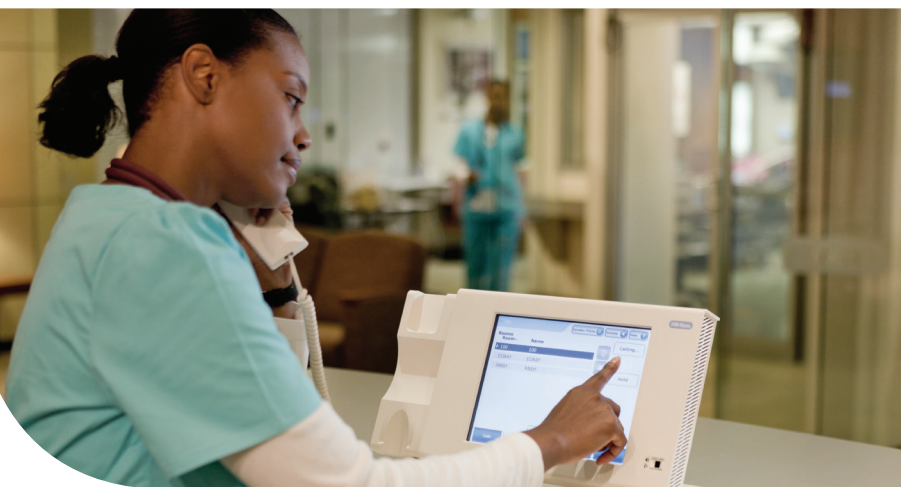


NaviCare® Nurse Call



Healing Environments



NaviCare® Nurse Call Design and Planning Guide

Hill-Rom®

Enhancing Outcomes for Patients and Their Caregivers.®

NaviCare® Nurse Call System

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NaviCare® Nurse Call System

The goal of this guide is to explain and exhibit to you how easily our products can be used and installed. We know that finding building specifications for certain products can be difficult, therefore this guide has been created with you in mind to show you the ease of working with Hill-Rom.

At a Glance

- The Hill-Rom NaviCare® Nurse Call (NNC) system is the next generation of nurse call, designed as a comprehensive communication and information management system that allows communications within the nursing unit, which connects patients, caregivers and care giving technology.
- NaviCare® Nurse Call gives caregivers the ability to quickly locate and communicate with patients and fellow staff members. Patients can easily communicate with caregivers, the nursing station, or directly to their primary caregiver through a wireless device. Our locating technology can be used not only for staff locating but also for asset tracking, to help caregivers quickly locate equipment and medical devices, saving valuable time and steps.
- NaviCare® Nurse Call is designed as an upgradable communications platform that is adaptable to all hospital care areas, while providing the means to seamlessly add future applications such as hand-hygiene compliance monitoring.
- NaviCare® Nurse Call enables the generation of multiple patient and staff reports, such as a call activity report or a caregiver location history report.
- NaviCare® Nurse Call has the ability to integrate and send bed data points to your Electronic Medical Record (EMR). NaviCare® Nurse Call has a bed connectivity feature* that allows you to send information and alerts directly to the nurse call and to the hospital EMR solution. This provides better integration within your facility, reducing clinical workflow challenges such as manual documentation.



* Additional software and licensing fees required.

NNC Simplifies the Process

NaviCare® Nurse Call simplifies nursing processes in many aspects such as adding clinical benefits through reporting, improving caregiver efficiency, delivering bed data to the EMR and providing direct communication through wireless devices and nurse call stations.

35% of a caregiver's time is spent performing patient documentation.* Our graphical touch screen patient stations, automated patient surveillance and industry leading staff locating solution help improve caregiver adoption of health care technology, while increasing efficiency of workflow and documentation. NaviCare® Nurse Call improves caregiver efficiency by providing patient information, allowing them to walk fewer miles and spend more time delivering direct, quality care to patients.

* Hendrich A, Chow M, Skierczynski B, Lu Z. A 36-Hospital Time and Motion Study: How Do Medical-Surgical Nurses Spend Their Time? *The Permanente J* 2008 Summer;12(3):25-34

NaviCare® Nurse Call simplifies nursing processes with:

- Configurable buttons that directly communicate patient requests
- Eliminating routing through the unit clerk to relay the patient request
- Eliminating the unit clerk searching for assigned caregiver
- Eliminating the nurse calling the patient to determine the patient need
- Allowing caregiver to provide a faster response to patient request
- Reducing steps in the nursing care process
- Improving patient satisfaction



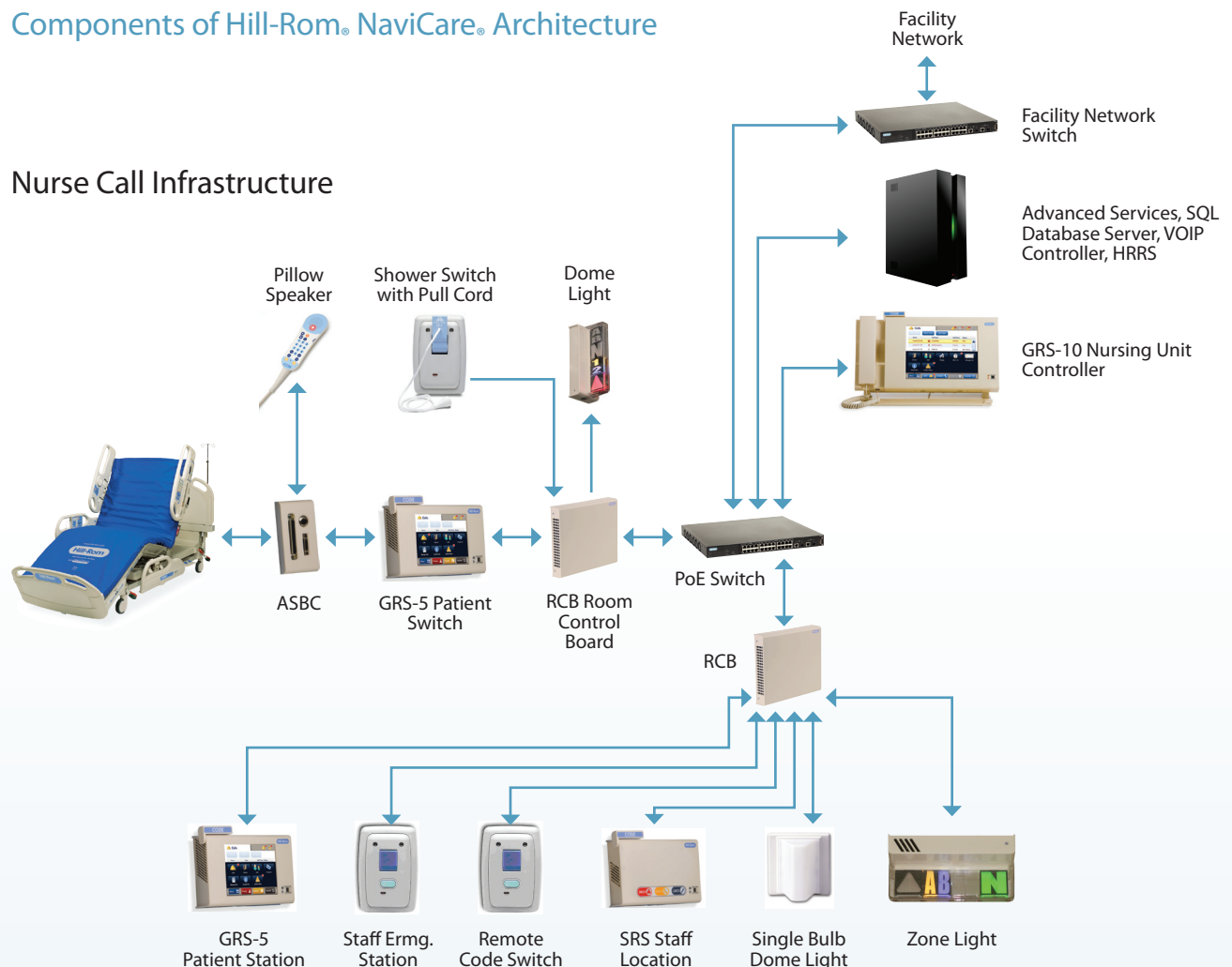
Nurse Call Infrastructure

Hill-Rom® NaviCare® Nurse Call provides:

- Flexible, open, standard technology that helps facilitate the integration of the health care enterprise, now and in the future
- A platform that enables caregivers to communicate with patients faster, reduce steps in their routine, and perform a greater number of patient care activities at the bedside
- Market-leading VoIP communication system
- Bed connectivity functionality to deliver data from Hill-Rom smart beds to health information systems
- Significant cost savings by reducing redundant cables, servers, and support
- A system that can enhance workflow due to interoperability between smart beds and nurse call system
- Centralized reporting on compliance to protocols for continuous improvement

Components of Hill-Rom® NaviCare® Architecture

Nurse Call Infrastructure



Hardware

Nurse Communication Stations

- A Smart Patient Station is a device that is used to place voice calls, request assistance, or trigger a code alert within a nursing unit. A Graphical Room Station can be located in a patient room, hallway, staff area or visitor area.
- Room Stations include the Smart Patient Station, Staff Console, and Standard Room Station (SRS).

Staff Console

- The Staff Console (GRS-10) is the most advanced type of station, featuring a large touchscreen display. The staff console displays patient, staff, call, and location information and communication. The staff console can be configured as a primary or secondary console.



Smart Patient Station

- The Smart Patient Station (GRS-5) is a room station with touchscreen display and configurable buttons (for housekeeping, transport, etc). It can be used as a staff station, duty station, or patient station.



Standard Room Station

- The SRS is a room station that has the ability to annunciate and place calls.



Hardware

Lights

There are many different lighting units used within the NaviCare® Nurse Call system. Each of these are used to convey a different message to help show room information for all nurses in the vicinity.

This includes dome lights, zone lights, and single-bulb dome lights.

Dome Light/Zone Light

- A Dome Light is a signaling device placed outside of each patient room near the door that informs you about various events occurring in the patient's room. The 8 LED lights are configurable to work best with your hospital workflow.
- A Zone Light is a signaling device placed in a ward or hallway that informs you about various events occurring in the specified zone.



Single-Bulb Dome Light

- A Single-Bulb Dome Light is placed outside of the patient room and is configured by flash type (slow, fast or solid), which will convey specific messages about events occurring in the room.
- Single-Bulb Dome Lights connect to the terminal block of an RCB or External Relay and annunciate selected call signals, such as signals from call cords, bath and shower switches, and smoke detectors.



Hardware

Audio Station Bed Connector

An Audio Station Bed Connector (ASBC) provides an interface for connecting beds, siderail devices, and pillow speaker devices to the system through a room station.



Room Control Board

A Room Control Board (RCB) is the connection point between room devices and PoE switches. Each RCB is associated with a location in a nursing unit, therefore each device that is connected to an RCB is then associated with that location.



Hardware

Bedside Call Devices

A bedside call device is a device that is attached to a patient bed that can be used to call a nurse for assistance.

These devices include the pillow speaker device and the siderail device.

Pillow Speaker

A pillow speaker is a bedside call device that can be placed near the patient's pillow or hand and has controls for the television, lights, and a button for calling the nurse. There are also configurable buttons to place specific calls to nurses, such as pain or restroom requests. Pillow speakers integrate nurse call, lighting, and TV controls within the immediate reach of the patient.



Siderail

A siderail device is a bedside call device built into the sideguard on specific beds. It incorporates a call device to enable calls to and from the patient.



Hardware

Remote Switches

A remote switch is a lever-based or push-button device that is used to call a nurse. Some remote switches can initiate an emergency call, such as a call initiated by a Code switch or Staff Emergency switch. Other remote switches indicate that a patient requires assistance. Depending on the use and the location of the switch, a remote switch might use a push-button or a lever with an attached cord.

Remote switches include the bath switch, the staff emergency switch, and the remote code switch.

Bath Switch

A bath switch is a call device in a patient bathroom that operates by the pulling down of a lever with or without the use of a cord. There are two types of bath switch: shower switches and toilet switches.



Remote Switch

A remote code switch is a call device that is configured to place a code call. Calls placed from remote code switches are answered at the primary room station or the location where the code call was placed.



Staff Emergency Switch

A staff emergency switch is a call device that places a staff emergency call but does not send or receive voice messages. Calls placed from staff emergency switches are answered at the primary room station for the location where the staff emergency call was placed.

PoE Switch

A PoE switch is a network switch that facilitates communication between network devices and also transmits electrical power.



Software

Advanced Services

The Advanced Services are software components that enable core features such as device configuring and error logging, as well as advanced features such as bed data interface, locating and staff management. These services use a Windows-based server platform that supports Windows Communication Foundation (WCF), a service architecture framework provided by Microsoft. Each service controls or maintains information about a specific aspect of the system and is responsible for updating the database when changes to that information occur.

Nursing Unit Controller

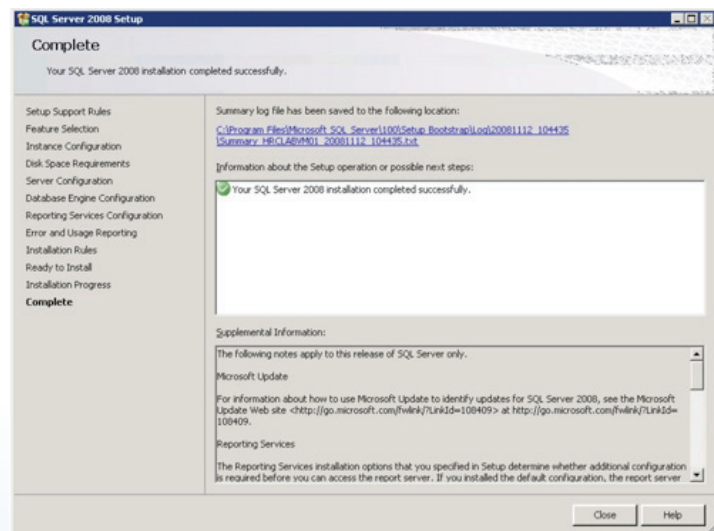
A Nursing Unit Controller (NUC) is a software service that manages message traffic in NNC. For small facilities, an NUC can reside on a GRS-10, usually the Primary Console called a Primary Console with Controller (PCC). For larger facilities, the NUC must reside on a Message Processing Controller machine connected to the network. Every nursing unit requires an NUC.

SQL Server 2005

NaviCare® Nurse Call uses SQL Server 2008 or SQL Server 2008 R2, but can support SQL Server 2005. All new installs will be required to use SQL Server 2008 R2.

SQL Server 2008

SQL Server 2008 R2 is used to contain the reporting database (the R2 is a distinct version from SQL Server 2008).



Software

Enterprise Configuration Tool

The Enterprise Configuration Tool (ECT) is a software application used to define parameters for NNC devices that determine how they behave in the system. Using the Dynamic Host Configuration Protocol (DHCP), field services personnel will use the ECT to create a configuration database for a facility. This database is then installed on the SQL Server at the facility, and the Configuration service uses information in that database to configure all devices in the system. The ECT can also be used by staff at the facility where NNC is deployed to adjust system configuration settings.

Smart Client

The Smart Client is a software application used by staff administrators to manage patient and staff information in the system. You must have administrator rights in the system to use the Smart Client.

The Smart Client allows you to enter patient notes, risk assessments and caregiver assignments, which can also be seen on your staff console and smart patient station.

Hill-Rom

Logged in as Supervisor Logout

Home Patient Admin System views Staff Assignments

Staff Assignments

Select Unit : Nursing Unit 2

Last Name	First Name	Title	Rules	Device	Room	Patient	Name
e21956		Secondary Caregiver	RIM4-A New-Flow		new Patient12		
e26075		Secondary Caregiver	RIM5-A RIM12-A RAC-A		Tuesday I enable Patient12 Thursday I enable		
e29574		Charge Nurse Primary Caregiver Secondary Caregiver	RIM3- RAT1-B RIM-A		Monday-Happy Friday-Fabulous		
Ferguson	Dave	LPN	Secondary Caregiver				
Karla	DJ	Clerk	Charge Nurse Primary Caregiver	RIM6-	Kevin		
Nepak	Bikram	CN	Secondary Caregiver	RIM8-A			
Powell	Tom	Primary Caregiver	RIM5-A		Tuesday I enable		

VoIP Controller

The VoIP Controller enables voice communication in NNC System.

Service Manager

The Service Manager is a software application used to manage Advanced Services on the facility network. A user can view all of the machines on the network running Advanced Services, at-a-glance and use performance calculations to distribute the services appropriate to the load each service is placing on each machine. The Service Manager is installed through the NNC software installer.

Software

Database Configuration Tool

The Database Configuration Tool is a software application that configures SQL Server databases for use by NNC.

HL7

The HL7 interface uses Orion Health's Rhapsody version 3.1.4. This provides interaction between the facility's ADT system and the NNC.

Reporting

Reporting Services

Reporting uses a web interface accessible by any machine through SQL Reporting Services.

Reporting Server

The Reporting Server generates reports in response to requests from Reporting Services.

Wireless Devices

Locator Badges

A locator badge is a small device used to locate staff and equipment. The badge is worn by staff members or placed on equipment to easily locate them in any situation.

Tracking occurs as a result of the badge periodically sending out an IR (infrared) signal unique to each badge. The IR signal is then detected by a monitor located in a room or hallway.



Monitor

The Monitor is an IR signaling unit used with IR-enabled tags to provide a method of locating tagged assets. Each Monitor transmits an infrared pulse pattern containing a unique location code. The IR protocol achieves a marked improvement over conventional IR protocols that are geared towards remote control applications. It provides superior resilience to fluorescent and other common indoor interference sources. Coverage zones are limited by solid physical structures such as walls, however contrary to popular belief, IR does not need line of sight for effective communication. IR signals bouncing effectively from structures and walls flood the entire room including locations that are not in direct line of sight to the Monitor.



Star

The Star interprets and reports the radio frequency messages emitted by the tags or badges at distances up to 300 feet. Transmissions can be processed in real-time to quickly locate and identify tagged assets or personnel in defined areas. Stars are network “access points” that communicate all the information gathered by the monitors and tags to the network. They have two-way communication with both the monitors and the tags and participate in the overall tracking of the tag location. Stars are compatible with Ethernet and the TCP/IP protocol and use browser-based protocol for communication. With a modular design, the Stars provide an economical solution to a wide variety of asset and personnel tracking problems. The Star allows for very high tag densities. Large populations of tags can be monitored using a single Star. Also available is the Hill-Rom® WiFi Star which provides health care facilities that utilize WiFi the flexibility to use their existing wireless infrastructure as the backbone for the Hill-Rom® RTLS communication network.



Wireless Integration

NNC Wireless Integration

Wireless integration in NNC paves the way for wireless communication between patients and staff. With wireless integration, notifications (calls and alerts) are routed to a caregiver's wireless device (mobile phone or pager). After configuring the wireless messaging provider and associating wireless devices with staff in the system, you can establish procedure rules for notifications to define which types of calls are sent to which caregivers, groups of caregivers, or multiple caregivers and in which order they should be notified. Two types of messaging systems are available in NNC: messaging gateway and messaging alert relay.

NNC manages the notification procedures (which device to contact and when), informing the appropriate messaging gateway provider of which device should receive the message. NNC forwards the alert information (call type, originating location, alert severity, and callback information) directly to the relay system. The relay system receives the "raw" alert information and manages the notification procedure. After a messaging system provider has been provisioned in the network, Field Services personnel use the Enterprise Configuration Tool (ECT) to configure the provider, associated carriers, and wireless devices, then to configure notification groups and procedures. Smart Client is used to assign wireless devices to staff. Device assignments and notifications are not applicable.

Wireless Phones

The ability to integrate wireless devices into the nurse call system allows:

- A patient call to be routed to the staff member's wireless device allowing staff the ability to call back into the room and speak with the patient
- The routing of calls to wireless devices to be altered by way of the Staff Console being set in attended or unattended mode



Enable real time access to care information.



The graphical touch screen patient station re-defines the role of audio stations by providing unparalleled ease of use and access to care information – from nurse call and other clinical applications.



Calls and alerts are immediately directed to the appropriate caregivers (wireless device or audio station) and automatic alarm suppression is activated while delivering patient care.



Icon-based configurable LED dome lights deliver room status information at a glance.

Services

Hill-Rom Professional Services

Our Hill-Rom Professional Services provide training on design, installation, project management, system support, and many other areas. These are all available the entire time you are working with the Hill-Rom solution.

We offer additional technical training for all solutions. These can be provided as classroom-led, on-site, or even online.

Hill-Rom Technical Support

Hill-Rom Remote Services (HRRS) is a web-based application suite that uses technology to allow secure remote access to NNC components such as staff consoles, RCBs and Hill-Rom servers. HRRS is useful for field services and technical support personnel when trying to diagnose a problem, allowing event logs to be downloaded and diagnostics to be performed.

Customers may also contact technical support for any immediate help from our technical staff who is available 24/7 for customer support.

Power Consumption/Heat Loss Per Device

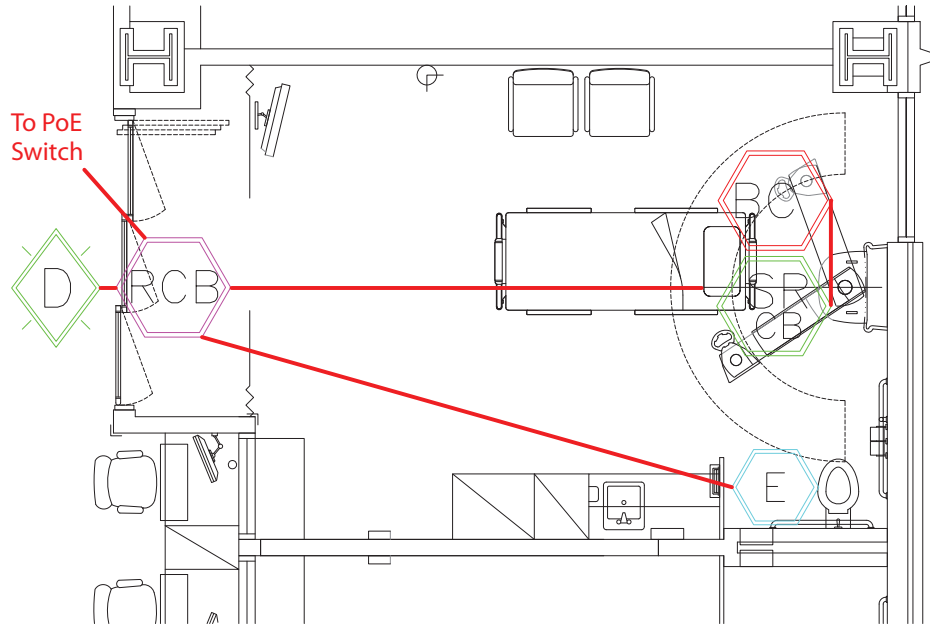
Power Consumption and Heat Loss per Device

The following table describes how much power each NNC device consumes and distributes, as well as the associated heat loss.

Device	Watts Consumed	Watts Distributed	Heat Loss (Maximum)
PoE Switch	420W (total maximum)	360 (total maximum) 60 (each 60W port) 30 (each 30W port)	550 BTU/hr*
RCB	4W (nominal, including all switches)	30	102 BTU/hr
GRS-10	10W	N/A	34 BTU/hr
GRS-5	4W	N/A	14 BTU/hr
SRS	1.08W	N/A	4 BTU/hr
Dome Light/Zone Light	3W (with all LEDs lit)	N/A	10 BTU/hr
Single Bulb Dome Light	0.72W (LED) 1.68W (incandescent) 2.4W (bayonet style incandescent bulb)	N/A N/A N/A	-
RLR	1.62W	N/A	6 BTU/hr
ASBC	0.4W (nominal, including pillow speaker and bed)	N/A	1 BTU/hr
Switches	Factored into RCB consumption	N/A	-
Pillow Speakers	Factored into the ASBC power consumption	N/A	-

* PoE switch and UPS heat loss values are manufacturer specifications resulting from energy consumed within the device while delivering rated output power.

ICU/CCU Room Configurations



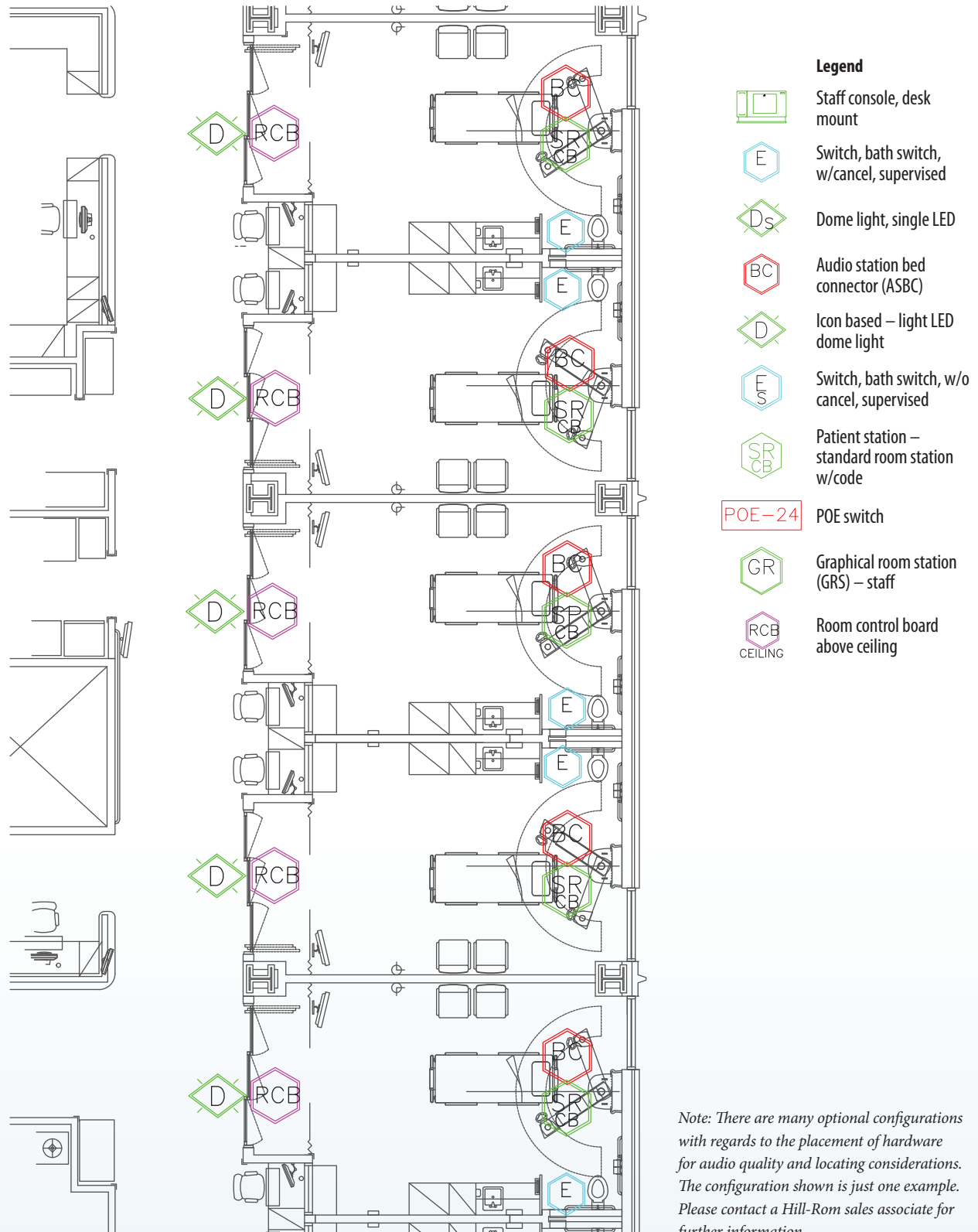
Legend

-  Staff console, desk mount
-  Switch, bath switch, w/cancel, supervised
-  Dome light, single LED
-  Audio station bed connector (ASBC)
-  Icon based – light LED dome light
-  Switch, bath switch, w/o cancel, supervised
-  Patient station – standard room station w/code
-  POE-24 POE switch
-  Graphical room station (GRS) – staff
-  Room control board above ceiling

Note: There are many optional configurations with regards to the placement of hardware for audio quality and locating considerations. The configuration shown is just one example. Please contact a Hill-Rom sales associate for further information.

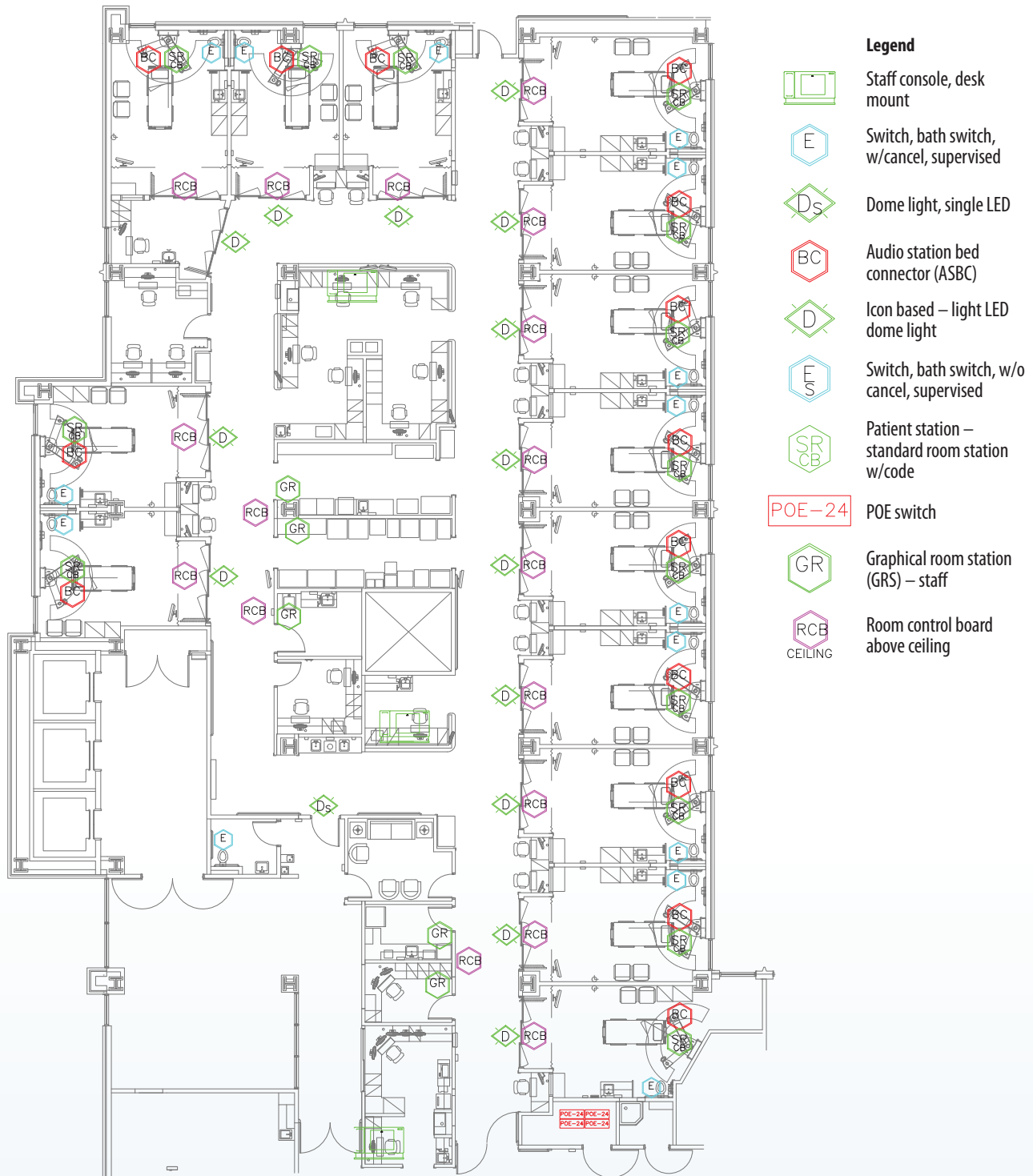
ICU/CCU Unit Configuration

Typical ICU/CCU Floor Layout with Nurse Call Recommended Component Placement



ICU/CCU Unit Configuration

Typical ICU / CCU Floor Layout with Nurse Call Recommended Component Placement

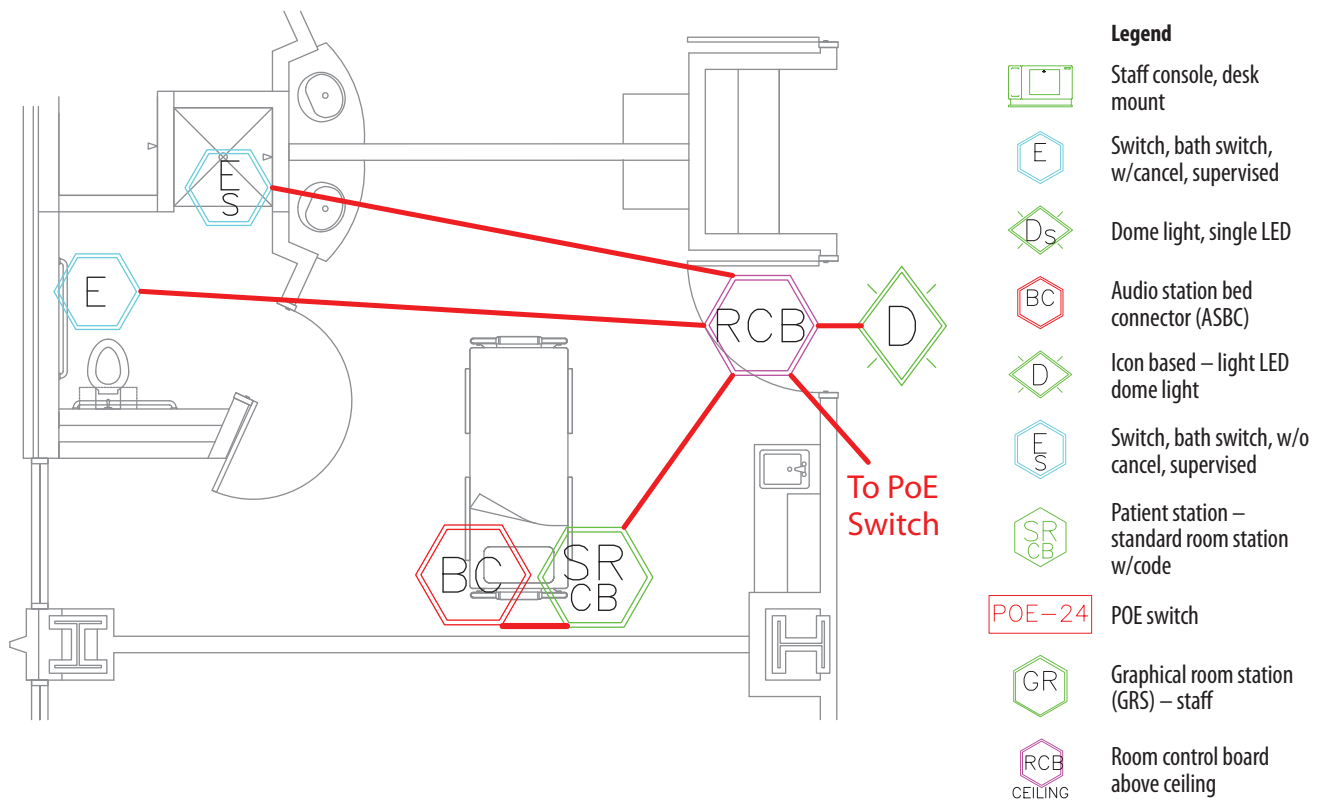


Note: There are many optional configurations with regards to the placement of hardware for audio quality and locating considerations. The configuration shown is just one example. Please contact a Hill-Rom sales associate for further information.

Med-Surg Room Configuration

Private

A private room has one room station and one bed connector. The bathroom must have a bath switch. If the bathroom has a shower, it must have a shower switch. Additional (remote) switches are optional. A pillow speaker and SideCom® unit are recommended for the patient. Outside the room, in the hallway near the door, there must be a dome light.

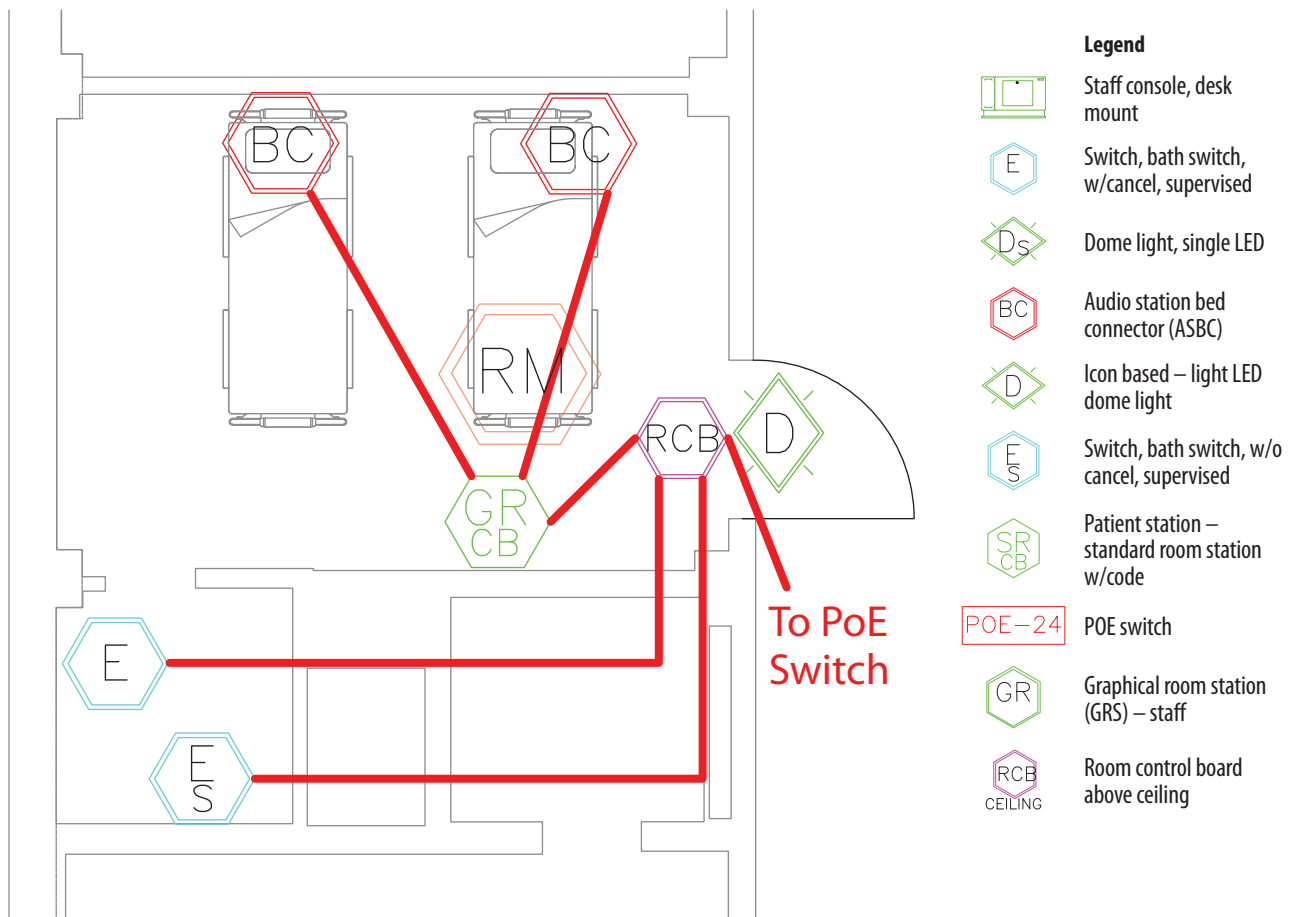


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Med-Surg Room Configuration

Semi-Private

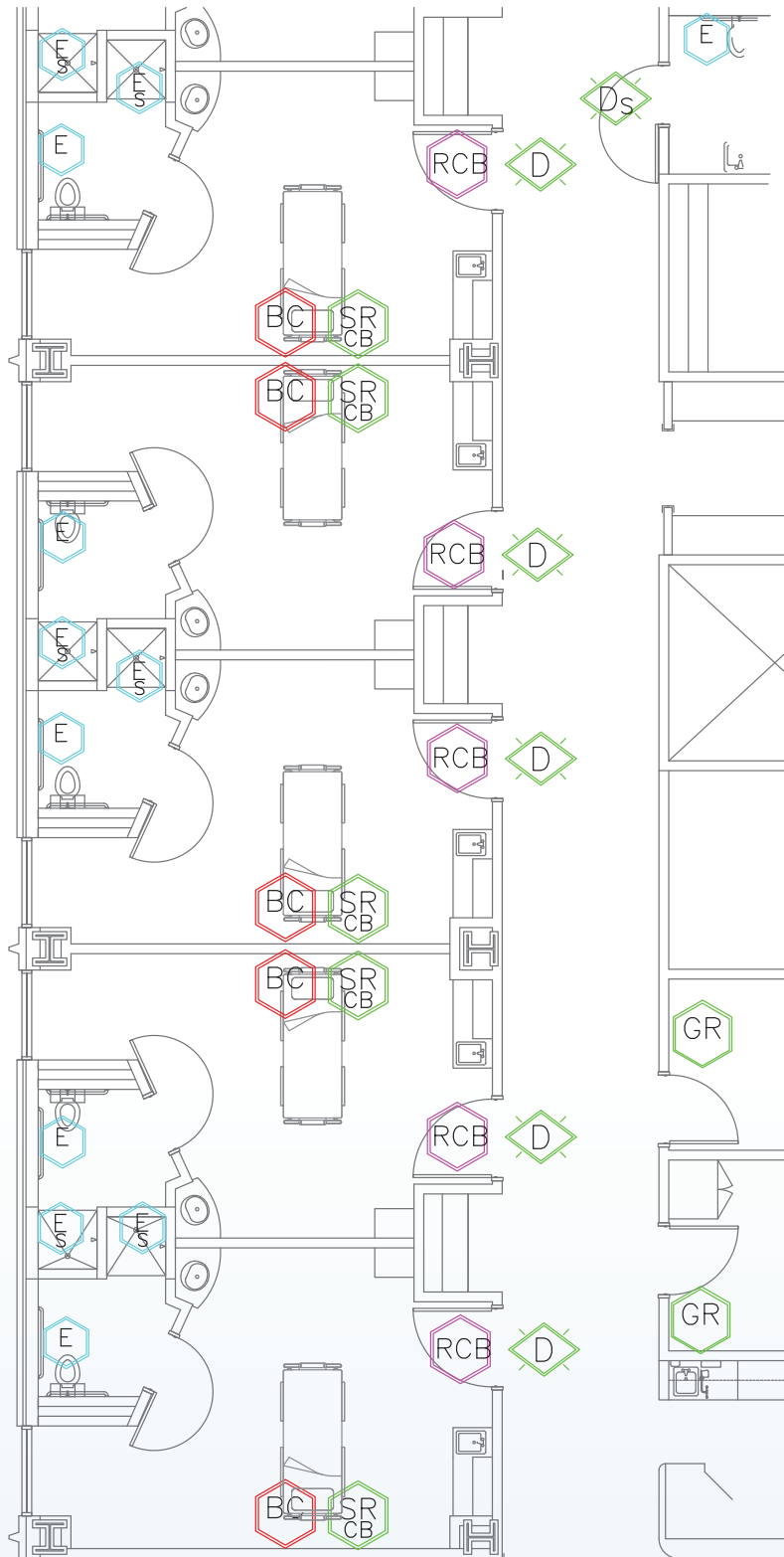
A semi-private room with two beds has at least one patient station, and two bed connectors (one for each bed is required). A pillow speaker or a SideCom® unit are recommended for each bed. The bathroom must have a bath switch. If the bathroom has a shower, it must have a shower switch. Additional (remote) switches are optional. Outside the room, in the hallway near the door, there must be a Dome Light.



Note: There are many optional configurations with regards to the placement of hardware for audio quality and locating considerations. The configuration shown is just one example. Please contact a Hill-Rom sales associate for further information.

Med-Surg Unit Configuration

Typical Med-Surg Floor Layout with Nurse Call Recommended Component Placement



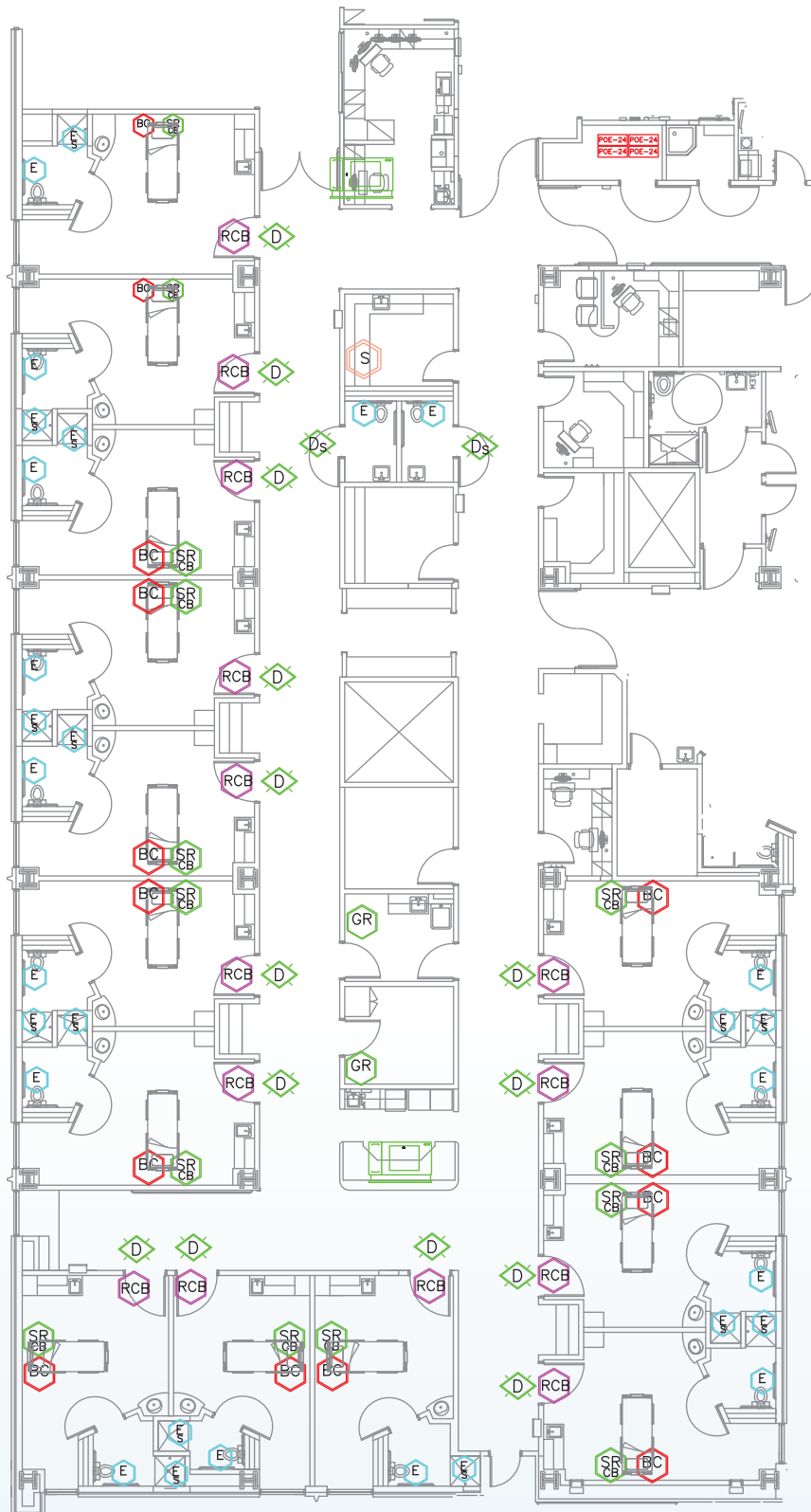
Legend

-  Staff console, desk mount
-  Switch, bath switch, w/cancel, supervised
-  Dome light, single LED
-  Audio station bed connector (ASBC)
-  Icon based – light LED dome light
-  Switch, bath switch, w/o cancel, supervised
-  Patient station – standard room station w/code
-  POE switch
-  Graphical room station (GRS) – staff
-  Room control board above ceiling

Note: There are many optional configurations with regards to the placement of hardware for audio quality and locating considerations. The configuration shown is just one example. Please contact a Hill-Rom sales associate for further information.

Med-Surg Unit Configuration

Typical Med-Surg Floor Layout with Nurse Call Recommended Component Placement



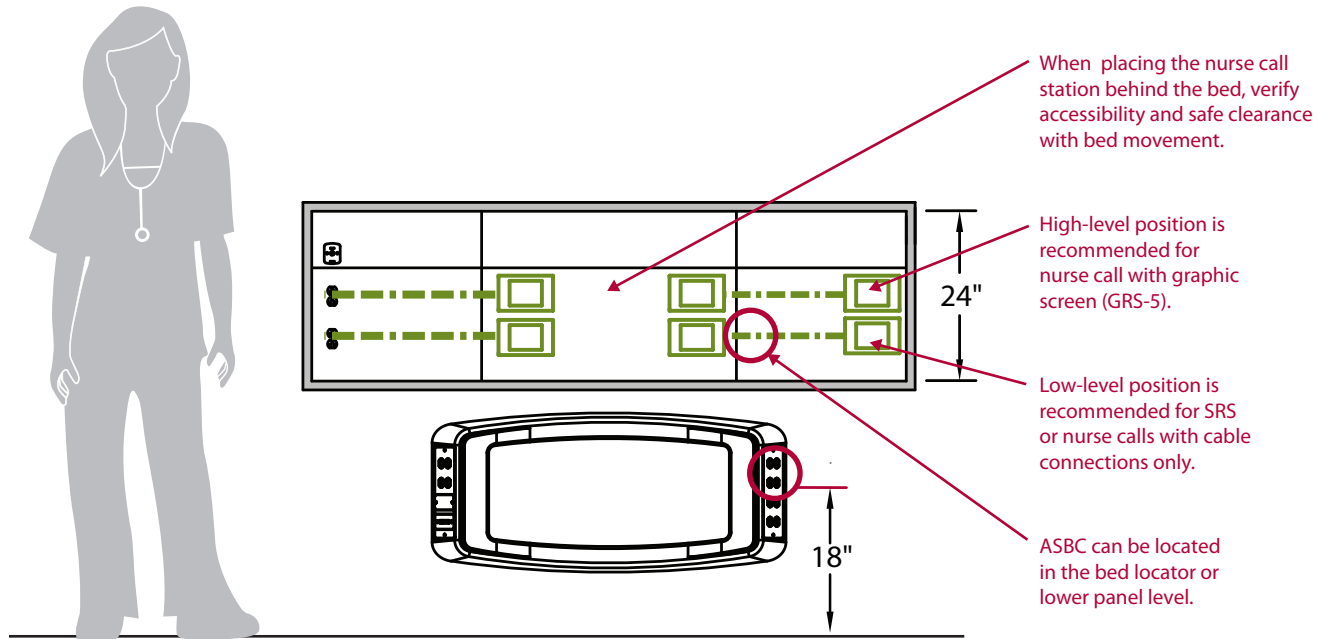
Legend

-  Staff console, desk mount
-  Switch, bath switch, w/cancel, supervised
-  Dome light, single LED
-  Audio station bed connector (ASBC)
-  Icon based – light LED dome light
-  Switch, bath switch, w/o cancel, supervised
-  Patient station – standard room station w/code
-  POE-24 POE switch
-  Graphical room station (GRS) – staff
-  Room control board above ceiling

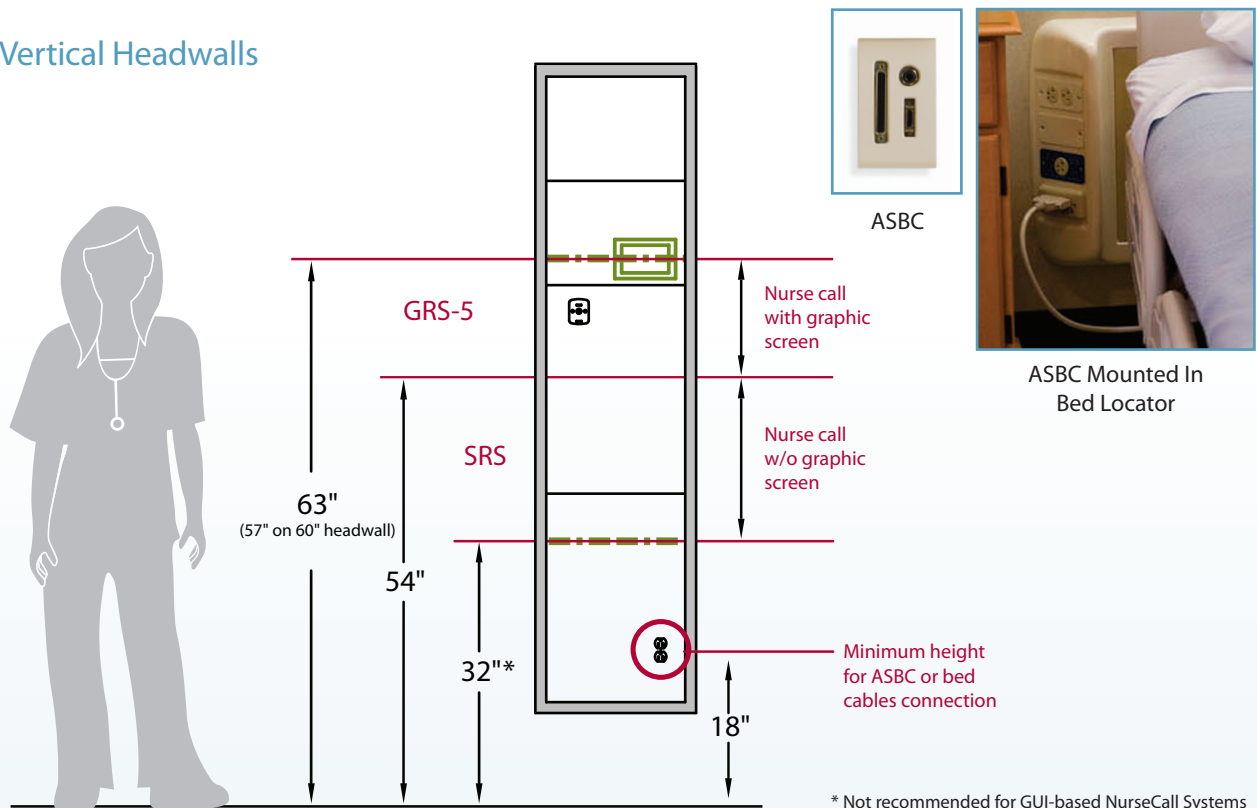
Note: There are many optional configurations with regards to the placement of hardware for audio quality and locating considerations. The configuration shown is just one example. Please contact a Hill-Rom sales associate for further information.

Nurse Call Placement In Pre-Fabricated Headwalls

Horizontal Headwalls



Vertical Headwalls



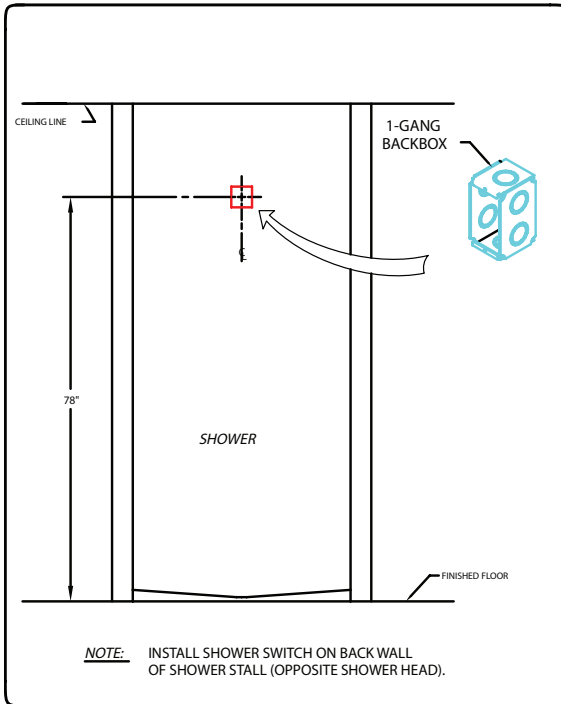
Back Box and Mounting Options

Device Symbol	Device Name	Mounting Options	Back Box/Mounting Schedule	Typical Mounting Height (Verify all locations with owner)	Cable Requirements
	GRAPHICAL STAFF CONSOLE (DESK MT.)	Desk	Raco 242 Box & Raco 772 Cover mounted under desk * *(Must be grounded)	18" AFF (Under desk)	2 cables to PoE Switch
	GRAPHICAL STAFF CONSOLE (WALL MT.)	Wall	Raco 942 Box & Raco 822 Cover	54" AFF	2 cables to PoE Switch
	AUDIO STATION BED CONNECTOR (BIU)	Wall	Raco 242 Box & Raco 772 Cover	Variable on patient headwall	2 cables to Patient Room Station, 1 cable to Television Wall Plate (if required), 1 cable to Light Controller (if required)
	DOME LIGHT, SINGLE BULB	Wall/Ceiling	Raco 242 Box & Raco 779 Cover	Center of patient door	1 cable to RCB
	ICON BASED-LIGHT LED DOME/ZONE LIGHT	Wall/Ceiling	Raco 242 Box & Raco 772 Cover	Center of patient door	1 cable to RCB
	SWITCH, KEY SWITCH, ENABLE/DISABLE	Wall	Raco 242 Box & Raco 779 Cover	Variable	1 cable to RCB
	HANDSET/CRADLE	Wall	Raco 242 Box & Raco 772 Cover	Height of room station	1 cable to Room Station
	EQUIPMENT RECEPTACLE	Wall	Raco 242 Box & Raco 772 Cover	Variable on patient headwall	1 cable to RCB
	EQUIPMENT RECEPTACLE TWO JACK	Wall	Raco 242 Box & Raco 772 Cover	Variable on patient headwall	2 cables to RCB
	EQUIPMENT RECEPTACLE SIX JACK	Wall	Raco 942 Box & Raco 822 Cover	Variable on patient headwall	1 cable to RCB
	SWITCH, CODE BLUE PUSH BUTTON SWITCH	Wall	Raco 242 Box & Raco 772 Cover	48" AFF	1 cable to RCB
	SWITCH, STAFF EMERGENCY PUSH BUTTON SWITCH	Wall	Raco 242 Box & Raco 772 Cover	48" AFF	1 cable to RCB
	SWITCH, CODE PINK PUSH BUTTON SWITCH	Wall	Raco 242 Box & Raco 772 Cover	48" AFF	1 cable to RCB
	SWITCH, DOCTORS ORDERS, WITH CANCEL	Wall	Raco 242 Box & Raco 772 Cover	48" AFF	1 cable to RCB
	SWITCH, DOCTORS ORDERS STAT, WITH CANCEL	Wall	Raco 242 Box & Raco 772 Cover	48" AFF	1 cable to RCB
	PULL SWITCH, CW, W/CANCEL	Wall	Raco 242 Box & Raco 772 Cover	48" AFF	1 cable to RCB
	PB SWITCH, CODE GREEN W/CANCEL	Wall	Raco 242 Box & Raco 772 Cover	48" AFF	1 cable to RCB
	SWITCH, BATH SWITCH, W/CANCEL, SUPERVISED	Wall	Raco 242 Box & Raco 772 Cover	48" AFF	1 cable to RCB
	SWITCH, BATH SWITCH, W/O CANCEL, SUPERVISED	Wall	Raco 242 Box & Raco 772 Cover	48" AFF	1 cable to RCB
	SWITCH, STAFF EMERGENCY LEVER, SALMON, W/CANCEL, SUPERVISED	Wall	Raco 242 Box & Raco 772 Cover	48" AFF	1 cable to RCB
	SWITCH, CODE PINK SWITCH W/O CANCEL	Wall	Raco 242 Box & Raco 772 Cover	48" AFF	1 cable to RCB
	SWITCH, CODE BLUE SWITCH W/CANCEL	Wall	Raco 242 Box & Raco 772 Cover	48" AFF	1 cable to RCB
	PB SWITCH PUSH TO CALL WITH CANCEL	Wall	Raco 242 Box & Raco 772 Cover	48" AFF	1 cable to RCB
	PB SWITCH, CLEAN W/CANCEL	Wall	Raco 242 Box & Raco 772 Cover	48" AFF	1 cable to RCB
	PB SWITCH, NEEDS CLEAN W/CANCEL	Wall	Raco 242 Box & Raco 772 Cover	48" AFF	1 cable to RCB
	RLR, REMOTE LOCATOR RECEIVER	Ceiling	Raco 242 Box & Raco 779 Cover		1 cable to RCB

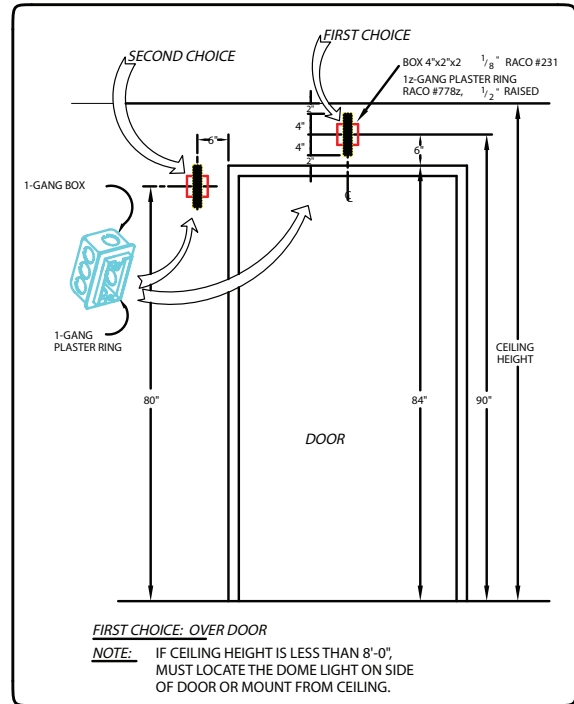
Back Box and Mounting Options

Device Symbol	Device Name	Mounting Options	Back Box/Mounting Schedule	Typical Mounting Height (Verify all locations with owner)	Cable Requirements
	SYSTEM ALARM INTERFACE MODULE, W/BOX W/PIGTAILS	Above Ceiling	Fire Rated Ceiling requires Raco 943 Box & Raco 846 Cover		1 cable to RCB
	NNC VOICE OVER IP SERVER	Rack/Shelf	Rack mounts into 19" standard rack. 6 Units		See Rack Riser diagram for details
	VISITOR STATION - STANDARD ROOM STATION W/VISITOR	Wall	Raco 942 Box & Raco 822 Cover	54" AFF	1 cable to RCB
	STAFF STATION - STANDARD ROOM STATION W/O CODE	Wall	Raco 942 Box & Raco 822 Cover	54" AFF	1 cable to RCB
	PATIENT STATION - STANDARD ROOM STATION W/CODE	Wall	Raco 942 Box & Raco 822 Cover	54" AFF	1 cable to RCB
	GRAPHICAL ROOM STATION (GRS) - STAFF	Wall	Raco 942 Box & Raco 822 Cover	54" AFF	1 cable to RCB
	GRAPHICAL ROOM STATION (GRS) - PATIENT	Wall	Raco 942 Box & Raco 822 Cover	54" AFF	1 cable to RCB
	GRAPHICAL ANNUNCIATOR - NO HS	Wall	Raco 942 Box & Raco 822 Cover	54" AFF	1 cable to RCB
	GRS-10 WITH CODE	Wall	Raco 942 Box & Raco 822 Cover	54" AFF	1 cable to RCB
	ROOM CONTROL BOARD (RCB)	Above Ceiling	Hill-Rom supplied 12" x 12" x 4" Steel Box Enclosure	Surface mount above ceiling line	1 cable to PoE switch
	ROOM CONTROL BOARD (RCB)	Below Ceiling	Raco 942 Box & Raco 822 Cover	Variable	1 cable to PoE switch
	POE SWITCH	Rack/Shelf	Rack Mounts into standard 19" rack. 1 Unit		See Rack-Riser diagram for details
	HP PROCURVE (J8697A) CORE SWITCH	Rack/Shelf	Rack Mounts into standard 19" rack. 4 Units		See Rack-Riser diagram for details
	APC UPS 1500RS	Rack/Shelf	Rack Mounts into standard 19" rack. 2 Units		None
	19" FLOOR MOUNTED RACK TO BE PROVIDED BY INSTALLER	FLOOR	Floor	Cable management per customer specifications	Cable management per customer specifications
	19" WALL MOUNTED RACK TO BE PROVIDED BY INSTALLER	WALL	Wall	Cable management per customer specifications	Cable management per customer specifications
	CODE BLUE ANNUNCIATOR	WALL	Wall		
	RACO CROSS REFERENCE				
	RACO 242 Box	Box	4" Square Box 21/8" Deep		
	RACO 942 Box	Box	3 Gang Steel Box 21/2" Deep		
	RACO 943 Box	Box	4 Gang Steel Box 21/2" Deep		
	RACO 708 Partition	Partition	4" Square Box Partition		
	RACO 752 Cover	Cover	4" Square Cover Flat (Blank)		
	RACO 772 Cover	Cover	1 Gang 4" Square Cover 3/4" Raised		
	RACO 779 Cover	Cover	2 Gang 4" Square Cover 3/4" Raised		
	RACO 822 Cover	Cover	3 Gang Steel Box Cover 3/4" Raised		
	RACO 823 Cover	Cover	4 Gang Steel Box Cover 3/4" Raised		
	RACO 846 Cover	Cover	4 Gang Steel Box Cover Flat (Blank)		

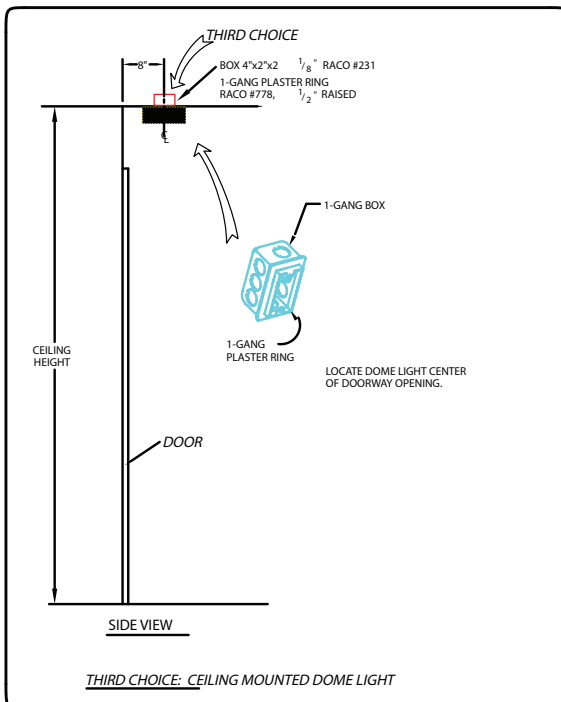
Rough In Details



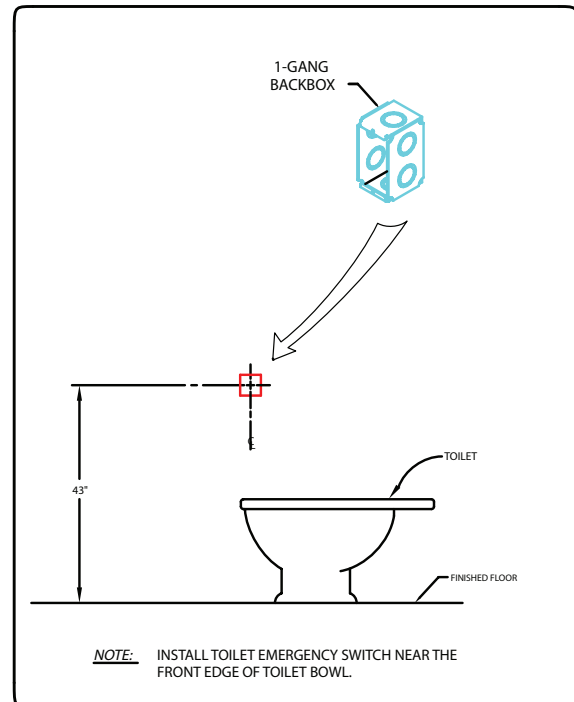
Shower Emergency Switch



Location of Dome Light

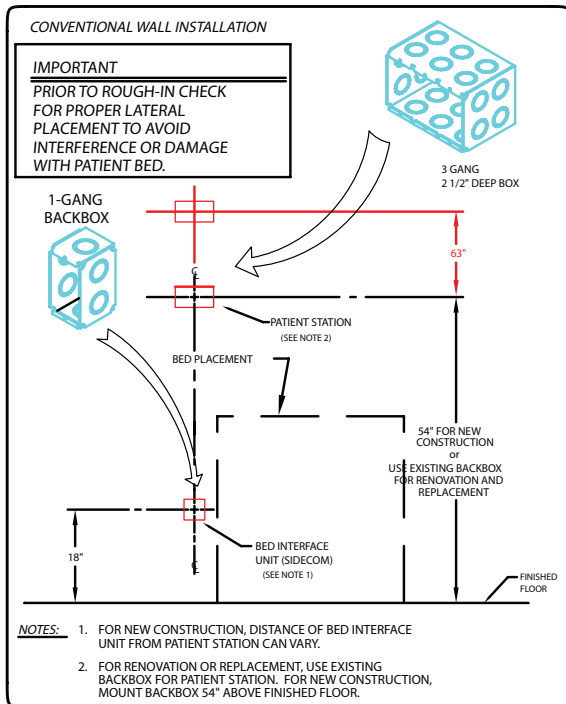


Location of Dome Light

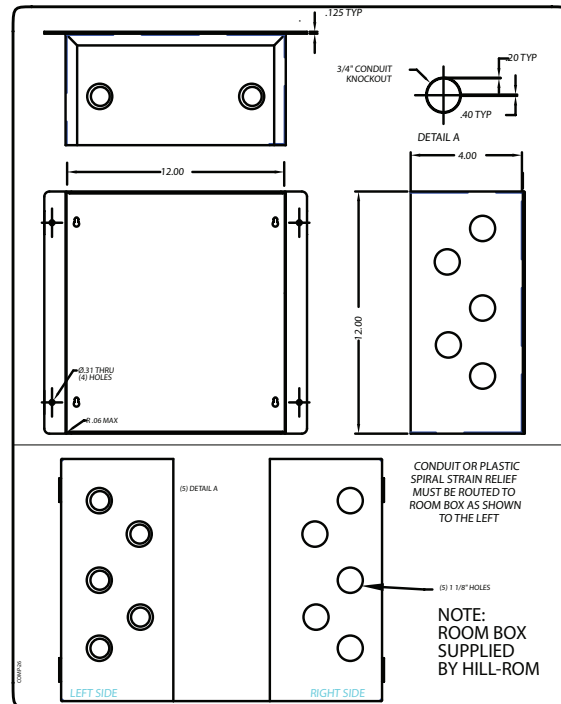


Toilet Emergency Switch

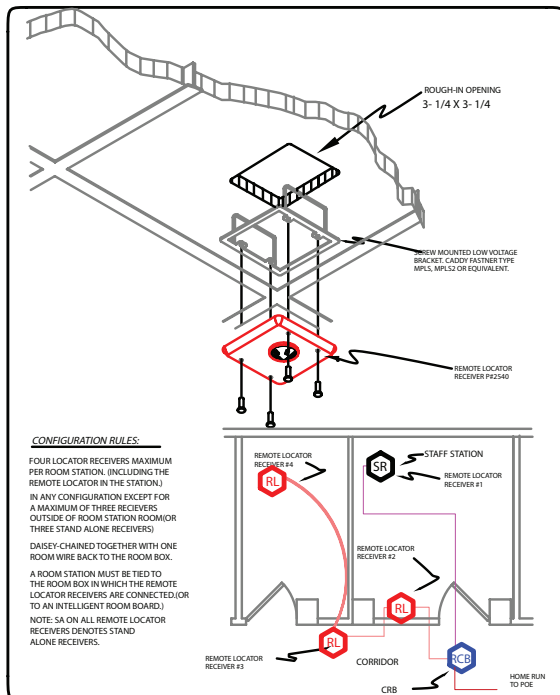
Rough In Details



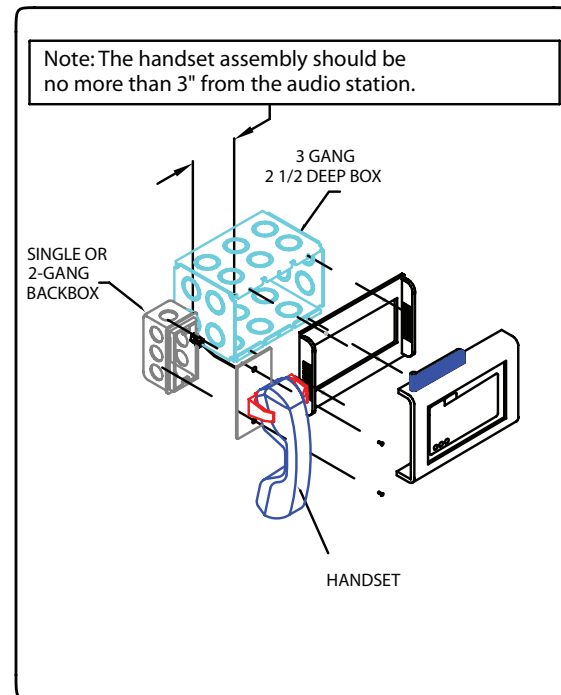
Patient Station Location



Room Box Detail



Remote Location Detail



Handset Assembly Detail

Real-Time Location Solutions (RTLS)



Hill-Rom's premier locating technology uses the best of IR and RF (radio frequency) technologies to enable accurate and reliable locating solutions. Real-time locating data can be used by hospitals to make important workflow and patient decisions.

Hill-Rom® Real-Time Locating Solutions help:

- Improve patient safety
- Drive efficiency at the point of care
- Improve patient satisfaction
- Integrate the health care enterprise

With Hill-Rom, you have the ability to re-use the same infrastructure for multiple types of locating solutions such as asset tracking, staff locating, hand-hygiene monitoring, patient locating and temperature monitoring. Maximize your hospital investment by purchasing a scalable technology that allows you to invest in what your hospital needs now and grow as your hospital needs change in the future.



Real-Time Location Solutions



Hill-Rom® Asset Tracking Solution

- Easy installation (minimal cabling and 10-year battery life)
- Network-friendly
- Timely, robust data
- Bed-level accuracy
- Low total cost of ownership



Hill-Rom® Staff Locating Solution

- Automatic call cancellation
- Dome light illumination
- Improve caregiver response times
- Reduce time spent trying to locate staff
- Real-time dashboards and reporting



Hill-Rom® Hand-Hygiene Compliance Solution*

- Automate hand-hygiene monitoring 24/7
- Track hand-hygiene compliance electronically
- Proactive alerts to caregivers for non-compliance
- Reports demonstrate hand-hygiene compliance



Hill-Rom® Patient Locating Solution*

- Prevent patient wandering
- Optimize workflow automation
- Provides patient visibility to hospital staff and family
- Generate reports to capture interactions between patients, equipment and staff



Hill-Rom® Temperature Monitoring Solution*

- Reliable and accurate wireless temperature sensing
- Probe-based tags
- Covers ranges from -200°C to +50°C
- Customizable reporting rates (seconds)

*Future solution offering

Real-Time Location Solutions



The Real-Time Location System (RTLS) delivers accurate room-level and bed-level location for the healthcare industry. It is used for the indoor* tracking of equipment and people and is the only battery operated RTLS infrastructure in the world.

How it Works

The DualTrak™ technology outperforms legacy technologies using a combination of a patented new generation infrared - Enhanced IR and active-RFID. Battery powered monitors (5 to 10+ years battery life) transmit a unique room number using Enhanced IR, which is received by any tag in that room. The tag communicates the room number and its own unique ID via RF to the Location Server using a hospital's existing network. From there it can be accessed in real-time by hospital personnel. Monitors can be positioned wherever location data is needed including rooms, hallways and even bays. Like light, Enhanced IR will not pass through walls and it does not suffer from traditional infrared line-of-sight limitations.

**Can also be used outdoors (200-300 feet) depending on environment.*

Therefore, when a tag reads a room number, there are no errors. This is certainty-based RTLS. Estimated location based on RF triangulation can be used as a secondary means of location in areas where there is no need for room-level or bed-level visibility.

Unlike RF only systems, RTLS data can be used by hospitals to make important workflow decisions, such as when to clean a patient room. The certainty-based information can also be used to automate decisions, such as determining if a patient requires a clinician visit if they have not been attended to in a given period of time. Most healthcare workflow improvements can only be realized when the location data is certainty-based.

Easy, Cost Effective Installation

RTLS delivers unmatched ease of installation, especially in comparison to alternative systems that may require the use of limited wall power outlets or heavy wiring. There is no need for in room wiring, so installation is fast and noninvasive.

Glossary

Audio Station Bed Connector (ASBC) – An Audio Station Bed Connector (ASBC) provides an interface for connecting beds, siderail devices, and pillow speaker devices to the system through a room station.

Connectivity Engine – A hardware appliance in the room or behind the wall that sends and receives data from devices (like beds, vents, etc) directly to the EMR, and specifically to the nursing documentation module of the EMR.

Dynamic Host Configuration Protocol (DHCP) – Required by NaviCare® Nurse Call to provide IP addresses, DNS servers, a domain name and a default gateway to the devices. This service can be provided by the hospital, or Hill-Rom can provide this service on the Enterprise Server.

Electronic Medical Record (EMR) – Computerized medical record created in an organization that delivers care. Tends to be part of a local, stand-alone health information system, and allows storage, retrieval and modification of a patient record.

Graphical Room Station 5/Smart Patient Station – The Graphical Room Station 5, or more commonly referred to as Smart Patient Station (GRS-5), is a room station with a small touchscreen display that has a subset of the Staff Console features. A GRS-5 can be used as a staff station, duty station, or patient station, but it cannot be a Staff Console.

HL7 – HL7 is the name of a data transmission format standard used in communication between systems in a health care system. Common protocol or language to communicate to the EMR.

Middleware – Computer software that connects software components, medical devices, and other applications. It allows multiple processes to run on one or more machines to interact for interoperability and is used to support and simplify complex distributed applications. Sits “in the middle” of multiple software applications

Network Interface Unit (NIU) – An adapter that is used to connect the cable from a smart bed to hospital applications. It is installed on the wall in the patient room and attaches to the bed cable. Behind the wall, it connects to servers that house other applications. Sometimes called the “universal adapter,” it solves the bed cable management issue for hospitals that have multiple nurse call systems.

Power over Ethernet Switch (PoE) – A PoE switch is a network switch that facilitates communication between network devices and also transmits electrical power. Typically uses industry-standard 5 or 6 (cat 5/6) cabling.

Room Control Board (RCB) – A Room Control Board (RCB) is the connection point between room devices and PoE switches. Each RCB is associated with a location in a nursing unit. An RCB can also be used to run a Nursing Unit Controller (NUC) when there are too many RCBs in the nursing unit for the NUC to run on the Primary Console.

Server – A computer designed to process requests. Delivers data to other computers over a local network or the internet.

Staff Console – A Staff Console is a GRS-10 used to monitor a nursing unit. Each nursing unit must have one Primary Staff Console that acts as the head of nursing unit communications. Each nursing unit can optionally have one or more secondary Staff Consoles that mirror functions of the Primary Console in other locations.

Voice over Internet Protocol (VoIP) – A communications protocol that enables voice conversations over the Internet or an IP-based network, such as the network in a hospital facility. Allows for better digital audio quality.

Hill-Rom's Online Toolbox

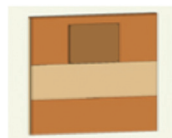
Hill-Rom offers an online toolbox for its Architectural Products, Liko® Overhead Ceiling Lifts and NaviCare® Nurse Call product lines.

Available for you are drag and drop product drawings in multiple file formats, CSI specification sheets, product brochures, links to our AIA accredited CEU courses, downloadable software tools, the ability to save and manage your Project Folders and the option to Request a Quote.

Access these tools by visiting www.caddetails.com.

Hill-Rom	View Product Listing
 Hill-Rom (NYSE: HRC) is a leading worldwide manufacturer and provider of medical technologies and services for the health care industry, including patient support systems, non-invasive therapeutic products, medical equipment rentals and information technology solutions. Hill-Rom's comprehensive product and service offerings are used by health care providers across the care continuum to enhance the safety and quality of patient care.	CAD & Specs Website Brochure Request Info 

BIM and Revit models

 Hill-Rom Revit SketchUp ArchiCAD MicroStation Basis® Headwall Horizontal Double-Sided	 Hill-Rom Revit SketchUp ArchiCAD MicroStation Basis® Headwall Horizontal Single-Sided	 Hill-Rom Revit SketchUp ArchiCAD MicroStation Basis® Headwall Vertical Double-Sided	 Hill-Rom Revit SketchUp ArchiCAD MicroStation Basis® Headwall Vertical Single-Sided
 Hill-Rom Revit SketchUp ArchiCAD MicroStation Elements® Headwall In-Wall	 Hill-Rom Revit SketchUp ArchiCAD MicroStation Elements® Headwall On-Wall	 Hill-Rom Revit SketchUp ArchiCAD MicroStation Latitude® Arm System	 Hill-Rom Revit SketchUp ArchiCAD MicroStation Contour® Headwall

Product links, brochures, specification sheets and drawings

	ABOUT	MEDIA	SPEC	VIEW CAD	PRINT CAD	EDUCATION	GET INFO
Basis® Headwall System				2D 3D	2D		
1. Basis® Headwall System Design and Planning Guide							
2. Basis® Headwall System Revit Model: Horizontal Single-Sided							
3. Basis® Headwall System Revit Model: Horizontal Double-Sided							
4. Basis® Headwall System Revit Model: Vertical Single-Sided							
5. Basis® Headwall System Revit Model: Vertical Double-Sided							
6. Basis® Headwall System – Horizontal In-Wall 96 Inch Low							
7. Basis® Headwall System – Horizontal In-Wall 96 Inch High							

Notes

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