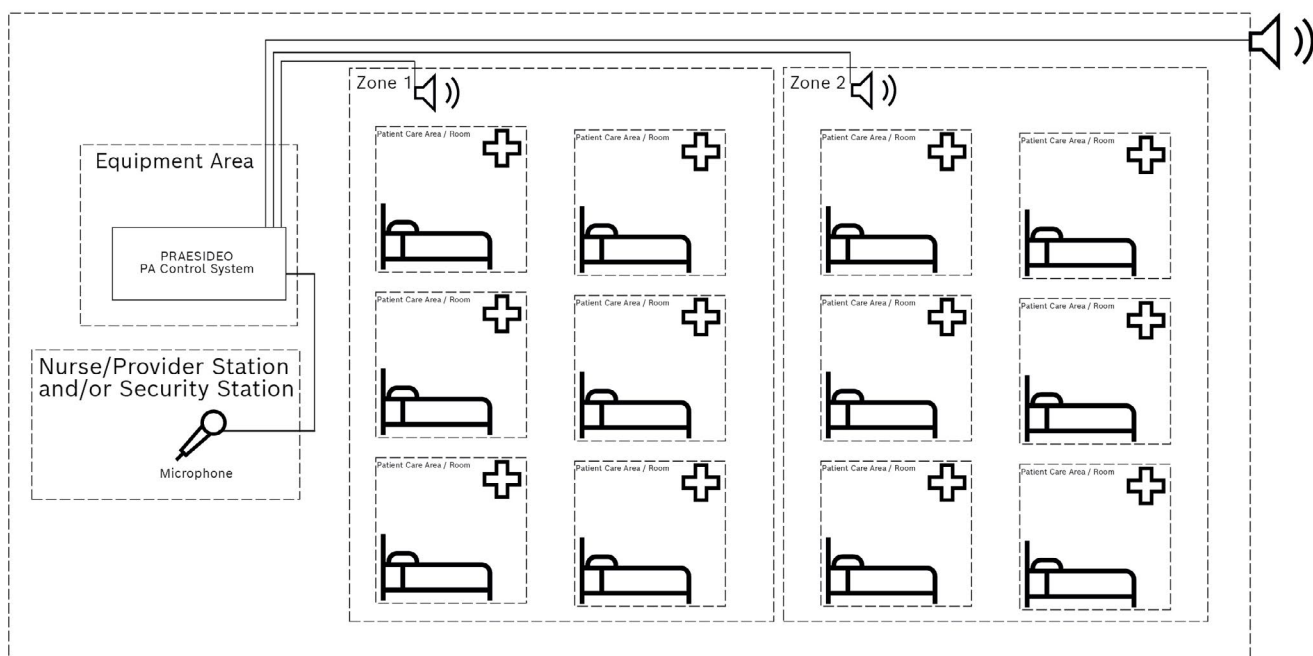
To support longer distances or multi-site applications, PRAESIDEO provides supervised communication using OMNEO/ Dante™ in a Local Area Network (LAN). The system can even be used in a multi-subnet Wide Area Network (WAN), using Voice over IP technology on networks with limited bandwidth, or using OMNEO Audio over IP for multi-channel, high quality, low latency, perfectly synchronized interconnections.

The system can also be used in conjunction with a SIP phone system to deliver messages from remote locations or be interfaced with the RTS ODIN system for bi-directional audio needs.

Features:

- ▶ Interference-free audio
- ▶ High level of redundancy
- ▶ Microphones at nurse, security, and operations desks
- ▶ Zone-based messaging
- ▶ Messaging on incoming alarm from integrated systems
- ▶ Certified according to EN54-16 and ISO 7240-16
- ▶ [More about PRAESIDEO here >>](#)

Conceptual Diagram: PRAESIDEO Public Address



Video Surveillance and Virtual Bed Rail: BVMS

Situational Awareness

The ability to provide situational awareness for operations and security is made possible with video surveillance cameras. Video provides staff with the ability to quickly observe an area of interest or where an alert is taking place.



PPE Compliance Monitoring

Video surveillance provides real-time monitoring of PPE usage as well as a visual record of compliance for healthcare workers.

Virtual Bed Rail

If placed in a patient room, video analytics in the IP cameras enables virtual bed rail detection by alerting nursing staff when a patient is no longer in their bed. To protect patient privacy, video recording is disabled in patient rooms.

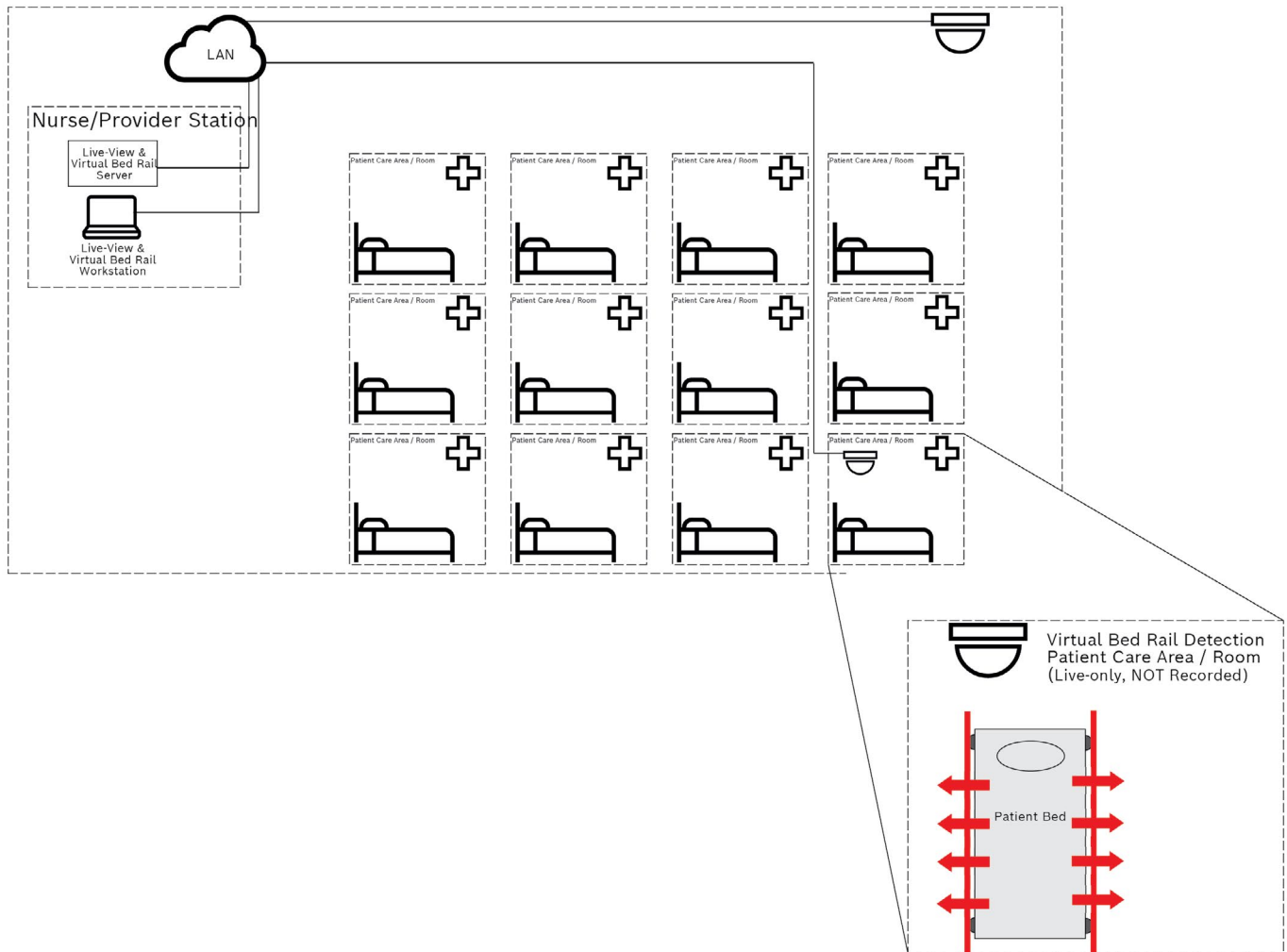
Video Recording (option for non-patient and public areas)

Recording of video cameras can be implemented to create a visual log of events and activities while disabling sensitive areas such as patient care rooms.

BVMS Features:

- ▶ Enables real-time monitoring and recording of PPE usage
- ▶ Provides a record of PPE compliance for healthcare workers
- ▶ Virtual bed rail detection by leveraging video analytics in surveillance cameras to alert staff when a patient is no longer in their bed.
- ▶ BVMS is a comprehensive video management and situational awareness system
- ▶ Simple, user-friendly video window and/or map-based interface
- ▶ Graphical mapping that shows location of cameras and other associated devices on floor plans
- ▶ Enables live viewing in areas such as nurse stations and security control rooms
- ▶ Records all video for use when reviewing incidents or during post event assessments
- ▶ Scalable from simple/small systems to large/complex systems
- ▶ Integration with QDEN G Series displays all QDEN G Series devices and statuses on the map
 - Patient alert device locations
 - Door access control readers
 - Event status
- ▶ QDEN G Series integration provides a unified graphical user interface for streamlined operation
- ▶ Integration to multiple 3rd party systems
- ▶ [Learn more about BVMS here >>](#)

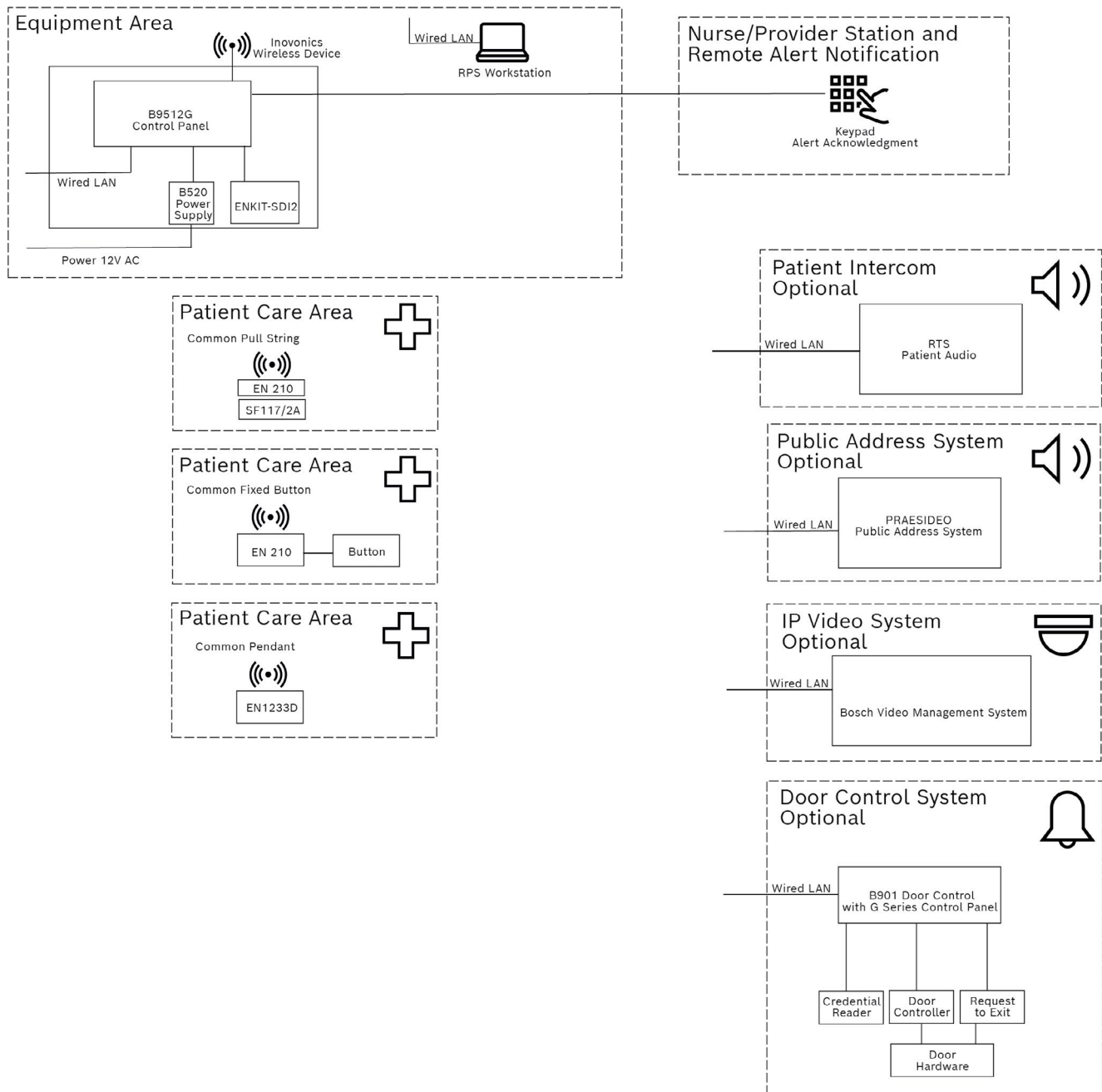
Conceptual Diagram: BVMS with Virtual Bed Rail - Live-View Only (no recording)



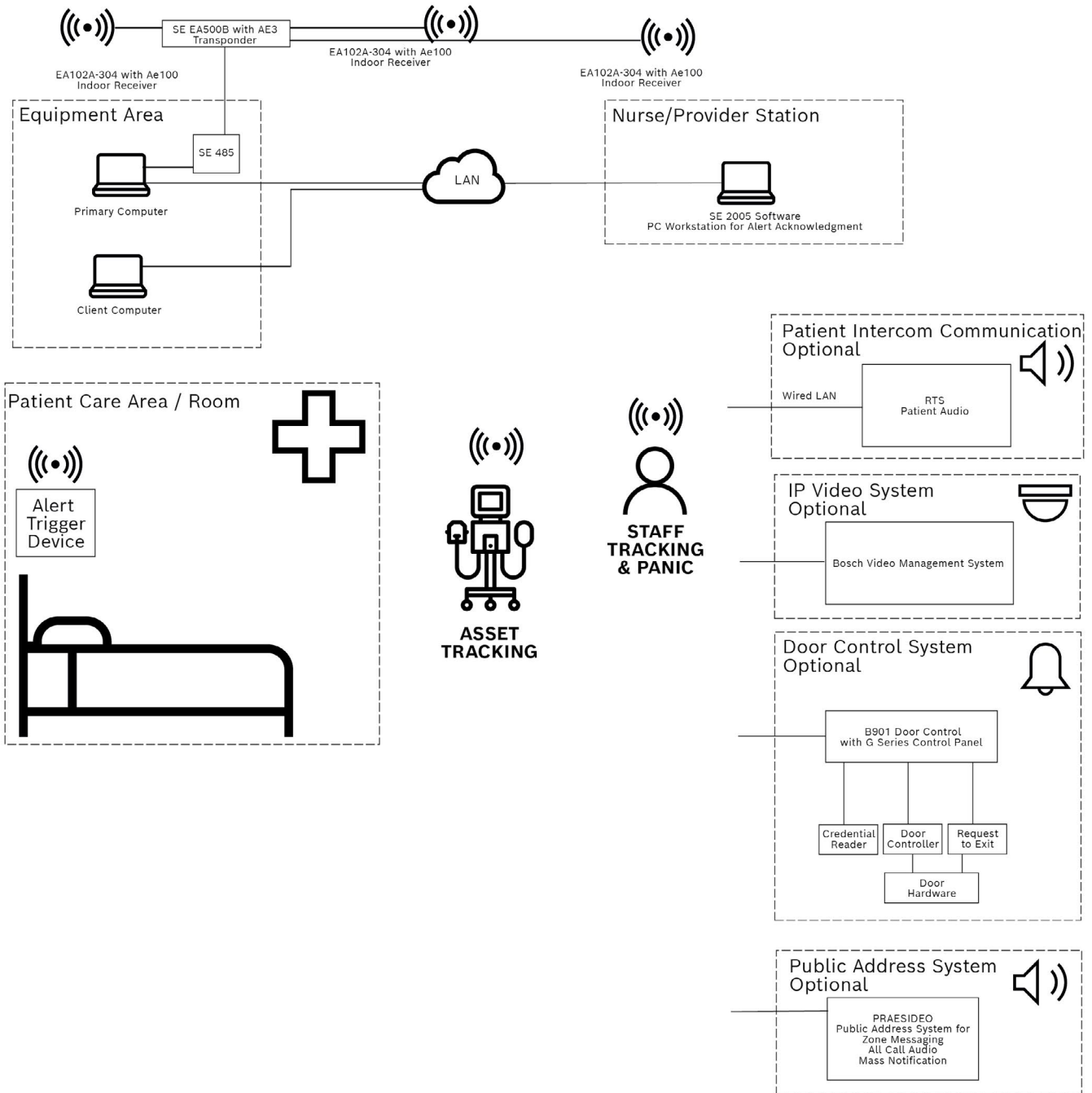
Line Diagrams

These diagrams provide an overview of common connectivity. Be sure to consult the Bosch QDEN Alternate Site Care Solution team.

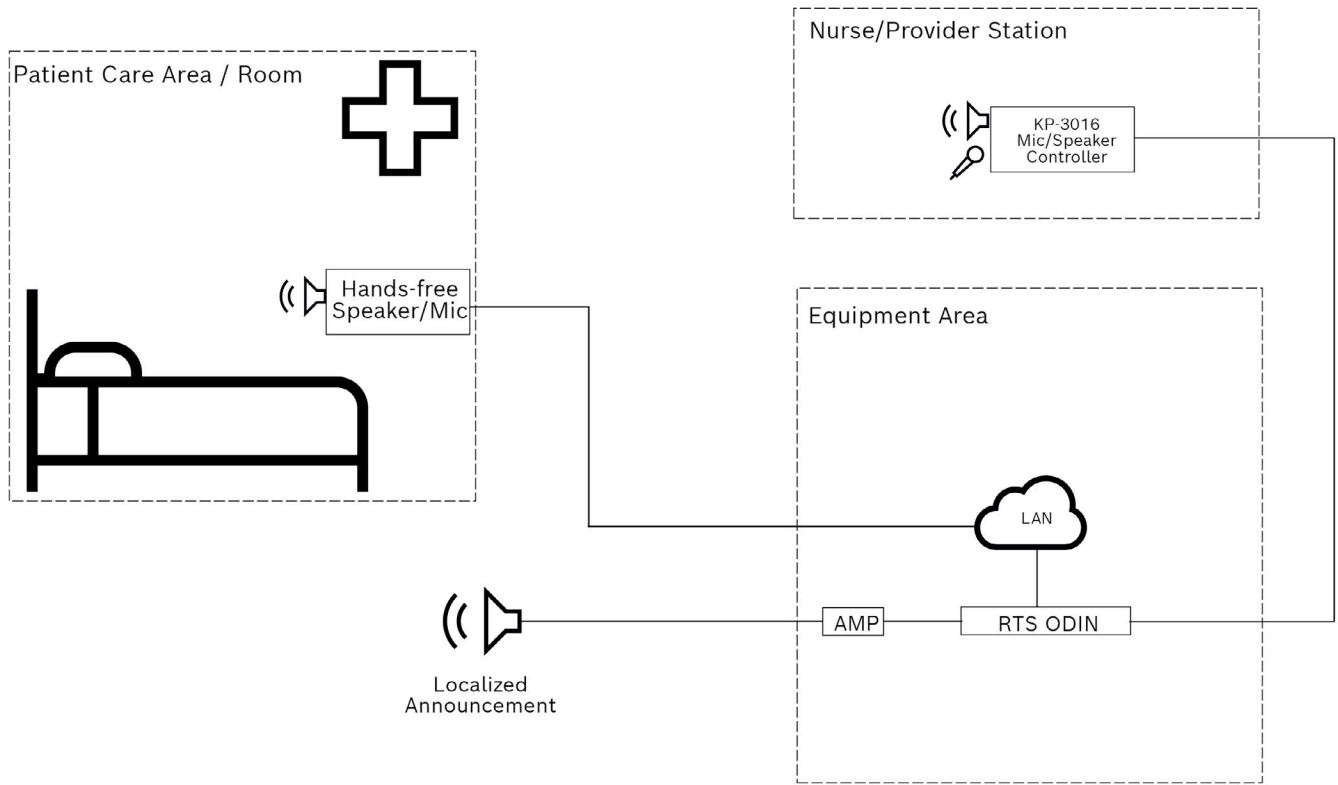
Line Diagram (QDEN G Series)



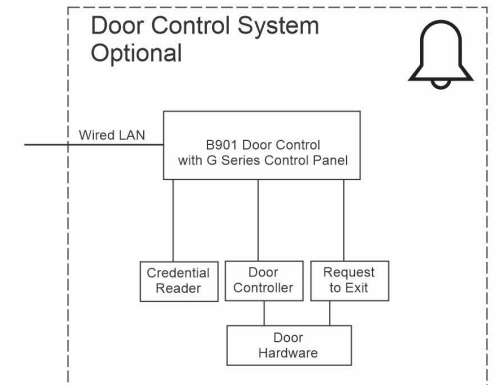
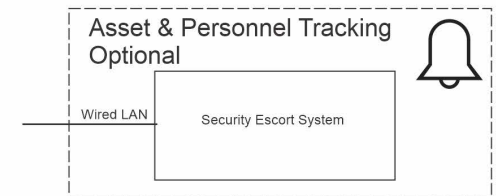
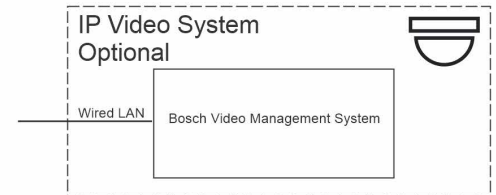
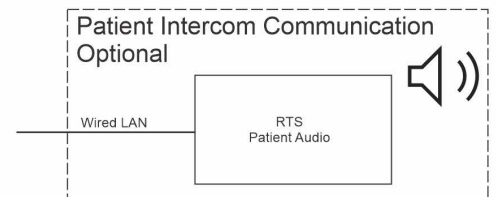
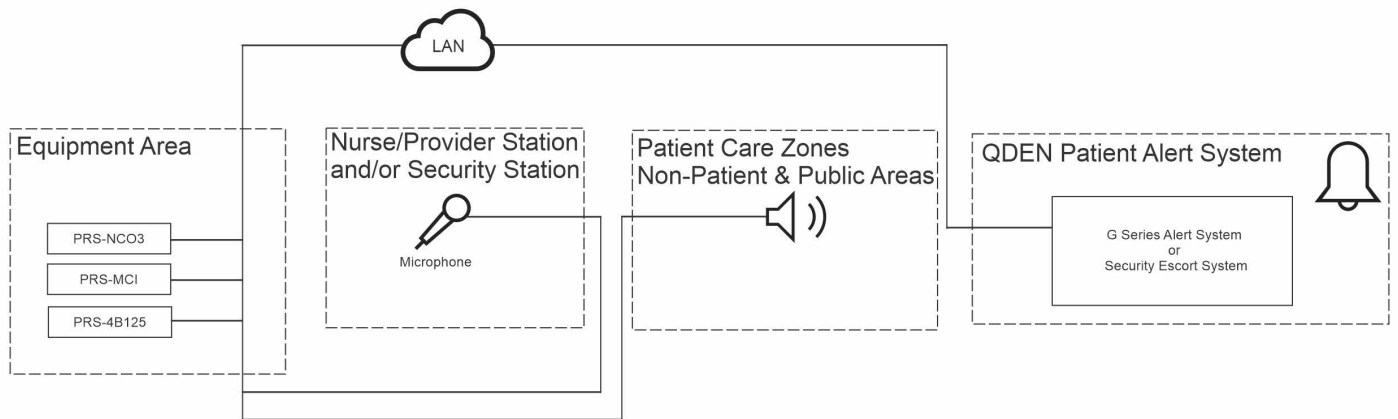
Line Diagram (QDEN+ Security Escort)



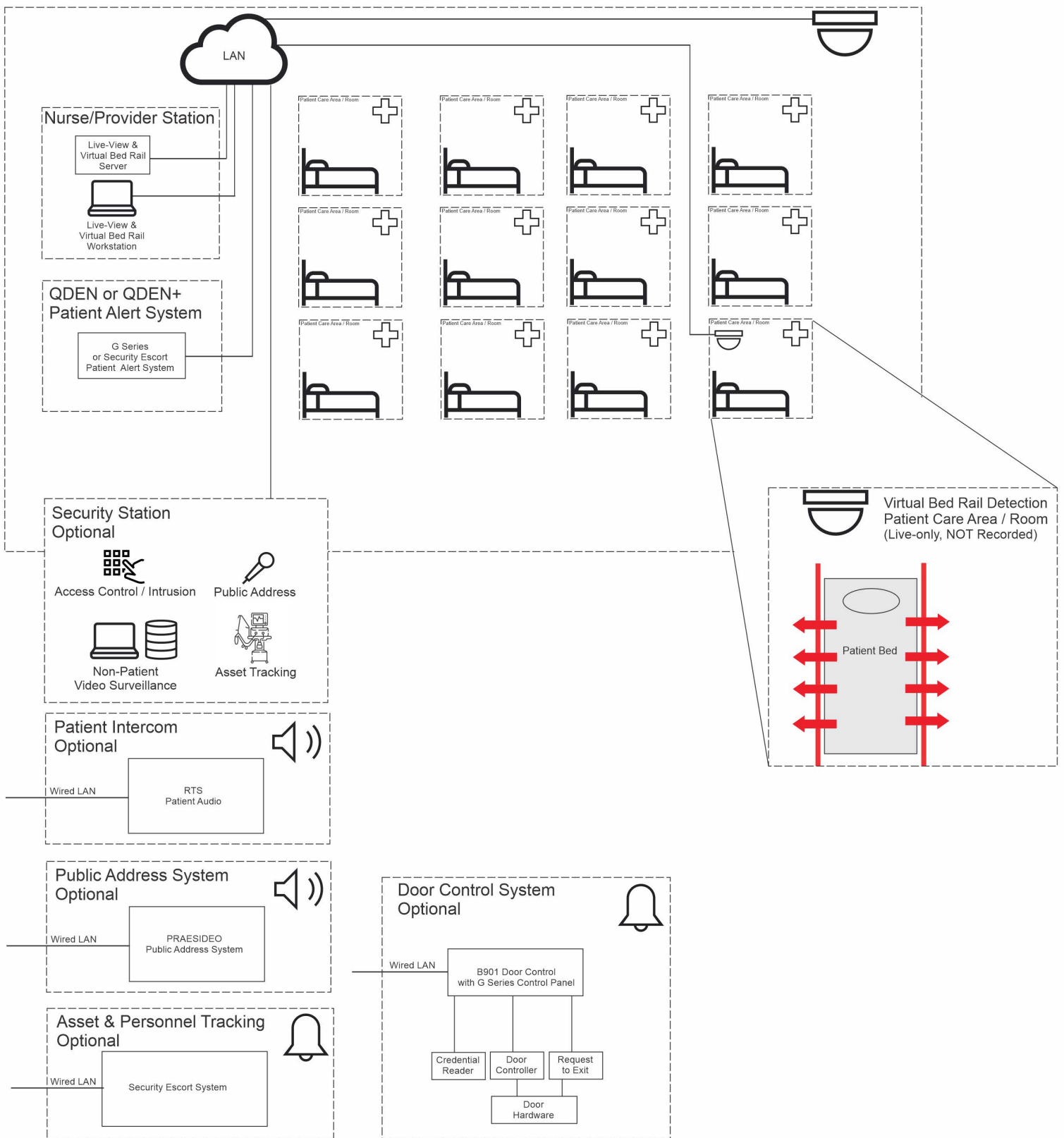
Line Diagram (RTS Intercom)



Line Diagram (PRAESIDEO Public Address)



Line Diagram (BVMS IP Video with Recording Option for Non-Patient Areas)



Alternate Care Site Solutions Design Assistance

QDEN Solution Team

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