

DUKANE

Guideline Specifications

ProCare
1000

Visual Nurse Call System

PROCARE 1000
NURSE CALL VISUAL SYSTEM
ENGINEERING GUIDELINE SPECIFICATIONS
ON DISK
DOCUMENT # 427-02-00010 (01)

Foreword

With the use of this file on disk and a standard IBM compatible computer having Microsoft® Word® 6.0 for Windows installed, a specification may be developed for the purpose of determining a standard of performance in the process for solicitation of a quotation. The file is constructed to guide the Specifier as to what system options are to be required for any specific project. By deleting the specifier notes and unwanted optional functions and features, the specific specification may be saved to another disk and/or printed. It is assumed the Specifier has a basic knowledge of the ProCare 1000 Nurse Call Visual System as manufactured by Dukane Corporation and the “Heading Numbering and Style” menu items of the Microsoft Word program.

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This document is available as a Microsoft Word file. To obtain a copy, go to our website at www.dukane.com, select the CSD division, enter the Premium Content area, and search for the ProCare 1000 Guideline Specification.

To edit the electronic version of the ProCare 1000 Guideline Specifications, keep the following in mind:

1. **SAVE** a copy of the document under a new name **BEFORE** editing it for a specific specification. Edit the copy, not the original file.
2. **DELETE** the preceding pages (Title and Foreword) and these instructions before final printing. Start the specification with the next page. Enter the project name and location in the project name box.
3. Be sure to delete all the boxed SPECIFIER paragraphs as you edit the document by **highlighting** the specifier text and pressing the **DELETE** key.
4. The document uses Word's automatic numbering feature. When deleting paragraphs for options that will not be included in the final specified system, the remaining paragraphs and sub-paragraphs will automatically renumber.
5. To add a paragraph to a numbered paragraph, **without** having Word assign a number to the new paragraph, place the cursor at the end of the previous paragraph and press **Shift Enter**. If a space is required between paragraphs, press Shift Enter a second time.
6. To add a new, numbered paragraph, place the cursor at the end of the previous paragraph and press **Enter**. You may need to assign the proper style to the new paragraph for it to be indented and numbered properly. Place the cursor anywhere in the paragraph and select the style, depending on the paragraph level required, from the far left pulldown list in the formatting toolbar. You will only use styles **Heading 2** to **Heading 6**. You may also need to click on the **Numbering** button in the button bar.
7. Words or statements in brackets [] provide a choice or option which may or may not be required. Remove the [statements] not required and remove the brackets from valid statements. If the word is in *italics*, enter the appropriate number or phrase to complete the sentence.
8. Words or statements in parenthesis () clarify the previous word or statement. They are not removed.
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**DUKANE PROCARE 1000
NURSE CALL VISUAL SYSTEM
SECTION 16758**

**SYSTEM ENGINEERING SPECIFICATIONS
FOR**

Name: Address: City, State: Project:

PART 1—GENERAL

- A. The contractor shall furnish all equipment, accessories and material required for the installation of a Dukane ProCare 1000™ Visual Nurse Call System in accordance with the specifications and drawings. Any material and/or equipment necessary for the proper operation of the system not specified or described herein shall be deemed part of this specification.
- B. The equipment described and furnished under these specifications shall be the standard product of one manufacturer. All reference to model numbers and other pertinent information herein is intended to establish the standards of performance, quality and appearance, and is based upon equipment designed and manufactured by Dukane Corporation, St. Charles, Illinois, USA.
- C. Any equipment proposed as equal to that specified shall conform to the standards herein, and the manufacturer must supply proof of having produced similar equipment for at least ten years and now rendering satisfactory service. In addition, the contractor must obtain the architect's approval in writing prior to bidding equipment other than as specified. The manufacturer's name, model numbers, and three copies of working drawings and engineering data sheets shall be submitted for approval. Included in the submittal shall be a written statement from the manufacturer of the substituted equipment that it does in fact equal the electronic and physical features and functions of the specified equipment.
- D. All components and the system as a whole shall meet or exceed the minimal standards issued by EIA. All work in conjunction with this installation shall meet the provisions of the National Electrical Code and any applicable local codes.

- E. The system shall conform to the current NFPA standards and shall be Listed as a total system by Underwriters' Laboratories, Inc. The listing shall be under NBRZ Hospital Signaling and Nurse Call Equipment, conforming to UL 1069 standards. Proof of such listings shall be made in the form of submitting the UL listing cards describing the equipment by model number with the bid documents. Alternate manufacturers shall submit the listing cards as part of prior approval ten days before the bid date.
- F. Each major component shall bear the manufacturer's name, catalog number, place of manufacture (USA), and UL label.
- G. The contractor must guarantee, and make available to the purchaser, the service department of a local, duly authorized and franchised Dukane distributor who shall service the signal system and supply on-the-premise maintenance during normal working hours at no cost to the purchaser for a period of twelve months from the date of completion of installation unless damage is caused by accident, abuse, improper operation, or neglect. The contractor shall also agree that service will be furnished at other than normal working hours for which the charge will be at the current labor rate.

PART 2—SYSTEMS DESCRIPTION

- A. The solid-state Dukane ProCare 1000 Visual Nurse Call System shall provide simultaneous audible and visible annunciation of four call priority levels, both routine and emergency, made from patient, emergency, staff emergency, and code blue stations. Audible and visible annunciation of all calls shall be made at the centralized nursing location and duty station locations, and visible annunciation shall occur at the corridor lights and zone lights associated with each call.
- B. The system shall consist of a central control assembly with power supply, one or more annunciator panels, patient stations, emergency stations, corridor lights, zone lights, duty stations, and all system cabling as indicated on the plans.
- C. The system shall be of modular construction. All components used in signal control shall be plug-in for easy replacement and maintenance. Any system that does not have separate plug-in components shall be disqualified. A solid-state plug-in flasher shall be incorporated to provide the steady and interrupted alerting tones and indicating lights.

- D. The alerting tones shall be electronically generated, rather than mechanically generated at duty stations. Single stroke chimes or mechanical buzzers shall not be acceptable. There shall be provisions for decreasing the tone level as required during night hours.
- E. The call origination and holding circuitry in all stations shall have reliable ESD protection. All capacitors, resistors, and other components shall be operated at less than 75 percent of rating for extra reliability.

SPECIFIER: Select a flush or surface-mounted cabinet in paragraph F.

- F. The centralized control assembly shall consist of a [flush-] [surface-] mounted cabinet containing the electronic sub-assemblies and power supply necessary for the functioning of the system. Future expansion shall be built in the original equipment, and it shall not be necessary to increase the size or add components to the centralized control assembly for expansion. The cabinet shall have a maximum depth of 4 inches (10.2 cm) and shall be provided with a door. The electronic circuitry necessary for system functions, including a solid-state, plug-in printed circuit flasher board and solid-state foldback power supply, shall be contained in the cabinet.
- G. All patient stations, emergency and lavatory stations, and duty stations shall be installed into standard single-gang electrical wallboxes and shall require not more than 2-1/2 inches (6.4 cm) in depth. Conduit between the main conduit system and the room stations shall require a maximum conduit diameter of 1/2 inch (1.3 cm). Stations requiring larger backboxes and conduit shall not be acceptable.
- H. All patient, staff, and duty station components shall be mounted on a non-conductive chassis having a single one-sided printed circuit board, and having all necessary components prewired for operation as a complete system in support of one or more lavatory stations and multisection corridor lights.
- I. The chassis shall be of standard size and have the necessary adjustment mounting holes for fastening to a standard single-gang backbox. A separate single-gang molded trim ring of contrasting color shall be provided for concealing the mounting screws. All controls on the station shall be properly and permanently designated by a one piece plastic overlay.

- J. The pull cord or pushbutton emergency station components shall be mounted on a non-conductive chassis for proper mounting on a single-gang backbox. The components shall be arranged so that these stations can be operated in an emergency or normal call mode within the system, and independently or in conjunction with other emergency stations or bedside stations.
- K. Lavatory/emergency stations shall be supplied in pushbutton and pull cord versions. Activating the pushbutton or pull cord shall initiate an emergency call that must be canceled at the originating station by a control other than the one used to initiate the call. Each station shall be of splashproof design and, when supplied with a rubber gasket, shall be suitable for use in shower areas.
- L. All stations shall be located as indicated on the plans and shall operate from a Hospital Signaling grade (UL 1069 Listed) 24Vdc source through the cabling system. Systems operating on voltages other than specified shall be deemed undesirable.
- M. All stations shall incorporate precoded plug-in cable connections to simplify installation and maintenance.
- N. All calls from patient or individual emergency stations shall be visibly and audibly annunciated at a designated annunciator panel. Each station call shall be indicated by a separate indicator lamp. The capacity of each panel shall be a minimum of 50 stations.
- O. The color of any lamp in the annunciator panel can be changed at any time by inserting a colored, translucent lamp cover over the lamp to indicate, by color code, the priority or status of any particular station. The lamps of the annunciator panel shall be replaceable from the front of the panel.

PART 3—SYSTEM COMPONENTS

SPECIFIER: Choose either or both station types—call cord (paragraph A) or pull cord (paragraph B), and select “patient” or “resident” in paragraphs A, B, and C.

- A. Single [patient] [resident] stations shall be Dukane Model 4A2225 Call Cord Stations, and shall be located as required on the floor plans.
 - 1. The station control panel shall have all components mounted to a molded single-gang chassis. This panel shall mount into a standard single-gang electrical backbox and shall be adjustable to allow for improperly aligned wallboxes.

2. The station panel shall consist of a combination pushbutton CANCEL switch, a call assurance LED, a call cord receptacle, and a solid-state printed circuit board.
 3. All call and answer circuits shall employ the most up-to-date and reliable circuitry to accomplish all switching functions. It shall be possible to change the type of call to emergency at the time of installation without adding or changing any components.
 4. The LED shall light steadily when a call is placed. A call shall be answered and canceled locally by operating the pushbutton CANCEL switch.
 5. A call cord receptacle shall accept either single or dual Dukane call cord devices, allowing the station to serve one or two patients or residents on a station basis. Automatic circuitry shall be provided to place a call when the cord is removed from the receptacle that can only be canceled locally by reinserting the cord assembly and pressing the CANCEL switch.
 6. All plug-in connections shall be made on a color-coded basis having a division of functions for easy identification and installation.
- B. Single [patient] [resident] stations shall be Dukane Model 9A2225 Pull Cord Stations, and shall be located as required on the floor plans.
1. The station control panel shall have all components mounted to a molded single-gang chassis. This panel shall mount into a standard single-gang electrical backbox and shall be adjustable to allow for improperly aligned wallboxes.
 2. The station panel shall consist of a combination pushbutton CANCEL switch, a call assurance LED, an adjustable 6-foot (1.8 m) pull cord, and a solid-state printed circuit board.
 3. All call and answer circuits shall employ the most up-to-date and reliable circuitry to accomplish all switching functions. It shall be possible to change the type of call to emergency at the time of installation without adding or changing any components.
 4. The LED shall light steadily when a call is placed. A call shall be answered and canceled locally by operating the pushbutton CANCEL switch.

5. All plug-in connections shall be made on a color-coded basis having a division of functions for easy identification and installation.
- C. Dual [patient] [resident] stations shall be a combination of two Dukane Model [4A2225 call cord] [9A2225 pull cord] stations and a three-gang matching color adapter panel for mounting into a standard three-gang backbox. The dual station shall be the same as the single patient station in all respects except that it will independently serve two patients or residents.

SPECIFIER: Choose the pushbutton and/or pull cord lavatory/emergency station in paragraph D.

- D. The lavatory/emergency station shall be provided in a Dukane Model [9A2210 pushbutton] [and] [9A2205 pull cord] version, equipped with a CANCEL switch and call assurance LED, and mounted on a single-gang, non-conductive chassis. When a call is originated, the following shall occur:
1. The LED shall flash to indicate that the call has been placed.
 2. The red section of the corridor light associated with the room shall flash at a rate of 60 ppm.
 3. The red section of all associated zone lights shall flash at a rate of 60 ppm.
 4. The system monitor LED shall flash on duty stations at a rate of 60 ppm.
 5. The tones shall sound at all associated duty stations at a rate of 60 ppm, and shall continue to sound unless the call is canceled from the room by momentarily touching the CANCEL switch on the station originating the call.
 6. All plug-in connections shall be made on a color-coded basis having a division of functions for easy identification and installation.

SPECIFIER: If a separate emergency station is required in the shower of the same lavatory, or if separate patient shower areas are required, add paragraph 7.

7. The shower emergency station shall be provided in a pull cord version, equipped with a CANCEL switch and call assurance LED, and mounted on a single-gang, non-conductive chassis with a rubber gasket. The station shall be located on the shower head wall above the shower head. It shall function in parallel and in the same manner as the lavatory station.
- E. Dukane Model 9A2220 Staff Stations shall be located on the floor plans as shown and shall audibly and visibly annunciate staff assistance or staff emergency calls at all duty stations and annunciator panels on a predetermined level of priority.
1. The staff station shall be identical to that of the 9A2210 station except that a green STAFF pushbutton shall be used in place of the red pushbutton, and the tone rates generated at the duty stations shall be distinguished differently from all other call types.
 2. The station shall be located in solariums, treatment rooms, or operating rooms.
 3. Provision shall be made to set the type of call (normal or staff emergency) originating from a staff station at the time of installation. The type of call may be changed at any time without additional components or special tools.
- F. Dukane Model 4A2235 Duty Stations shall be located adjacent to each annunciator panel and in rooms where staff may be normally located, as shown on the floor plans, to audibly and visibly annunciate calls placed from all patient, staff, and emergency stations.
1. The station control panel shall have all components mounted to a molded single-gang chassis. This panel shall mount into a standard single-gang electrical backbox and shall be adjustable to allow for improperly aligned wallboxes.
 2. The panel shall contain all components including an electronic tone alert, incoming call light, and local high/low tone switch.
 3. The tone shall be generated and amplified at each duty station to ensure distinction of normal, emergency, staff emergency, and code blue calls.
 4. A pushbutton switch shall control the high/low tone level at the station.
 5. The call indicator light shall visually announce normal, emergency, staff emergency, or code blue incoming calls at different rates.

6. All plug-in connections shall be made on a precoded color basis having a division of functions for easy identification and installation.
- G. Dukane Model 9A2215 Code Blue Stations shall be located on the floor plans as shown, and shall audibly and visibly annunciate staff assistance or code blue emergency calls at all duty stations and annunciator panels on a predetermined visual level of priority.
1. The code blue station shall be identical to the 9A2220 staff station except a blue CODE BLUE pushbutton shall be used to place a code blue call to specific annunciator panels as located on the floor plans, and the tone rates generated at the duty stations shall be distinguished differently from all other call types.
 2. The station shall be located in treatment rooms or operating rooms as shown on the floor plans.

SPECIFIER: If auxiliary input stations are required, include paragraph H and select locking and/or non-locking models.

- H. A Dukane Model [9A2240 Non-Locking] [9A2245 Locking] Auxiliary Input Station shall be located in each private patient room and in treatment rooms as shown on the floor plans. Alternately, two stations shall be located in each semi-private room, if so indicated on the floor plans, for individual identification of calls at the nurse station annunciator panel.
1. The front-mounted cord receptacle shall accommodate all cords having a standard 1/4-inch (0.64 cm) diameter phone plug.
 2. The station shall be located in private patient rooms and in treatment rooms as shown on the floor plans.
 3. On the 9A2245, a separate touchpoint labeled CANCEL shall be provided. This area shall cover a long-life, momentary pushbutton switch. When it is pressed, it shall cancel any alarm calls previously placed from this station.

SPECIFIER: Enter a quantity and select a 6-foot or 12-foot call cord in paragraph I.

- I. A quantity of [] single call cords, plus 10% spares, shall be provided. They shall be Dukane Model [200-1171] [200-1172], consisting of a [6-foot (1.8 m)] [12-foot (3.6 m)], light gray, highly flexible, polyvinyl chloride cable.
1. A momentary pushbutton switch shall be mounted in a high impact plastic housing 2-13/16 inches (7.1 cm) long and 1-1/4 inches (3.2 cm) in diameter, permanently molded to the cord.
 2. A 1/4-inch (0.64 cm) diameter plug shall be molded onto the cord for insertion into any station call receptacle.
 3. A captive (non-removable) stainless steel bedsheet clamp shall be part of the cord. Sufficient jaw pressure shall be available to hold the cord in place without shredding the sheet if accidentally pulled from the bed.
 4. The entire assembly shall be completely shockproof and shall withstand gas sterilization without discoloration or deterioration.

SPECIFIER: If call cords are to serve two patients, add paragraph J. Enter a quantity and select a 6-foot or 12-foot cord.

- J. A quantity of [] dual call cords, plus 10% spares, shall be provided. They shall be Dukane Model [200-1173] [200-1174], consisting of a [6-foot (1.8 m)] [12-foot (3.6 m)], light gray, highly flexible, polyvinyl chloride cable.
1. A momentary pushbutton switch shall be mounted in a high impact plastic housing 2-13/16 inches (7.1 cm) long and 1-1/4 inches (3.2 cm) in diameter, permanently molded to the cord.
 2. A 1/4-inch (0.6 cm) diameter plug shall be molded onto the cord for insertion into any station call receptacle.
 3. A captive (non-removable) stainless steel bedsheet clamp shall be part of the cord. Sufficient jaw pressure shall be available to hold the cord in place without shredding the sheet if accidentally pulled from the bed.
 4. The entire assembly shall be completely shockproof and shall withstand gas sterilization without discoloration or deterioration.

- K. A quantity of cushion call cords equal to 10% of the total beds in the system shall be provided. The cushion call cord shall be Dukane Model [200-1071] [200-1073], consisting of a [6-foot (1.8 m)] [10-foot (3 m)] highly flexible cord with a pad 3-1/8 inches (8 cm) in diameter and 3/4 inch (1.9 cm) thick.
1. A 360° air pressure-activated switch shall be encased in the connector at the station so that the polyvinyl chloride pad, when lightly pressed on any portion, shall place a call on the system.
 2. A 1/4-inch (0.64 cm) diameter plug shall be molded to the end of the cord for insertion into any station call receptacle.
 3. A captive (non-removable) stainless steel bedsheet clamp shall be part of the cord assembly. Sufficient jaw pressure shall be available to hold the cord in place without shredding the sheet if accidentally pulled from the bed.
 4. The entire assembly shall be completely shockproof and shall withstand gas sterilization without discoloration or deterioration.

SPECIFIER: Choose one, two, three, or four-section corridor lights in paragraph L as required.

- L. Dukane Model [18A521] [18A522] [18A523] [18A524] Multisection Corridor Lights, suitable for wall or ceiling mounting, shall be provided outside the entrance to all patient rooms, emergency areas, and staff/duty rooms, and shall be clearly visible from all directions.
1. The chassis, similar in design and material to the patient station, shall accommodate [one] [two] [three] [four] long-life, color-coded lamps, separated by snap-in metal barriers to meet the functional requirements of each room.
 2. Each colored lamp shall function as follows:
 - a) Normal Patient Call—steady white
 - b) Emergency Patient Call—60 ppm flashing white
 - c) Lavatory Call—60 ppm flashing red
 - d) Staff Emergency Call—60 ppm flashing green
 - e) Code Blue Call—60 ppm flashing amber

3. The single-piece lens, suitable for room number designations, shall snap onto the chassis, allowing quick and easy lamp replacement.

SPECIFIER: When using zone lights to display patient normal and lavatory emergency calls, include paragraph M. When using zone lights to display patient normal, lavatory emergency, staff emergency, and/or code blue calls, include paragraph N.

- M. Model 18A510 Dual Lamp Zone Lights shall be located at corridor intersections to announce normal and emergency calls made in an assigned zone. The zone light shall be the same in appearance as the corridor light except it shall have one white and one red lamp section. The white section shall illuminate steadily to announce a normal call in the zone, and the red section shall flash to announce any lavatory call in the zone.
- N. Model 18A520 Quad Lamp Zone Lights shall be located at corridor intersections to announce normal calls and three levels of emergency calls made in an assigned zone. The zone light shall be the same in appearance as the corridor light. The white section shall illuminate steadily to announce a normal call, the red section shall flash to announce any lavatory call, the green section shall flash to announce any staff emergency call, and the amber section shall flash to announce any code blue call in the zone.

SPECIFIER: Select one or two annunciator modules in paragraph O.

- O. The Model 18A505 Annunciator Lamp Display Module shall have 50 individual lamps. [One] [Two] modules shall be provided at each location as indicated on the floor plans.
 1. Each lamp shall be separated by a metal divider to provide permanent and distinct visual indication of adjacent station calls.
 2. The lamps shall have a standard bayonet base, replaceable from the front, and shall have a five year system life. It shall be possible to change the color to red, green, or amber for staff indicators or patient status.
 3. The station designation plate covering the lamps shall be translucent Mylar[®] with a photographic grid laminated between glass for bright, clear and lasting identification under at least 200 cp room illumination.

4. The layout and station identification shall be electronically generated by the user to correspond to the required lamp quantity and color.

SPECIFIER: Select a flush or surface-mounted cabinet in paragraph P.

- P. The ProCare 1000 Central Equipment Cabinet shall be Dukane Model [12A1335] [12B1335]. It shall be [flush] [surface] mounted and located as shown on the floor plans. The equipment shall be contained in a single backbox not deeper than 4 inches (10.2 cm), and shall be capable of controlling up to 100 system-related patient, resident, staff emergency, code blue, and duty stations, and their associated corridor/zone lights, as required in each system.
 1. The central flasher assembly and remote stations shall obtain their power from a single, fully regulated, foldback 24Vdc power supply, Model 110-2170A, located in the same backbox.
 - a) The power supply shall operate on a continuous duty basis at temperatures from 32° F to 138° F (0° to 50° C), with a primary line voltage from 105Vac to 125Vac, 60Hz, without the use of primary transformer taps. The primary shall be protected by a replaceable slow-blow fuse.
 - b) The output shall be regulated 24Vdc, with protection against loads exceeding the 3.2-ampere limit as required by UL 1069. Line-to-load regulation shall not exceed 2.5%, with ripple and noise remaining below the 10mV (rms) level.
 - c) Output protection against overloads or system shorts shall be provided by an electronic foldback circuit, factory-set to limit the volt-ampere output to less than 100VA.
 - d) The power shall be restored automatically upon removal of the overload without resetting any circuit breakers or replacing any fuses. Powered systems using resettable, replaceable, or non-replaceable fuses shall not be acceptable.
 - e) All output connections shall be screw terminals. The primary AC input shall be a conventional twist type connector in a separate compartment.

- f) The power supply shall support simultaneous calls from approximately 10–20% of the total system stations, depending on the number of annunciation panels, zone lights, and corridor lights in the system.
2. The flasher assembly shall be constructed for ease of installation and maintenance, with pressure-type screw terminations, and shall contain a plug-in printed circuit flasher board.
- a) The flasher PCB shall be completely solid-state, designed for long life, and constructed for pressure pin plug-in connection to be compatible with earlier Series 2000 and ProCare 1000 Systems.
 - (1) The tone generation section shall have the capability to produce a tone at four rates, slow (10 PPM) for normal calls, 60 PPM for lavatory/emergency calls, modified double-tone at 80 PPM for staff emergency calls and fast (120 PPM) for code blue calls.
 - (2) The tone frequency shall be set at the time of installation for 800Hz or 1,200Hz. Up to ten duty stations can be controlled simultaneously at a volume that will penetrate relatively high ambient room noise. The maximum tone level shall be preset but limit-adjustable.
 - (3) In addition to producing a steady rate for normal patient and resident calls, the lamp driver section shall produce a flashing emergency rate of 60 PPM when any lavatory, staff emergency, or code blue stations are activated.
 - (4) Separate drivers shall be provided to individually control the corridor and zone light sections with red for lavatory emergency calls, green for staff emergency calls, and amber for code blue calls.
 - (5) Optionally, each zone/corridor light driver shall have a separate power supply to increase the number of simultaneous calls that can be supported.

- b) Optionally, an additional screw termination panel may be provided, dependent on the installer's preference, for ease of installation or convenience to connect more than one annunciator panel in parallel within the same system.
- 3. All components shall be modular in design for mounting into a Dukane Model 145-184 Backbox, 14-1/2 inches (36.8 cm) high, 15 inches (38.1 cm) wide, and 4 inches (10.2 cm) deep.

SPECIFIER: Include paragraph 4 if stand-by battery backup is required.

- 4. A stand-by battery unit, Model 110-1488, shall be provided in a separate but same model backbox as the central equipment, to maintain complete operation of the ProCare 1000 system in the event of primary power loss for up to 6 minutes at full rated output.

SPECIFIER: Select a flush or surface backbox cover from paragraph 5 or 6.

- 5. The backbox shall be flush-mounted, and the door/cover shall be Dukane Model 110-2190, 16-1/2 inches (41.9 cm) high by 17 inches (43.2 cm) wide.
- 6. The backbox shall be surface-mounted, and the door/cover shall be Dukane Model 110-2191, 14-1/2 inches (36.8 cm) high by 15 inches (38.1 cm) wide.

PART 4—SYSTEM OPERATION

SPECIFIER: Select “patient” or “resident” from paragraph A.

- A. Normal calls from a [patient] [resident] station:
Momentarily operating a switch on a call cord or geriatric call pad shall originate a normal call on the system. The call shall remain placed until it is acknowledged at the originating station by pressing the CANCEL switch. Originating a normal call shall:
 - 1. Continuously illuminate the red LED at the station.

2. Continuously illuminate the white section of the room corridor light and the white section of any zone light associated with the station.
 3. Flash the call LED and sound a tone at the rate of one second on and five seconds off at all duty stations.
 4. Continuously illuminate the white station annunciator lamp at the central annunciator panel.
- B. Normal calls from staff stations:
A patient (at solarium) or staff member shall originate a normal call on the system by momentarily pressing the CALL button. The call shall hold until it is acknowledged at the originating station by pressing the CANCEL switch. Originating a normal call at a staff station shall cause the same functions as a normal call originated at a patient station.
- C. Emergency calls from a staff station:
A staff member shall originate an emergency call only from an emergency-connected staff station by momentarily pressing the CALL button. The call shall remain placed until it is acknowledged at the originating station by pressing the CANCEL switch. Originating an emergency call at a staff station shall:
1. Flash the red call assurance LED at the station.
 2. Flash the green section of the room corridor light and the green section of the zone lights associated with the station.
 3. Flash the call LED and sound a tone at the rate of 1/4 second on, 1/4 second off, and 1/4 second on with a 3/4 second pause (modified 80 PPM) at the duty station.

SPECIFIER: Select the annunciator lamp color in paragraph 4.

4. Flash the [green] [red] [white] station annunciator lamp at the central annunciator panel at a rate of one second on, one second off.
- D. Emergency calls from lavatory/emergency stations:
A patient shall originate an emergency call on the system by pressing a red PUSH FOR HELP button or pulling a 6-foot (1.8 m) cord. The call shall remain placed until acknowledged at the originating station by pressing the CANCEL switch. Originating a call from these stations shall:

1. Flash the red call assurance LED at the station.

SPECIFIER: Select the corridor light color in paragraph 2.

2. Flash the [red] [white] section of the station corridor light and the red section of any zone lights associated with the station.
3. Flash the call lamp and sound a tone at all duty stations at the rate of one second on and one second off.

SPECIFIER: Select the annunciator lamp color in paragraph 4.

4. Flash the [red] [white] station annunciator lamp at the rate of one second on and one second off at the central annunciator panel.

E. Emergency calls from a code blue station:

A staff member shall originate a code blue call only from a code blue station by momentarily pressing the blue CODE BLUE button. The call shall remain placed until it is acknowledged at the originating station by pressing the CANCEL switch. Originating a code blue call shall:

1. Flash the red call assurance LED at the station.
2. Flash the amber section of the room corridor light and the amber sections of the zone lights associated with the station.
3. Flash the call LED and sound a tone at the rate of 1/4 second on and 1/4 second off (120 PPM) at the duty station.

SPECIFIER: Select the annunciator lamp color in paragraph 4.

4. Flash the [amber] [red] station annunciator lamp at the central annunciator panel at a rate of one second on, one second off.

SPECIFIER: Include paragraph F if auxiliary input stations are required.

- F. Patient emergency calls from an auxiliary input station:
A patient emergency call shall be originated from an auxiliary input station when the attached medical device alarms or is unplugged from the station. The call shall remain placed until the alarm is reset, the device is plugged in again, or a dummy plug is inserted in the station. The 9A2245 shall also require that its CANCEL button be pressed before the call is canceled. Originating a call from an auxiliary input station shall:
1. Flash the station's red call assurance LED.
 2. Flash the white section of the room corridor light and the white sections of the zone lights associated with the station.
 3. Flash the call LED and sound a tone at the rate of 1/2 second on and 1/2 second off at the duty station.
 4. Flash the white station annunciator lamp at the central annunciator panel at a rate of one second on, one second off.

SPECIFIER: Include Part 5 if pocket page interface is required to signal preassigned permanent pocket pagers when calls are place from the ProCare 1000 system stations. Determine the supplier of the system and the type of user in paragraph A.

PART 5—POCKET PAGE SYSTEM and INTERFACE

- A. A complete Model VS1100-D Visiplex Call Monitoring Pocket Paging System, including all necessary components, shall be provided by the [user] [installing contractor] for connection to and operation with the Dukane ProCare 1000 Visual [Patient] [Resident] Call System, version 1.2 or better.
1. One to seven contact closure interface units shall be provided, depending on the total number of station annunciator lamps required at each ProCare 1000 master station panel and/or depending on the [single] [dual] priority functions of each lamp.
 - a) Each contact closure interface unit shall contain 48 points that shall detect a steady state, normal call lamp function or 48 points that detect a flashing state, lavatory emergency — staff emergency — code blue call lamp function, or a combination of both, for a total of up to 48 points.

- b) Each point shall be preprogrammed, through a user provided PC operating on Windows 95, to establish a continuous, single shift based relationship between the room station ID number and the ID number of the pocket pager to be signaled when a call is placed from that station.
- c) The program shall allow the assignment of one or more pocket pager ID numbers, which may be the same or different numbers, to the same station lamp, depending on the individual lamp's established normal call and emergency call functions and the customer operational requirements.
- d) An alphanumeric message that includes the architectural room number and additional information such as the call level or predetermined instructions shall be preprogrammed for each pager number, station lamp, and lamp function assignment. Depending on the station and lamp function assignment, the message for the same pager may be programmed with a different message.
- e) Up to three pager groups shall be programmable, each to include two to five pagers that are unassigned or already assigned to receive the same message when an individual or unique station lamp is illuminated.

SPECIFIER: Determine and specify the quantities of units required and suppliers of material or services in paragraphs 2 through 5.

- 2. A quantity of [] pocket pager receivers with alphanumeric display, including battery, plus [] spare batteries, shall be provided by the [manufacturer of the pocket page system] [installing contractor as recommended by the manufacturer] [user of the system as recommended by the manufacturer].
 - a) The display shall have the capacity to display a minimum of [] characters on [one] [two] [three] lines, including a scroll feature.
 - b) The battery shall be commercially available for purchase and replaceable by the user without the need for special tools.

3. A survey of the site shall be performed by the [manufacturer] [installing contractor] to determine the quantity, type, wattage, and placement of the transceiver, power amplifiers, and antenna system. A letter guaranteeing satisfactory coverage shall be provided at the time of proposal.
4. Installation, configuration, and operation instructions shall be provided by the paging system manufacturer prior to the completion of the system's installation.
5. Upon completion of installation, final inspection shall be conducted by the installing contractor, demonstrating to the owner satisfactory coverage and operation of the pocket paging system.
 - a) Should coverage be found unsatisfactory at the time of final inspection prior to occupancy, additional material and labor shall be provided at no additional expense to the owner/user of the system to correct the problem.
 - b) The [manufacturer] [installing contractor] [user] shall be responsible for obtaining a valid FCC license, if required, to be issued prior to the first day of operation of the system.

SPECIFIER: Include paragraphs B, C, D, and E as required by the owner.

- B. A minimum of [] hours of on-site operational user training shall be performed at no charge to the owner by certified factory trained staff from the installing contractor. The training schedule, frequency, and location shall be determined by the user. Additional hours shall be offered at the current labor rate for consideration by the user.
- C. A 1-year, normal business hour [M-F, 9-5] service contract and warranty shall be provided to include all materials required for the foregoing specifications. All pocket paging system component models except batteries shall be warranted for a minimum of one year from the time of *first substantial use* by the customer. During the warranty period, any malfunctioning component that was installed shall be replaced or repaired by the installing contractor at no charge.
- D. An extended 7-day, 24 hour service contract and warranty shall be quoted separately by the installing contractor for consideration by the user.
- E. A separate []-year service contract shall be offered and quoted separately, including receivers, by the installing contractor prior to the end of the warranty period for consideration by the user.