

# Novus<sup>®</sup> Hybrid System Specifications

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# Novus Hybrid Specifications

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## 1. General

- 1.1. The contractor will furnish all equipment, accessories and material in strict accordance with specifications and applicable drawings as required for an electronic intercommunications system. The system meets or exceeds required states' health planning and development regulations, and state fire marshal building codes.
- 1.2. The equipment furnished under this specification is the standard product of one manufacturer and is provided by West-Com Nurse Call Systems. A catalog of designs and materials will be provided with the system. The supplier will submit the manufacturer's complete service notes and drawings detailing all interconnections.
- 1.3. All equipment is UL listed as under NBRZ Hospital Signaling and Nurse Call Equipment, conforming to UL 1069 standards. Submitting the UL listing cards describing the equipment by model number shall be proof of such listing.
- 1.4. All items of equipment, including wire and cable, are manufactured and assembled in the United States and designed by the manufacturer to operate as a complete system. All systems will state "Made in America."
- 1.5. Alternate equipment will be considered only when the following have been submitted to and approved by the hospital ten (10) days prior to opening of the bid: A list of the alternate equipment and materials, together with three (3) copies of working and shop drawings, and a list of six (6) installations of a similar Nurse Call System which have been satisfactorily installed and maintained on the user's premises over a period of one (1) year.
- 1.6. Nursing and Maintenance staff of the hospital shall be thoroughly instructed in the use of the system by factory authorized distributor personnel. Such in-service shall be provided in conjunction with the installation of the system equipment. The in-service will comply with Section 9 of this specification.
- 1.7. Systems include a one-year warranty for parts and labor, after which time a maintenance contract is available from a factory-authorized distributor. Free technical training for engineering and support staff is available to every facility in which the equipment is installed. This training is available for the life of the system.
- 1.8. The factory-certified distributor/installer has a four-hour response time for system failures. Service is offered 24 hours a day, seven days a week.

## 2. Proposal Standards

- 2.1 Alternate proposals are not acceptable. All proposals shall include the following:
  - 2.1.1. Manufacturer's name, model numbers and three copies of factory specification sheets for each equipment item to be supplied by the factory authorized distributor. All function variations of equipment shall be clearly indicated in written form, and be pre-approved by the architect/owner twenty-one (21) days prior to bid date.
  - 2.1.2. Written confirmation on the type of speech offered includes Full Duplex Speech (uninterrupted two-way speech). Systems that use "VOX" circuitry (voice operated switching) or "Push-To-Talk" audio are not acceptable.
  - 2.1.3. Written confirmation on the expansion of the system shall state whether the system offers Radio Paging, Remote Maintenance or a Computer Display Terminal (CDT) option.

## 3. System Description – General

- 3.1. The West-Call® Novus Hybrid system is a microcontroller-based system, and provides the following features:
- 3.1.1. Unlimited field devices.
  - 3.1.2. Productivity reports.
  - 3.1.3. Radio paging interface.
  - 3.1.4. Computer display terminal interface.
  - 3.1.5. System failure alarms.
  - 3.1.6. User-configurable software for Nurse Master Station computers.
  - 3.1.7. Ability to interface with computerized system(s) to receive external equipment alarms.
  - 3.1.8. Ability to interface with infant security system and various monitor alarms.
  - 3.1.9. Patient Stations with ability to control the patient room TV and lights.
  - 3.1.10. User-programmable priority levels for patient/staff calls such as ‘Routine’, ‘Staff Emergency’, ‘Code Blue’.
  - 3.1.11. Provides non-interrupted (Full Duplex) audio communication between patient/staff stations and Nurse Master Station telephone.
  - 3.1.12. Patient Stations are compatible with side rail bed communications and ‘Bed Exit’ emergency alarms.
  - 3.1.13. All remote stations connect to system wiring for ease of installation, replacement and/or maintenance.
  - 3.1.14. All station functions are controlled through circuitry on the device.
  - 3.1.15. All equipment meets current UL 1069 for hospital usage NBRZ category, and is listed as a complete system.
  - 3.1.16. All components of the system are “Made In America.” These components include faceplates, circuit boards, membrane switches and circuit board assembly, etc. Systems that do not comply with this requirement are not acceptable and shall be considered non-responsive to this specification.

## 4. System Feature Description

### 4.1. General Description

- 4.1.1. Two-way signaling and messaging between visual display panels.
- 4.1.2. Two-way signaling and audio communication between Nurse Master Station and patient rooms/staff areas.
- 4.1.3. Full Duplex (non-interrupted) audio without having a “Push-To-Talk” button or voice-activated switching circuitry. Each patient and staff station contains a microphone and separate speaker.
- 4.1.4. Ability to create paging zones with unlimited quantity of rooms.
- 4.1.5. Ability to remotely cancel calls.
- 4.1.6. Ability to process a call with assignable priorities, lights and flash rates.
- 4.1.7. Ability to program any call type to transmit a specific text message to any and all radio pagers.
- 4.1.8. Ability to signal an unlimited number of auxiliary signaling device (ASD) zones, activating an unlimited number of zone dome lights and/or duty stations connected to the system.
- 4.1.9. Ability to program any room to activate any of the ASD zones (lights and/or duty stations) in any combination.
- 4.1.10. System incorporates built-in fault diagnostics and remote system maintenance capability.
- 4.1.11. Ability to immediately report the failure of any field device’s microprocessor to a computer display.
- 4.1.12. Ability to interface with radio paging systems, and will meet all requirements of radio paging per Section 6.1 of this specification.
- 4.1.13. Ability to have up to 128 computerized Nurse Master Stations on the nurse call network connected to one Data Manager server application. All masters operate independently of each other, however, patient calls can be routed to any master on the network.
- 4.1.14. Ability to move patient calls between master stations (swing).
- 4.1.15. Ability to interface with hospital ADT system to automatically gather patient information.
- 4.1.16. Ability to interface with infant security systems, IV pumps/medical devices, telemetry systems, etc., to receive calls and send emergency pages to appropriate levels of staff.
- 4.1.17. Ability to access a VPN connection for shop/factory troubleshooting, maintenance, reprogramming and downloading future software upgrades.
- 4.1.18. Password protection for critical and non-critical levels of system setup, allowing access to authorized personnel only.
- 4.1.19. Call tone volume control (with administrative password), with automatic volume decrease at designated time of day (Quiet Mode). Quiet Mode can also affect radio pager beeping sequence.
- 4.1.20. Ability to produce productivity reports that can be easily customized by date, room number and call type. All data is stored in a database. Microsoft SQL database is an option.

## 4.2. Computer display

- 4.2.1. A 15" LCD touch-screen display, mini-keyboard, phone, and a mouse are supplied as the primary interface to Nurse Call functions. On-screen command "buttons" are sized and spaced (adjustable) for easy use.
- 4.2.2. A 15" LCD touch-screen monitor with integrated handset is optional.
- 4.2.3. An on-screen keyboard is included in the FocusCare® software platform. Ideal for sites with limited space requirements and/or when a desktop keyboard is absent.
- 4.2.4. Displays ten (10) active calls and provides on-screen message if more than ten calls are active in the system. Call types are indicated by individual tone and color (tones, colors and flash rate to be designated by hospital).
- 4.2.5. Provisions for registering and locating staff by constant display in both a list and graphical (map) format.
- 4.2.6. Simultaneous and constant display of patient requests and staff location available in both a list and graphical (map) format. Multiple staff level location displays are separate and designated by unique colors.
- 4.2.7. Incoming calls are displayed by room number, bed number and type of call. Call type is differentiated by audible tone and screen color. Patient Name can be configured to display on screen with each call.
- 4.2.8. Map mode (allows staff to view entire unit in a graphical format) is customizable by unit. Calls are displayed in each room with no limit on the number of simultaneously displayed calls. Patient requests, staff presence and admitted patients are visually displayed on the map.
- 4.2.9. Ability to view active staff requests on monitor in both list and graphical (map) format.
- 4.2.10. Distinctive display of re-called patient calls and service request not answered within an allotted amount of time. An elapse timer indicates the length of time the call is in the system. The hospital has the ability to set "recall" time limits for all individual call types and tasks for all levels of staff.
- 4.2.11. The display shows original request upon "recall", with the ability to use the same or add additional requests as required.
- 4.2.12. Ability to place a call on hold while answering a higher priority call. Any number of calls can be placed on hold with on-screen indicator of "on hold" status, and the elapsed timer will continue to run.
- 4.2.13. Ability to set patient status at the master station to be "routine", "priority" or "emergency" and display calls on screen based on status with unique tones and colors for each station.
- 4.2.14. Ability to differentiate between male and female patients by the color of the patient information screen and color of bed icons on the map display.
- 4.2.15. Hospital name, floor/unit name, time of day and system status indicators are displayable on screen and visible at all times.
- 4.2.16. Ability to mute calls for a pre-determined amount of time to allow staff to assist patients without toning the call at the master station.
- 4.2.17. System is user-configurable, permitting on-site changes to room numbers, zone paging, patient priority, zone lights and duty station assignments. Any combination of alpha-numeric room configuration is allowable to a maximum of nine characters.
- 4.2.18. Provides an "auto-page" feature (where applicable), allowing assigned staff member(s) to be paged automatically when any patient call is placed. The message on the pager shall indicate location from where the call originated (room and bed), and the type of call placed ("routine", "bath", etc.).

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## 4.3. Staffing

4.3.1. The 'Staff' database includes the following:

Staff member name.	Assigned bed.
Pager number, with the ability to disable routine pages per staff member.	Staff level.
Team assignment.	Shift assignment(s). Staff members shall be allowed to work multiple shifts.
LPS (locator) Badge assignment	Phone number (for cellular or cordless use).
Supervisor status; any staff member may be designated as supervisor, and multiple supervisors are possible.	Memo area for useful information about the staff member.

- 4.3.2. Unlimited number of staff levels are definable at a master station. Each level may have a unique color code as specified by hospital staff.
- 4.3.3. Unlimited number of patient requests (tasks) are definable for each level of staff, with a unique recall time-out (response timer) for each task.
- 4.3.4. Ability to send a service request for any level of staff.
- 4.3.5. Staff assignments and settings are assignable by shifts, with the ability to set up shift data prior to shift change without affecting current shift settings. The new data will activate when the shift starts without user interaction.

## 4.4. Patient Information Profile

4.4.1. The 'Patient Information' database includes the following:

Patient name (first, last).	Age (with years/months/weeks/days indication).
Gender.	Smoking preference/permissions.
Status (Routine, Emergency, Priority).	Religion (with ability to choose from a pre-defined list).
Diagnosis (with ability to choose from a pre-defined list).	Doctor and staff assignments.
Memo field for patient information purposes.	Memo field for staffing information purposes.

- 4.4.2. Ability to display all patients on screen by level of priority.
- 4.4.3. Ability to transfer patient data to other rooms without re-entering patient information. Staff assignments are also transferable in the same step.
- 4.4.4. Ability to program unlimited levels of patient team member responses to each patient bed (e.g., RN, LVN, Aide, etc.).
- 4.4.5. Discharge function to delete patient information and staff assignments, with the ability to automatically send a pager message (where applicable) to housekeeping staff upon a patient's discharge.

## 4.5. Pagers

- 4.5.1. Ability to store unlimited pre-set alphanumeric pager messages which may be sent to any combination of specific staff member(s), team(s) or individual pager numbers.
- 4.5.2. User-configurable timed, automatic pages to be sent to select staff member(s), team(s) or staff level(s) at a specified time and day(s) of the week..
- 4.5.3. Auto-page feature allowing the assigned staff member(s) to be paged automatically when any patient call is placed. Page message indicates where call originated (room, bed) and the type of call placed (e.g., Routine, Bath, Staff Emergency, etc.).
- 4.5.4. Support Page feature allowing a secondary staff member to be paged when the primary staff member does not respond to call or request within a specified period of time.
- 4.5.5. Supervisor Page feature allowing staff members designated as supervisors to be automatically paged when a patient request is not completed by either the primary staff member or support staff within a specified period of time.
- 4.5.6. Paging system stores the last eight transmitted messages and recipients to allow easy re-paging when necessary.

## 4.6. Reports

- 4.6.1. Built-in Staffing Reports include the following data:

Staff member name.	Staff level.
Shift(s) assignment.	Team(s) assignment.
Bed/Patient assignments.	Pager number assigned.
Badge	Supervisor status.

- 4.6.2. Built-in Patient Information Reports include the following data:

Patient name.	Patient priority status.
Patient age.	Patients admit date.
Bed	Patient gender.
Status.	Staff assignments.

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- 4.6.3. Reports may be sorted by any of the listed fields.
- 4.6.4. Built-in Pager Log tracks pager assignments for 90 days. *Note: Pager Log is a Future Enhancement.*
- 4.6.5. Built-in Log file reports all activity on a master station for a specified day. The Log file stores information for 90 days.

## 5. Equipment Description

### 5.1. Nurse Call Master Station (NCM-FC or NCM-FC/H)

#### 5.1.1. Function:

The Novus Hybrid system comes complete with a 15" LCD monitor with touch screen, an IBM compatible computer, keyboard, mouse, and a phone. A 15" touch screen LCD monitor with integrated handset is also available (NCM-FC/H). The interactive interface uses a call list, displaying active calls, service requests, and staff locations. Large, descriptive buttons with colorful graphics make finding and using functions simple. Full duplex voice communication is available from the master station to patient stations, staff stations, staff/duty stations, and other master stations on same distribution panel. Mater-to-master instant messaging is available on entire network; master-to-master video conferencing is available to all masters on entire network. Other features include fully integrated radio paging, staffing reports, staff assignment, and patient information, all customizable to meet the nursing unit's needs.

#### 5.1.2. General Description:

The nurse call master station contains the following:

- 5.1.2.1. A means by which to annunciate all routine, priority and emergency calls throughout the nurse call system.
- 5.1.2.2. Ability to switch between a Call List mode and a Graphical Floor Map mode with a one-button selection.
- 5.1.2.3. Unlimited call tones, with adjustable volume level and repeat interval for each call type.
- 5.1.2.4. Handset with full-duplex audio and adjustable volume level.
- 5.1.2.5. Automatic location of staff by level (e.g., RN, LVN, Aide).
- 5.1.2.6. Automatic recall of patient calls to which staff has not yet responded (within a selected pre-set period of time).
- 5.1.2.7. An alert for staff for incoming calls to an unattended nurse station.
- 5.1.2.8. Ability to interface with the hospital's ADT information systems.
- 5.1.2.9. Ability to interface with hospital's telemetry system.
- 5.1.2.10. Ability to instant message between all masters on entire network.
- 5.1.2.11. Ability to video conference to all masters on entire network.
- 5.1.2.12. Ability to send full alphanumeric pages from any Nurse Call Master Station to specific pagers programmed to the radio page system interfaced with the nurse call system.
- 5.1.2.13. Ability to network eight (8) Master Stations together with Novus Hybrid Distribution Panel with expansion board for master to master audio communications.

### 5.1.3. Technical Description:

#### 5.1.3.1. Monitor Technical Specifications:

CRT Size:	15" Diagonal (13.8" Viewable)
Deflection Angle:	90 Degrees
Phosphor Pitch:	0.28 MM
Graphics Standards Compatibility:	Non-Interlaced 1024 x 768, XGA, SVGA, VGA
Resolution (Max):	1024 x 768 Non-Interlaced
Video bandwidth (HXV):	75 MHz
Horizontal Sync:	30-56 KHz
Vertical Sync:	50-120 Hz
Video Input Signal:	RGB Analog 0.7 VP-P/75 Ohms Positive
Sync Input Signal:	TTL Separate/Composite (+/-)
Display Colors:	Unlimited
Display Area (HXV):	270mm x 202mm (Recommended)
Power Source:	90-264 VAC
Power Consumption:	20W typical, 25W maximum
Input Connector:	15 Pin Mini D-Sub
Dimension/Weight:	Width: 13.99", Height: 11.27", Depth: 10.44", Weight: 25 lbs
Operating Temperature:	0° C To 40° C
Operating Humidity:	20% To 80% non-condensing

#### 5.1.3.2. Computer Technical Specifications:

Power Consumption:	Typical: 24w, Max: 36 W
Input Voltage	12 VDC- 24 VDC, 12 VDC @ 3A, 24 VDC @ 1.5A
Motherboard:	Integrated Intel 855GME
Processor:	Low voltage 1.4 GHz Intel Pentium®-M
Memory:	512 MB RAM
Video Card:	Intel 855GME utilizing Integrated Intel Extreme Graphics 2 technology
Connectivity:	Two 9-pin D-Sub Serial Ports, One RJ-45 Network Connector, PS/2 mouse/Keyboard port, 25-pin VGA, 3 USB on back, 1 USB on front
Storage:	2GB solid-State Flash
Dimensions:	10.41" x 2.72" x 5.4"
Weight:	5 lbs

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## 5.1.3.3. Other Parts Technical Specifications:

Phone:	DC 12V
Keyboard:	84 Keys Mini USB Keyboard
Cabling:	Category 5 Cable From Master Computer To Novus Hybrid Distribution Panel. West-Call® Special Black Cable From Master Phone to Distribution Panel. AC power x 2 on critical circuit.

## 5.2. Distribution Panel

### 5.2.1. Function:

The Novus Hybrid Distribution Panel consists of one to eight micro controller-based CNTR-1/3IB boards, power supplies, CNTR-1, and an EV-ASM module. One Novus Hybrid CNTR-1/3IB board supports up to 16 Dome addresses with up to 64 sub-addresses each. An unlimited number of CNTR-1/3IB boards may be networked together. All boards are field-programmable and communicate using the RS-485 protocol. The Novus Hybrid Distribution Panel is for use with the West-Call® Novus® Hybrid and West-Call® Novus® Visual systems.

### 5.2.2. General Description:

- 5.2.2.1. Up to 16 Dome Addresses with up to 64 sub-addresses each per CNTR-1/3IB.
- 5.2.2.2. Ability to connect an unlimited number of CNTR-1/3IB boards together via RS-485 network. Ability to connect up to 16 CNTR-1/3IB boards to an EV-ASM with EV-ASM EXP.
- 5.2.2.3. CNTR-1/3IB boards shall be field programmable with optional Novus Hardware Configuration software.
- 5.2.2.4. Ability to report system failures.
- 5.2.2.5. Ability to report to up to eight (8) Novus Master Stations with optional EV- ASM/EXP board.

### 5.2.3. CNTR-1/CNTR-1/3IB Board Technical Specifications:

Operating Voltage:	24-28VDC $\pm$ 5%
Power Consumption:	2 watts.
Termination:	Device identity lines terminate to mass termination connectors on CNTR-1/3IB board. Mating connectors are Panduit CD100F22-5, Panduit CD156F22-3 and RJ-45 connectors.

### 5.2.4. CNTR-1/EV-ASM Technical Specifications:

Operating Voltage:	12VDC $\pm$ 5%
Power Consumption:	6 watts.
Termination EV-ASM:	RS-485 Network Terminates via RJ-45 Socket. Field audio lines terminate to mass termination connectors on EV-ASM. Mating connectors are Panduit CD100F22-5 connectors. Master phone connects via Panduit CE100F22-8 connectors.

## 5.3. Power Supply Module

### 5.3.1. Function:

The Power Supply Modules provide low voltage power to all signaling field units for the nurse call system. Each assembly provides independent replaceable power supplies and a 120VAC power outlet to facilitate plug-in type power connections. All Power Supply Modules include high frequency switching, solid-state circuitry, electronic circuit breaker overload protection and a power LED. A UPS must be added to protect against power fluctuations and power outages. **Must be connected to the hospital's critical branch of emergency power.** Operating Voltage: 120VAC, 60Hz.

### 5.3.2. General Description:

- 5.3.2.1 Operating Voltage shall be 117VAC, 60HZ.
- 5.3.2.2 Power consumption shall be 100 watts per supply.
- 5.3.2.3 Size of mounting backplane shall be 17"H x 20-1/8"W x 4"D.
- 5.3.2.4 Mounting shall be 22"H x 18"W x 6"D electrical enclosure.
- 5.3.2.5 Termination shall be to CCT or CTE via screw-down barrier strips. Mating lugs - Waldom T2014 or equivalent.
- 5.3.2.6 Regulation shall be high frequency switching regulator circuitry with fold-back current limiting (3.2 amperes) and self restart

### 5.3.3. Power Supply Module Technical Specifications:

Item:	Technical Specification:
Power Consumption:	120 watts per supply
Backplane Size:	17" H x 20-1/8"W x 4"D
Mounting Cabinet:	22"H x 18"W x 6"D, Electrical enclosure or equivalent. Flush or surface mount available
Regulation:	Fold-back current limiting with restart.
Cable Requirement:	2 conductor #18AWG per power supply to associated central control terminal.
UPS Power:	120VAC, 60HZ

## 5.4. Novus Hybrid Audio/Visual Patient Stations (SPS-2000 or DPS-2000)

### 5.4.1. Function:

The West-Call<sup>®</sup> Novus Hybrid Patient Stations are located in the patients' room, providing patient(s) with a convenient means of originating calls to the nurse's station. When used with a paging system, calls can be routed directly to a patient's caregiver. The voice communication from the patient's room to the nurses' station is hands-free and two-way (duplex). Remote devices can be associated to patient's room for additional functionality.

### 5.4.2. General Description:

- 5.4.2.1. Inlaid membrane switch with call and monitor indicator LED and call buttons.
- 5.4.2.2. Full Duplex speech for uninterrupted communication between patient and nurse.
- 5.4.2.3. Manual call origination via either a call button or corresponding cord-set; automatic cord out call is placed when the cord-set is unplugged from its receptacle.
- 5.4.2.4. The cord-out call has an override feature eliminating the need for 'dummy plugs'.
- 5.4.2.5. Cord-set receptacles are conveniently located on station.

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- 5.4.2.6. Solid-state circuitry throughout for long life and reliability.
- 5.4.2.7. Quick connect/disconnect connectors for simplified installation and service.
- 5.4.2.8. 2 3/4" Mylar cone speaker with a separate electret condenser microphone for full duplex communication.
- 5.4.2.9. Standard four-gang hospital grade ABS plastic faceplate. (Three-gang box adapter ring is also available.)
- 5.4.2.10. Stations are fully compatible with all bedside "In-Rail" communications systems.
- 5.4.2.11. Red nurse monitor/privacy LED.

### 5.4.3. Novus Hybrid Audio/Visual Patient Station Technical Specifications:

Operating Voltage:	27.5 VDC +/-10%
Power Consumption:	4 Watts
Size:	4 1/2"H x 8 1/4"W x 3 1/2"D
Mounting:	Four-gang back-box Raco #698. Normal mounting is Horizontal. <b>BOX MUST BE LEVEL.</b>
Faceplate:	Hospital grade ABS UL94V-0 molded thermoplastic with inlaid membrane
Faceplate Color:	Standard Warm Grey (Pantone 1C). Special colors supplied on individual basis.
Membrane:	.010 Lexan with hard-coat finish
Membrane Color:	Background color, Pantone 4C Warm Grey, copy color Grey (Pantone 1C and 11C).
Termination:	Plug-on connectors allowing rapid mass termination mating connectors - Panduits needed include Three CE156F22-15, One CE156F22-5 and one RJ-45
Microphone:	Cardiod Electret, sensitivity is -64db @ 1 microbar @ 1KHz
Speaker:	2 3/4" Mylar cone with .5 ounce magnet. Minimum sensitivity is 90db SPL @ .25 watts @ 1ft.
Cable Requirements:	West-Com WZ: 1Pair #18AWG(Power), Cat 5-8 conductor #24AWG (Data and Audio), One Shield

### 5.5. Novus Hybrid Staff Station (STF-2000 or STF-2000/D)

#### 5.5.1. Function:

Staff Stations are used where voice communication is needed between the nurse station and other non-patient occupied areas. Nurse's lounge, waiting rooms, locker rooms and break rooms are all examples of where staff stations are used. Staff stations are also available with a duty alert option.

#### 5.5.2. General Description:

- 5.5.2.1. Inlaid membrane switch with call and monitor indicator LED and call buttons.
- 5.5.2.2. Duplex speech for uninterrupted communication between staff station and nurses' station.
- 5.5.2.3. Manual call origination by the call button.
- 5.5.2.4. Red nurse monitor/privacy LED.
- 5.5.2.5. Solid-state circuitry throughout for long life and reliability.
- 5.5.2.6. Quick connect/disconnect connectors for simplified installation and service.
- 5.5.2.7. Large 2 3/4" Mylar cone speaker with a separate electret condenser microphone for natural full duplex communication.
- 5.5.2.8. Optional Buzzer to annunciate assigned call types.
- 5.5.2.9. Standard four-gang hospital grade ABS plastic faceplate. (3 Gang box adapter ring is available.)

### 5.5.3. Novus Hybrid Staff Station Technical Specifications:

Operating Voltage:	27.5 VDC +/-10%
Power Consumption:	4 Watts
Size:	4 1/2"H x 8 1/4"W x 3 1/2"D
Mounting:	4-gang backbox Raco #698. Normal mounting is Horizontal. <b>BOX MUST BE LEVEL.</b>
Faceplate:	Hospital grade ABS UL94V-0 molded thermoplastic with inlaid membrane
Faceplate Color:	Standard Warm Grey (Pantone 1C). Special colors supplied on individual basis.
Membrane:	.010 Lexan with hard-coat finish
Membrane Color:	Background color, Pantone 4C Warm Grey, copy color Grey (Pantone 1C and 11C).
Termination:	Plug-on connectors allowing rapid mass termination mating connectors - Panduits needed include Three CE156F22-15, One CE156F22-5 and one RJ-45
Microphone:	Cardiod Electret, sensitivity is -64db @ 1 microbar @ 1KHz
Speaker:	2 3/4" Mylar cone with .5 ounce magnet. Minimum sensitivity is 90db SPL @ .25 watts @ 1ft.
Cable Requirements:	West-Com WZ: 1Pair #18AWG(Power), Cat 5-8 conductor #24AWG (Data and Audio), One Shield

### 5.6. Visual Patient Station (NV-VPS)

#### 5.6.1. Function:

The single gang Visual Patient Station is a stand-alone (non-audio) patient station. The NV-VPS includes a standard 1/4" phono receptacle for use with a call cord, CC96-030 or CC144-100. The patient uses the call cord to signal for assistance. A call is automatically placed when the call cord is removed.

#### 5.6.2. General Description:

- 5.6.2.1. Standard 1/4" phono socket for a call cord used by the patient to signal for assistance.
- 5.6.2.2. Automatic placement of call when call cord is removed.
- 5.6.2.3. Highly visible call LED to assure that a call has been placed.
- 5.6.2.4. Large color-coded "CANCEL" label for cancellation of calls.
- 5.6.2.5. Fire retardant high-impact hospital-grade molded thermoplastic with inlaid membrane.
- 5.6.2.6. Attractive Lexan membrane (Pantone 1C Warm Grey).
- 5.6.2.7. Solid-state circuitry.
- 5.6.2.8. Easy plug-in connection into the system wiring.
- 5.6.2.9. Manual call origination with corresponding cord-set; automatic cord out call is placed when the cord-set is unplugged from its receptacle.
- 5.6.2.10. The cord-out call must have an override feature so there is no need for dummy plugs.

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## 5.6.3. NV-VPS Technical Specifications:

Operating Voltage:	24-28 VDC $\pm$ 5%
Power Consumption:	1 watt maximum.
Dimensions:	4 1/2"H x 2 3/4"W x 1 1/2"D
Mounting:	4-inch square back-box with one-gang plaster ring, Raco 190 with 768 one-gang adapter or equivalent. Minimum 2 1/8" depth required. Normal mounting is vertical. For remodel areas, use Raco #500 or 503 with #977 Grip-Lok's or equivalent. Minimum 2 1/2" depth required.
Faceplate:	Hospital grade UL94V-0 ABS molded thermoplastic with inlaid membrane
Faceplate Color:	PMS 427; Light Grey Opaque
Membrane:	.010 Lexan with hard-coat finish background color Pantone 4C Warm Grey. Cancel color Pantone 1C and 11C Warm Grey.
Lamp Life:	500,000 hour minimum
Switch Life:	100,000 cycles minimum
Call Cord Socket:	1/4" Phono
Cable Requirement:	Use 4-conductor #22AWG cable for NV-VPS-100 and CAT5 cable for NVV-VPS-1000.
Termination Requirements:	Plug on connector allows rapid mass termination. Mating connector is a Panduit CE100F22-4 for NV-VPS-1000 or RJ45 for NVV-VPS-1000.

## 5.7. Locator Station (NV-LOC/2 or LOC-2000)

### 5.7.1. Function:

The Locator station provides two levels of staff location, as well as other unique features, such as cancellation of calls and activation of special staff emergency, nurse follower and selective page functions. When used with the West-Call® Novus Hybrid or West-Call Novus Visual systems, locators can be a signaling device for any purpose.

### 5.7.2. General Description:

- 5.7.2.1. Highly visible call LED to assure the call has been placed; 500,000-hour life expectancy.
- 5.7.2.2. Easy-to-operate color-coded push buttons.
- 5.7.2.3. Fire-retardant, high-impact, molded thermoplastic.
- 5.7.2.4. Solid-state circuitry.
- 5.7.2.5. Available with three buttons.
- 5.7.2.6. Plug-in connectors for easy system connection/service.

## 5.7.3. NV-LOC Technical Specifications:

Operating Voltage:	24-28 VDC $\pm$ 5%
Power Consumption:	1 watt maximum.
Size:	4 1/2"H x 2 3/4"W x 1 1/4"D
Mounting:	4" square back-box with 1-gang plaster ring, Raco 190 with 768 or equivalent. 2 1/8" minimum depth required. Normal mounting is <u>Vertical</u> . For remodel areas, use Raco #500 or 503 with #977 Grip-Lok's or equivalent. Minimum 2 1/2" depth required
Faceplate:	Hospital-grade ABS UL94V-0 molded thermoplastic with inlaid membrane.
Faceplate Color:	PMS 427; Light Grey Opaque
Membrane:	.010 Lexan with hard-coat finish.
Membrane Color:	.010 Lexan with hard-coat finish background color Grey (Pantone 4C). Copy color Warm Grey (Pantone 1C and 11C).
Termination:	Plug-on connector allows rapid mass termination. Mating connector - Panduit CE100F22-6.for LOC-2000 and RJ45 for NV-LOC
Cable Requirements:	6 conductor #22AWG cable to Novus Patient or Staff Station with NV-LOC or CAT5 for NV-LOC/2

## 5.8. i-Dome®

### 5.8.1 Function:

The i-Dome® is an independent device that displays patient and room status. i-Dome® is about the size of a standard light switch and is generally installed just outside the patient room door. It has one clear LED that can display a variety of colors as well as three configurable buttons on the membrane. i-Dome is used to alert medical personnel of patient status via the LED display for easy viewing from a hallway. i-Dome has a completely customizable array of light assignments spanning a vast assortment of colors. It can also operate independent of any nurse call system, providing flexibility and customization well beyond existing, proprietary solutions. Light color assignments are non-standard, protecting the privacy of the patient. The i-Dome is controlled through a highly customizable web interface using an IP-based system utilizing CAT-5 cabling. Multiple simultaneous states that cycle colors can also be used providing flexibility and robust optimization for any healthcare environment.

### 5.8.2 General Description:

- 5.8.2.1 Can be configured to display patient or room status.
- 5.8.2.2 Can show status from other devices such as beds.
- 5.8.2.3 Can be entirely stand-alone or tied to a Novus Hybrid system.
- 5.8.2.4 Data is received from external systems; does not actively monitor patient calls.
- 5.8.2.5 Fully customizable web interface.
- 5.8.2.6 Uses an IP-based system running on CAT-5 cable with power over Ethernet.
- 5.8.2.7 Create any color to light the LED.
- 5.8.2.8 Supports multiple states for each button; can cycle between colors to show multiple status issues.
- 5.8.2.9 Can be used as a Staff locator with call/request cancellation capability.

# Novus Hybrid Specifications

## 5.8.3 i-Dome® Technical Specifications:

Operating Voltage:	24-28 VDC $\pm$ 5%
Power Consumption:	.06 Watts idle, .75 Watts maximum
Size:	4 1/2"H x 2 3/4"W x 2"D
Mounting:	4" square back-box with 1 gang plaster ring, Raco 190 with 768 or equivalent. 2 1/8" minimum depth required. For remodel areas, use Raco #500 or 503 with #977 Grip-Lok's or equivalent. Minimum 2 1/2" depth required
Faceplate:	Hospital Grade Polylac
Faceplate Color:	PA765NAT with light Grey Opaque
Termination:	CAT 5 daisy chained to up to 63 devices..
Cable Requirements:	Two RJ-45 connectors.

## 5.9. Duty Alarm Station (NV-DTY-Steel)

### 5.9.1. Function:

The Duty Alarm Station provides remote annunciation of the nurse call system status in staff (or other) areas. Staff personnel can monitor patient calls continuously in areas without a master station. The Duty Alarm Station will tone (beep) for assigned call types at assigned rates. The zone and call mode of this station can be programmed in Focus Care Configurator or Zone Controller software.

### 5.9.2. General Description:

- 5.9.2.1. Easy programming to any zone or mode.
- 5.9.2.2. Programmable intervals per duty station.
- 5.9.2.3. LED installed for a visual indication of a call in the system.
- 5.9.2.4. Fire retardant, painted, cold rolled steel faceplate.
- 5.9.2.5. Optional mute function on duty station.

### 5.9.3. NV-DTY-Steel Technical Specifications:

Operating Voltage:	24-28 VDC $\pm$ 5%
Power Consumption:	1 watt maximum.
Size:	4 1/2"H x 2 3/4"W x 1 1/2"D
Mounting:	4" square back-box with 1 gang plaster ring, Raco 190 with 768 or equivalent. 2 1/8" minimum depth required. For remodel areas, use Raco #500 or 503 with #977 Grip-Lok's or equivalent. Minimum 2 1/2" depth required
Faceplate:	Painted cold rolled steel.
Faceplate Color:	Warm grey Pantone 1C.
Termination:	CAT 5 to associated Novus dome.
Cable Requirements:	RJ-45 connector.

## 5.10. Pillow Speakers

### 5.10.1. Function:

The pillow speaker is a compact unit which is easily cleaned and sterilized. It includes a high fidelity mylar speaker for private listening, and a wide variety of controls governing patient entertainment systems (e.g., radio, television) and for patient convenience in contacting hospital personnel. *Only UL-1069 listed pillow speakers are used.*

### 5.10.2. Optional Functions:

- 5.10.2.1. Room light controls.
- 5.10.2.2. Numerical keypad for television control.
- 5.10.2.3. 12-pin break-away connector available.
- 5.10.2.4. Headset feature for private listening of entertainment systems.
- 5.10.2.5. DirectRequest<sup>®</sup> Pain Med and Bed Pan call buttons.

### 5.10.3. General Description:

- 5.10.3.1. A nurse call button.
- 5.10.3.2. A TV (on/off/channel change) button.
- 5.10.3.3. A volume control for incoming television audio.
- 5.10.3.4. A mylar coned speaker.
- 5.10.3.5. An eight-foot cord with a ten-pin modular plug.
- 5.10.3.6. Pillow speakers are made of Huntsman #799 Polystyrene (UL94V-0) thermoplastic.

## 5.11. Emergency Pull Cords (NV-EPC or EPC-2000; NV-EPCP or EPCP-2000)

### 5.11.1. Function:

Emergency Pull Cord Stations alert staff members of the location where prompt emergency help is required. Pulling on a cord that extends from the station to the ground places an emergency call. This allows patients who may have fallen to place a call while lying on the floor. The NV-EPC connects directly to a dome light. The EPC-2000 connects directly to an associated patient station. Optional push-for-assistance button (EPCP) allows for two call types from the same device.

### 5.11.2. General Description:

- 5.11.2.1. Large color-coded labels for placement of calls.
- 5.11.2.2. Highly visible call LED to assure that a call has been placed.
- 5.11.2.3. Large color-coded "CANCEL" or "CANCEL AT TOILET" (SWPC devices) label for cancellation of calls.
- 5.11.2.4. Fire-retardant high-impact hospital grade molded thermoplastic with inlaid membrane.
- 5.11.2.5. Attractive Lexan membrane PMS 427; Light Grey Opaque
- 5.11.2.6. Solid-state circuitry.
- 5.11.2.7. Easy plug-in connection into system wiring.
- 5.11.2.8. Optional Push-for-Assistance button allows for two call types from same device.
- 5.11.2.9. Eight-foot pull cord with a tassel on the end for easy gripping.
- 5.11.2.10. Waterproof gasket for shower stations.

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## 5.11.3. Novus Pull Cord Technical Specifications:

Operating Voltage:	24-28 VDC $\pm$ 5%
Power Consumption:	1 watt maximum.
Dimensions:	4 1/2"H x 2 3/4"W x 1 1/2"D.
Mounting:	4-inch square back-box with one-gang plaster ring, Raco 190 with 768 one-gang adapter or equivalent. Minimum 2 1/8" depth required. Normal mounting is vertical. For remodel areas, use Raco #500 or 503 with #977 Grip-Lok's or equivalent. Minimum 2 1/2" depth required.
Faceplate:	Hospital grade UL94V-0 ABS molded thermoplastic with inlaid membrane.
Faceplate Color:	PMS 427; Light Grey Opaque
Membrane:	.010 Lexan with hard-coat finish background color Pantone 4C Warm Grey. Cancel color Pantone 1C and 11C Warm Grey.
Lamp Life:	500,000 hour minimum.
Switch Life:	100,000 cycles minimum.
Cable Requirement for the EPC and WPC:	Use 4 conductor #22AWG cable to associated patient station for EPC-2000 or CAT 5 to associated Dome light for NV-EPC.
Cable Requirement for the SPC and SWPC:	Use 4 conductor #22AWG cable to associated EPC or CAT 5 to associated Dome light.
Termination Requirement:	Plug-in connector allows rapid mass termination. Mating connector is a Panduit CE156F22-8 for EPC-2000 and RJ45 for NV-EPC..

## 5.12. "Staff Emergency" Station (NV-PBE/SE or PBE-2000/SE)

### 5.12.1. Function:

The NV-PBE/SE is intended for use in patient rooms and other areas where priority calls require immediate attention. The NV-PBE/SE consists of a red push button area, a color-coded "CANCEL" button, and a red LED indicator. They are designed for patient areas where emergency assistance is needed. The NV-PBE/SE connects directly to a dome light. The PBE-2000/SE connects directly to an associated patient station.

### 5.12.2. General Description:

- 5.12.2.1. Large color-coded call type label for placement of calls.
- 5.12.2.2. Highly visible call LED to assure that a call has been placed.
- 5.12.2.3. Large color-coded "CANCEL" label for cancellation of calls.
- 5.12.2.4. Fire retardant high-impact hospital grade molded thermoplastic with inlaid membrane.
- 5.12.2.5. Attractive Lexan membrane PMS 427; Light Grey Opaque
- 5.12.2.6. Solid-state circuitry.
- 5.12.2.7. Easy plug-in connection into the system wiring.

### 5.12.3. NV-PBE/SE Technical Specifications:

Operating Voltage:	24-28 VDC $\pm$ 5%
Power Consumption:	1 watt maximum.
Dimensions:	4 1/2"H x 2 3/4"W x 1 1/2"D
Mounting:	4-inch square back-box with one-gang plaster ring, Raco 190 with 768 one-gang adapter or equivalent. Minimum 2 1/8" depth required. Normal mounting is vertical. For remodel areas, use Raco #500 or 503 with #977 Grip-Lok's or equivalent. Minimum 2 1/2" depth required.
Faceplate:	Hospital grade UL94V-0 ABS molded thermoplastic with inlaid membrane.
Faceplate Color:	PMS 427; Light Grey Opaque
Membrane:	.010 Lexan with hard-coat finish background color Pantone 4C Warm Grey. Cancel color Pantone 1C and 11C Warm Grey.
Lamp Life:	500,000 hour minimum.
Switch Life:	100,000 cycles minimum.
Cable Requirement:	Use 4 conductor #22AWG cable to associated Patient or Staff station for PBE-2000 or CAT 5 to associated Dome light for NV-PBE.
Termination Requirement:	Plug-on connector allows rapid mass termination. Mating connector is a Panduit CE100F22-8 for PBE-2000/SE or RJ45 for NV-PBE/SE.

### 5.13. "Push For Help" Station (NV-PBE or PBE-2000)

#### 5.13.1. Function:

The NV-PBE is intended for use in patient rooms and other areas where priority calls require immediate attention. The NV-PBE consists of a red push button area, a color-coded "CANCEL" button, and a red LED indicator. They are designed for patient areas where assistance is needed. The NV-PBE connects directly to a dome light. The PBE-2000 connects directly to an associated patient station.

#### 5.13.2. General Description:

- 5.13.2.1. Large color-coded call type label for placement of calls.
- 5.13.2.2. Highly visible call LED to assure that a call has been placed.
- 5.13.2.3. Large color-coded "CANCEL" label for cancellation of calls.
- 5.13.2.4. Fire-retardant high-impact hospital grade molded thermoplastic with inlaid membrane.
- 5.13.2.5. Attractive Lexan membrane PMS 427; Light Grey Opaque
- 5.13.2.6. Solid-state circuitry.
- 5.13.2.7. Easy plug-in connection into the system wiring.

## Novus Hybrid Specifications

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### 5.13.3. NV-PBE Technical Specifications:

Operating Voltage:	24-28 VDC $\pm$ 5%
Power Consumption:	1 watt maximum.
Dimensions:	4 1/2"H x 2 3/4"W x 1 1/2"D
Mounting:	4-inch square back-box with one-gang plaster ring, Raco 190 with 768 one-gang adapter or equivalent. Minimum 2 1/8" depth required. Normal mounting is vertical. For remodel areas, use Raco #500 or 503 with #977 Grip-Lok's or equivalent. Minimum 2 1/2" depth required.
Faceplate:	Hospital grade UL94V-0 ABS molded thermoplastic with inlaid membrane.
Faceplate Color:	PMS 427; Light Grey Opaque
Membrane:	.010 Lexan with hard-coat finish background color Pantone 4C Warm Grey. Cancel color Pantone 1C and 11C Warm Grey.
Lamp Life:	500,000 hour minimum.
Switch Life:	100,000 cycles minimum.
Cable Requirement:	Use 4 conductor #22AWG cable to associated Patient or Staff station for PBE-2000 or CAT 5 to associated Dome light for NV-PBE.
Termination Requirement:	Plug-on connector allows rapid mass termination. Mating connector is a Panduit CE100F22-8 for PBE-2000 or RJ45 for NV-PBE.

### 5.14. "Code Blue" Station (NV-PBE/CB or PBE-2000/CB)

#### 5.14.1. Function:

The NV-PBE/CB is intended for use in Recovery, ICU, CCU and other areas where priority calls require immediate attention. The NV-PBE/CB consists of a blue push button area, a color-coded "CANCEL" button, and a red LED indicator. All "Code Blue" calls can annunciate locally at the nurses' station, pagers and at PBX. They are designed for patient areas where Code Blue assistance is needed. The NV-PBE/CB connects directly to a dome light. The PBE-2000/CB connects directly to an associated patient station. This device includes a 3-pin header to provide a dry contact closure (Normally Open or Normally Closed) that is activated when the Code Blue button is pressed and deactivated when the Cancel button is pressed.

#### 5.14.2. General Description:

- 5.14.2.1. Large color-coded call type label for placement of calls.
- 5.14.2.2. Highly visible call LED to assure that a call has been placed.
- 5.14.2.3. Large color-coded "CANCEL" label for cancellation of calls.
- 5.14.2.4. Fire retardant high-impact hospital grade molded thermoplastic with inlaid membrane.
- 5.14.2.5. Attractive Lexan membrane PMS 427; Light Grey Opaque.
- 5.14.2.6. Solid-state circuitry.
- 5.14.2.7. Easy plug-in connection into the system wiring.

### 5.14.3. NV-PBE/CB Technical Specifications:

Operating Voltage:	24-28 VDC $\pm$ 5%
Power Consumption:	1 watt maximum.
Dimensions:	4 1/2"H x 2 3/4"W x 1 1/2"D.
Mounting:	4-inch square back-box with one-gang plaster ring, Raco 190 with 768 one-gang adapter or equivalent. Minimum 2 1/8" depth required. Normal mounting is vertical. For remodel areas, use Raco #500 or 503 with #977 Grip-Lok's or equivalent. Minimum 2 1/2" depth required.
Faceplate:	Hospital-grade UL94V-0 ABS molded thermoplastic with inlaid membrane.
Faceplate Color:	PMS 427; Light Grey Opaque
Membrane:	.010 Lexan with hard-coat finish background color Pantone 4C Warm Grey. Cancel color Pantone 1C and 11C Warm Grey.
Lamp Life:	500,000 hour minimum.
Switch Life:	100,000 cycles minimum.
Cable Requirement:	Use 4 conductor #22AWG cable to associated Patient or Staff station for PBE-2000 or CAT 5 to associated Dome light for NV-PBE.
Termination Requirement:	Plug-on connector allows rapid mass termination. Mating connector is a Panduit CE100F22-8 for PBE-2000 or RJ45 for NV-PBE.

### 5.15. "Code Pink" Station (NV-PBE/CP or PBE-2000/CP)

#### 5.15.1. Function:

The NV-PBE/CP is intended for use in Nurseries, NICU, and other areas where priority calls require immediate attention. The NV-PBE/CP consists of a pink push button area, a color-coded "CANCEL" button, and a red LED indicator. All "Code Pink" calls can annunciate locally at the nurses' station, pagers, and at PBX. They are designed for patient areas where Code Pink assistance is needed. The NV-PBE/CP connects directly to a dome light. The PBE-2000/CP connects directly to an associated patient station.

#### 5.15.2. General Description:

- 5.15.2.1. Large color-coded call type label for placement of calls.
- 5.15.2.2. Highly-visible call LED to assure that a call has been placed.
- 5.15.2.3. Large color-coded "CANCEL" label for cancellation of calls.
- 5.15.2.4. Fire retardant high-impact hospital grade molded thermoplastic with inlaid membrane.
- 5.15.2.5. Attractive Lexan membrane PMS 427; Light Grey Opaque
- 5.15.2.6. Solid-state circuitry.
- 5.15.2.7. Easy plug-in connection into the system wiring.

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## 5.15.3. NV-PBE/CP Technical Specifications:

Operating Voltage:	24-28 VDC $\pm$ 5%
Power Consumption:	1 watt maximum.
Dimensions:	4 1/2"H x 2 3/4"W x 1 1/2"D
Mounting:	4-inch square back-box with one-gang plaster ring, Raco 190 with 768 one-gang adapter or equivalent. Minimum 2 1/8" depth required. Normal mounting is vertical. For remodel areas, use Raco #500 or 503 with #977 Grip-Lok's or equivalent. Minimum 2 1/2" depth required.
Faceplate:	Hospital grade UL94V-0 ABS molded thermoplastic with inlaid membrane.
Faceplate Color:	PMS 427; Light Grey Opaque
Membrane:	.010 Lexan with hard-coat finish background color Pantone 4C Warm Grey. Cancel color Pantone 1C and 11C Warm Grey.
Lamp Life:	500,000 hour minimum.
Switch Life:	100,000 cycles minimum.
Cable Requirement:	Use 4 conductor #22AWG cable to associated Patient or Staff station for PBE-2000 or CAT 5 to associated Dome light for NV-PBE.
Termination Requirement:	Plug-on connector allows rapid mass termination. Mating connector is a Panduit CE100F22-8 for PBE-2000 or RJ45 for NV-PBE.

## 5.16. "Staff Emergency/Code Blue" Station (NV-PBE/SE/CB or PBE-2000/SE/CB)

### 5.16.1. Function:

The NV-PBE/SE/CB is intended for use in Recovery, ICU, CCU and other areas where priority calls require immediate attention. The NV-PBE/SE/CB consists of a blue push button area for Code Blue and a red push button for Staff Emergency; both buttons have LED indicators on button face to indicate active call. Calls can be cleared by pressing the buttons a second time. Clearly printed on membrane is "PUSH AGAIN TO CANCEL". All calls can annunciate locally at assigned nurses stations. With programming, defined call types can report to pagers and at PBX. They are designed for patient areas where Code Blue and Staff Emergency assistance is needed. The NV-PBE/SE/CB connects directly to a dome light. The PBE-2000/SE/CB connects directly to an associated patient station. This device includes a 3-pin header to provide a dry contact closure (Normally Open or Normally Closed) that is activated when the Code Blue button is pressed and deactivated when the Cancel button is pressed.

### 5.16.2. General Description:

- 5.16.2.1. Large color-coded call type labels for placement of calls.
- 5.16.2.2. Highly-visible call LEDs to assure that a call has been placed.
- 5.16.2.3. Clearly printed "PUSH AGAIN TO CANCEL" .
- 5.16.2.4. Fire retardant high-impact hospital grade molded thermoplastic with inlaid membrane.
- 5.16.2.5. Attractive Lexan membrane PMS 427; Light Grey Opaque
- 5.16.2.6. Solid-state circuitry.
- 5.16.2.7. Easy plug-in connection into the system wiring.

## 5.16.3. NV-PBE/SE/CB Technical Specifications

Operating Voltage:	24-28 VDC $\pm$ 5%
Power Consumption:	1 watt maximum.
Dimensions:	4 1/2"H x 2 3/4"W x 1 1/2"D
Mounting:	4-inch square back-box with one-gang plaster ring, Raco 190 with 768 one-gang adapter or equivalent. Minimum 2 1/8" depth required. Normal mounting is vertical. For remodel areas, use Raco #500 or 503 with #977 Grip-Lok's or equivalent. Minimum 2 1/2" depth required.
Faceplate:	Hospital grade UL94V-0 ABS molded thermoplastic with inlaid membrane.
Faceplate Color:	PMS 427; Light Grey Opaque
Membrane:	.010 Lexan with hard-coat finish background color Pantone 4C Warm Grey. Cancel color Pantone 1C and 11C Warm Grey.
Lamp Life:	500,000 hour minimum.
Switch Life:	100,000 cycles minimum.
Cable Requirement:	Use 4 conductor #22AWG cable to associated Patient or Staff station for PBE-2000 or CAT 5 to associated Dome light for NV-PBE.
Termination Requirement:	Plug-on connector allows rapid mass termination. Mating connector is a Panduit CE100F22-8 for PBE-2000 or RJ45 for NV-PBE.

## 5.17. Novus Dome Light (NV-Dome)

### 5.17.1. Function:

The West-Call® Novus® Dome Light (NV-Dome) provides the required visual signal to notify staff members of a room's status. It can be used with the Novus Hybrid system. The NV-Dome is equipped with four sections, with one LED per section, offering a wide variety of signals. LED lamps are easily visible from any reasonable angle. The Dome Light can be mounted on the wall or ceiling. Typical applications include corridor indication of patient calls, patient waiting, staff calls, emergency, Code Blue, and Code Pink indications, as well as zone light applications. NV-Domes are programmable for various colors and flash rates using custom programming tables. The NV-Dome is equipped with a hard-wired Piezo buzzer to audibly announce Code Blue calls. It is also equipped with a 2-pin header to accommodate connection to a smoke detector.

### 5.17.2. General Description:

- 5.17.2.1. Dome lens shape allows for maximum visibility in all directions, even at great distances and under high ambient lighting conditions.
- 5.17.2.2. Long-life LEDs virtually never burn out.
- 5.17.2.3. Oversized two-gang faceplate, hospital-grade ABS plastic.
- 5.17.2.4. Color is PMS 427; Light Grey Opaque
- 5.17.2.5. Lens is made from unbreakable polystyrene UL94V0 plastic.
- 5.17.2.6. Normal and emergency calls distinguished by different visual signals for positive identification of call priority are programmable using Novus Hardware Configurator.

# Novus Hybrid Specifications

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## 5.17.3. Novus Dome Technical Specifications:

Operating Voltage:	28 VDC.
Power Consumption:	<2 Watts
Size:	5 1/4"H x 5 1/4"W x 3 3/4"D.
Mounting:	4 11/16" square back-box with two-gang plaster ring. Raco 257 with 818 or equivalent.
Faceplate:	Hospital grade ABS plastic back plate with attractive finish. PMS 427; Light Grey Opaque.
Termination:	Mating connectors are Four RJ-45 and 3 Panduit CE156F22-3 .
Luminarie:	Molded white Polystyrene plastic, replaceable.
LED Colors:	Red, Green, Blue, Yellow, Amber, Violet, Turquoise-via program control

## 5.18. Device Wiring

All nurse call system wiring is in accordance with NEC and local codes. All components are provided with plug-in connections to system wiring. NEC or local codes apply to all cables for support or installation in plenum spaces. All cables will be labeled at termination or splice points.

## 6. System Interfaces

### 6.1. Radio Page Interface

The nurse call system has the ability to interface with paging systems and has the following system features:

- 6.1.1. Ability to interface with the ASCOM System 5000 (ESPA 4.4.4 Protocol) and standard TAP (v1.8) Protocol.
- 6.1.2. Ability to assign any bed to any pager or pager group.
- 6.1.3. Ability to assign an unlimited amount of pagers to any patient bed.
- 6.1.4. Ability to send an unlimited number of hospital-selected messages to any pager in the system from any nurse master station in the system.
- 6.1.5. Ability to send detailed, 32-character special messages to any pager in the system from any nurse call master in the system.
- 6.1.6. Ability to send detailed, 32-character special messages to any pager in the system from any in-house PC with optional I-Page Server.
- 6.1.7. Ability to automatically send "Staff Emergency" calls to all staff members by patient care group, by simply pressing one button. "Staff Emergency" calls shall be indicated by an emergency tone, and the pager will indicate the room number of the call and state "Staff Emergency" in plain English format on pagers.
- 6.1.8. Ability to automatically send all "Code Blue" calls to staff members by simply pressing one button. Pager shall give a separate and distinct code blue tone, and shall indicate room number of code call, and state "Code Blue" in plain English format on pagers.
- 6.1.9. Ability to have patient calls routed directly to the staff member(s) assigned to the patient. The nurse call system will continue to indicate the call until the assigned staff member cancels the call in the room or the patient call is answered at the master station. The pager shall give routine call indication and indicate room and bed number of the call, as well as "patient need" in plain English format on format.
- 6.1.10. If the radio page feature is placed in "Auto-Page" mode, all levels of call go directly to the pager(s) assigned to the bed placing the call. Hospital must have the ability to determine which level(s) of calls go to any or all of the pagers assigned to the bed.

- 6.1.11. When a patient service request is re-called from the service mode, a second page is sent to the pager assigned to that specific bed. The pager will give a general call tone and re-indicate room and bed number.
- 6.1.12. Pager assignments are easily made and/or displayed from any nurse call master in the system. Hospital has the ability to assign levels of call to individual pagers.
- 6.1.13. Ability to have bathroom emergency calls go directly to the R.N. assigned to that room by simply pulling the bathroom emergency call cord. The pager will sound an emergency call and indicate room number, and shall state "Bathroom Emergency" in plain English format on pagers.
- 6.1.14. The system is capable of placing unlimited timed auto-pages, programmed as needed at the master station. These pages can be sent automatically at specified times and days.
- 6.1.15. In the event that a patient call is re-called in excess of two times (number of re-calls to be programmable by hospital) without the proper level of staff entering the room, a page can automatically be sent to the Supervisor's pager. An emergency tone on the pager shall alert the Supervisor of a problem, and the pager will display the room and bed number of the patient needing assistance.

## 6.2. Automatic Tracking Systems

Automatic tracking systems consist of a small, lightweight badge that emits invisible, digitized infrared light (Versus, ELPAS) or Ultrasound (West-Com LPS) signal with a unique identification code. The code is received by sensors and relayed to the nurse call system master station, where the badge's location is displayed. When a staff member wearing a badge enters a patient's room, the dome light indicates staff presence by illuminating the appropriate lamp. Routine patient calls are automatically canceled when the correct staff level enters the patient's room. The nurse call master station has automatic location features such as low battery indication and badge log file. Instant voice communication to staff members using a location badge is also possible. Staff location information can be stored in the reporting database to produce productivity reports that includes staff member's name, location, and response times on all patient calls.

## 6.3. ADT Systems

- 6.3.1. The nurse call system can receive information from the hospital's Admit-Discharge-Transfer system in real time.
- 6.3.2. The nurse call system is capable of receiving the information in a variety of formats, including HL7.
- 6.3.3. The nurse call system receives the information through a serial or TCP/IP connection.
- 6.3.4. No filtering is required by the ADT system. The nurse call system handles all filtering.
- 6.3.5. Information is automatically populated in the appropriate patient information profile in the nurse call system if required. The following is a list of fields that can be uploaded:

<b>FIELD</b>	<b>FIELD</b>
BED ID	AGE
NAME, LAST	AGE YMD
NAME, FIRST	GENDER
ADMIT DATE	SMOKER STATUS
DIAGNOSIS	ACCOUNT #
RELIGION	DOCTOR(s)
MEMO (Personal data)	NURSE(s)
MEMO (staff data)	

# Novus Hybrid Specifications

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## 6.4. Wireless Phones

The nurse call system has the ability to interface with wireless telephone systems and has the following system features:

- 6.4.1. Ability to interface with ASCOM (ESPA 4.4.4 Protocol), OAI, and standard TAP (v1.8) Protocol.
- 6.4.2. Compatible with ASCOM, Spectralink, Cisco
- 6.4.3. Ability to assign any bed to any phone or phone group.
- 6.4.4. Ability to assign an unlimited amount of phones to any patient bed.
- 6.4.5. Ability to send an unlimited number of stored messages to any phone in the system from any nurse master station in the system.
- 6.4.6. Ability to send detailed, 32-character special messages to any phone in the system from any nurse call master in the system.
- 6.4.7. Ability to send detailed, 32-character special messages to any phone in the system from any in-house PC with optional Web Suite Server application.
- 6.4.8. Ability to automatically send “Staff Emergency” calls to all staff members by patient care group, by simply pressing one button. “Staff Emergency” calls shall be indicated by an emergency tone, and the phone will indicate the room number of the call and state “Staff Emergency” in plain English format.
- 6.4.9. Ability to automatically send all “Code Blue” calls to staff members by simply pressing one button. Phone shall give a separate and distinct code blue tone, and shall indicate room number of code call, and state “Code Blue” in plain English format.
- 6.4.10. Ability to have patient calls routed directly to the staff member(s) assigned to the patient. The nurse call system will continue to indicate the call until the assigned staff member cancels the call in the room or the patient call is answered at the master station. The phone shall give call type indication and indicate room and bed number of the call, as well as “patient need” in plain English format on format.
- 6.4.11. If the “Auto-Page” feature is activated on the master station, all levels of calls route directly to the phone(s) assigned to the bed placing the call. Hospital must have the ability to determine which level(s) of calls go to any or all of the phones assigned to the bed.
- 6.4.12. Ability to place an audio call from the phone into a patient room with full duplex audio for uninterrupted communication through the in-room patient/staff station.

## 7. Management Reports

The nurse call system is capable of collecting patient call/staff response data and storing it in an SQL database to accommodate a variety of reports. This data includes a recap of all events associated with a bed, patient, staff member, patient request and response time. If a hospital has multiple floors or wings with independent Distribution Panels, the system can be configured to use a common database. A report can be generated for one or multiple Distribution Panels.

Summary information included in the report includes but not limited to:

- 7.1. Total number of calls in report.
- 7.2. Percentage of calls of this type that were answered on time.
- 7.3. Total number of recalls.
- 7.4. Percentage of calls that recalled.
- 7.5. Total number of calls for all types.
- 7.6. Total number of recalls for all types.
- 7.7. Overall percentage of calls that recalled.
- 7.8. Percentage of calls answered per staff member.

The Report Statistics Table displays for **each** call type the average (AVG), highest (HIGH), and lowest (LOW) times in the report for:

<b>Desk Response</b>	The length of time for a call to be answered at the Master.
<b>Room Response</b>	The length of time for a staff member to arrive in the room, either by a call answered at the Master, or a direct response.
<b>Total Response</b>	The cumulative time before a patient has been serviced. (Desk Response + Room Response)
<b>Stay in Room</b>	The length of time the staff member(s) stayed in the patient's room.

## 8. Distribution Panel Networking

- 8.1. All Novus Hybrid Distribution Panels have the ability to be networked, if desired.
- 8.2. All routine calls placed in the nurse call system must be able to be cancelled from the device where the call originated, from any nurse master station assigned to receive call, or at a designated remote locator station. All emergency and "code" calls can only be cancelled at the calling device.
- 8.3. The network is RS-485 based.
- 8.4. All Novus Hybrid Distribution Panels are able to run networked, or independently from the network.

## 9. Training

### 9.1. In-Service Training:

All in-service training will include necessary user manuals. West-Com Nurse Call Systems, Inc. will supply one in-service per year, minimum, at no additional charge to the hospital. Schedule one month in advance (minimum).

The in-service shall be coordinated with the nursing education department of the hospital and signed off by nursing administration before installation of the system can begin. The pre-agreed upon in-service schedule will become part of the contract.

### 9.2. Factory Training:

A factory technical training seminar is provided at no additional cost to the facility. This training seminar is held at the West-Com factory on an "as-scheduled due to need" basis and offers a minimum of three days of hands-on training to all hospital engineering and/or bio-medical staff. Hospital personnel have access to this school for the life of the system.

## 10. Conditions

### 10.1. Equipment

- 10.1.1. All equipment listed above and supplied by a U.S. manufacturer shall be acceptable in the above listed specifications.
- 10.1.2. All equipment is listed for "UL 1069 Standards for Hospital Usage".
- 10.1.3. Part numbers designated may change according to the manufacturer's new product releases; however, the equipment specified meets or exceeds the specifications as outlined.
- 10.1.4. No deviation from the above-specified equipment is acceptable.

### 10.2. History

The manufacturer has at least six (6) installations of comparable systems and will supply a complete list of references with the bid.

### 10.3. Service

All service is performed by an authorized factory servicing company with a minimum of six service vehicles in the immediate area (subcontractors are not acceptable).

### 10.4. Installation

Employees of the company selling the above-listed system must perform all installation. Vendor shall have at least one factory-certified installer for the installation. Use of sub-contractors or hospital personnel to perform installation is not acceptable. The authorized installation company will have a minimum of six service vehicles in the immediate area.

### 10.5. Warranty

Full five (5) year warranty on all field equipment, and one (1) year on labor. Pillow speakers and light bulbs shall be guaranteed for 60 days.