BeneVision
Central Monitoring System

Quick Reference Guide

mindray
NORTH AMERICA

NOTE:

- The Quick Reference Guide is not intended as a replacement to the Operating Instructions. Prior to operating equipment, the user must be familiar with the Operating Instructions Manual contents. This document is a guideline only to be used as an aid to comprehensive Inservice Training.

- The function with the "*" symbol indicates configurable settings.

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BeneVision CMS Quick Reference Guide

The BeneVision Central Monitoring System (hereinafter referred to as the CMS) mainly consists of CentralStation and WorkStation.

The CentralStation can admit Mindray physiological monitoring devices via wired or wireless connection. It can display, store, print, and review the patient clinical data from 32 compatible monitoring devices.

The WorkStation can display and manage patients with monitoring devices assigned from the designated CentralStation.

MULTIBED (MAIN) SCREEN

The CentralStation/WorkStation displays the multibed (main) screen where multiple patients are monitored collectively. The multibed (main) screen displays multiple patients across one or more displays on the CentralStation/WorkStation.
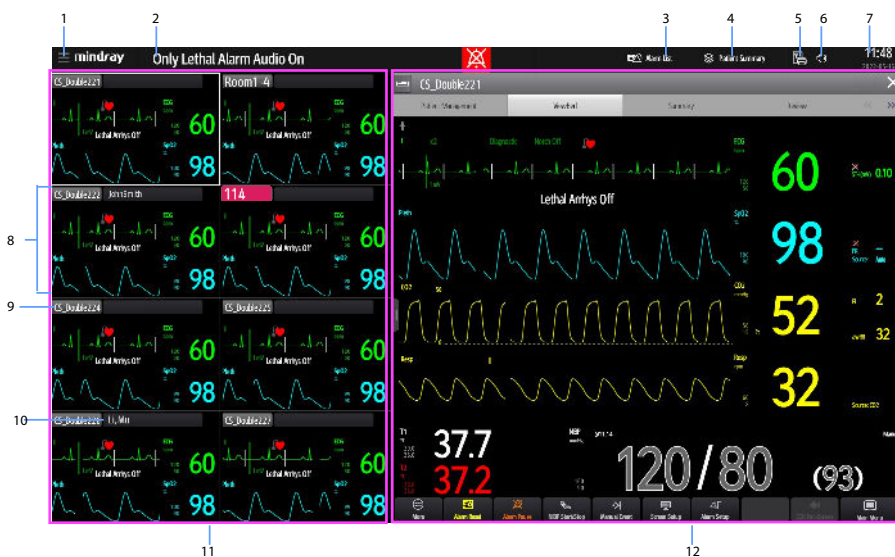
1. System menu

   Select to access a drop down menu for advanced operations.

2. Hospital information and system alarm messages

   Displays the hospital information and system alarm notifications.

   Select to review a list of all current system alarm messages.

3. Alarm list

   Select to view of all physiological and technical alarms for all monitoring devices on the CentralStation/WorkStation.

4. Patient summary

   Select to view patients who are filtered by Bed No, Patient Group, or Care Group.

5. Print button

   Select to access the system wide printing and recording information including Print Summary, Print All Realtime Reports, Print Queue, Record All Realtime Reports, and Clear All Record Tasks functions.

6. System silence symbol

   Select to silence the system.

7. System time and date

8. Patient tile

   Displays patient information, including patient demographics, patient alarms, real-time parameters and waveforms. Each patient tile displays the information from one monitoring device at a time.

9. Bed number

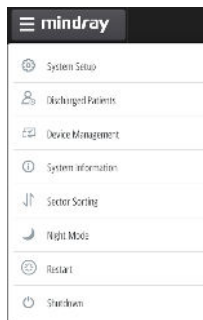   Select **Room1-4** (for example) to access more operations for the

    patient.

10. Patient information

    Select to enter and modify patient demographics.

11. Multibed (main) screen

12. Extended screen
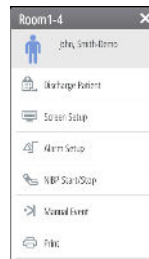
Quick Keys

Symbol	Function	Symbol	Function
(icon) More	Shows more quick keys.	(icon) Screen Setup	Enters the **Screen Setup** menu.
(icon) Alarm Setup	Enters the **Alarm** menu.	(icon) Alarm Reset	Acknowledges ongoing alarms for the duration of the alarm.
(icon) Alarm Pause	Pauses the current alarms for a preconfigured time.	(icon) Audio Pause	Pauses alarm tone issued by the monitoring devices.
(icon) NIBP Start/Stop	Starts or stops an NIBP measurement.	(icon) Standby	Enters the standby mode.
(icon) ECG Full-Screen	Views all ECG waveforms.	(icon) Freeze	Freezes waveforms.
(icon) Load Config	Enters the **Load Config** menu.	(icon) Minitrends	Displays the Minitrends screen.
(icon) Parameters Setup	Enters the **Parameters Setup** menu.	(icon) Send Message	Sends a message to the TM80/TM70.

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Symbol	Function	Symbol	Function
Print	Prints a real-time report.	Print Setup	Enters the **Print Setup** menu.
Privacy Mode *	Enables the privacy mode.	Night Mode *	Enables the night mode.
Record Setup	Enters the **Record Setup** menu.	Record	Starts/Stops a recording.
Discharge Patient	Enter the **Discharge Patients** dialog box.	Manual Event	Manually triggers and saves an event.
EWS	Enters the EWS window.	Bedside Devices	Enter bedside devices pairing window.
Telemetry Mode	Enter Telemetry Mode	Monitor Mode	Enter Monitor Mode.
aEEG	Enter the aEEG screen	SepsisSight	Enter the SepsisSight menu.
Main Screen	Return to the multibed screen.	Main menu	Enter the main menu.

Set Password for Remote Control

The **System Setup** menu on the multibed (main) screen provides the clinician a permission to control bedside monitors or telemetry devices from the CentralStation/WorkStation.

To set remote control on the CentralStation/WorkStation:

1. Select system menu on the multi (main) screen.

2. Select **System Setup** from the drop down list.

3. Select the **Other** tab.

4. Select the **Authorization Setup** tab.

5. Select

   - **Read Only**: to only view information from the monitors or telemetry devices.

   - **No Password**: to control monitors or telemetry devices remotely. No password is required.

   - **Local Password**: to change the settings of alarms from the monitors or telemetry devices. This includes alarm settings, arrhythmia settings, pausing and resetting alarms. A password is required.

   - **User Password**: to change the settings of alarms from the monitors or telemetry devices. This includes alarm settings, arrhythmia settings, pausing, and resetting alarms. The user name and password saved in the MLDAP server are required.

Admit Monitoring Devices

To admit monitoring devices on the multibed (main) screen:

1. Select an empty (unoccupied) patient tile with ▣ on the multibed (main) screen to access the **Device Assignment** screen.

2. Click ▭ button and select the department where the devices are located.

3. Select + beside the desired monitoring device to admit this device.

If more than one device require admission, select the next desired patient tile and repeat the above steps.

NOTE:

A monitoring device can be admitted to any CentralStation, but only one CentralStation at a time.

Move An Assigned Device from One Patient Tile to Another*

To move an assigned device from one patient tile to another patient tile on the multibed (main) screen:

1. Select **Room1-4** (for example) in the desired patient tile.

2. Select **Move Position to.**.

3. Select the desired patient tile from the drop down list.

NOTE:

Moving an assigned device only changes its location, it does not change the patient information, but it preserves all patient data.

Configure Multibed (Main) Screen Layout

The **Screen Setup** menu on the multibed (main) screen allows the clinician to modify the screen layout, and display layout of parameters or waveforms in the patient tile.

To configure the multibed (main) screen layout:

1. Select **Room1-4** (for example) in the desired patient tile.
2. Select **Screen Setup** from the drop down list.
3. Select the **Choose Screen** tab and select the desired option.
   - **Normal Screen**: to display real time parameters and waveforms.
   - **Big Numerics**: to display parameters in big font size.

To change the display layout of parameters and waveforms in the patient tile:

1. Select **Room1-4** (for example) in the desired patient tile.
2. Select **Screen Setup** from the drop down list.
3. Select the **Tile Layout** tab.
   - Select the waveform area and select the desired waveform from the drop down list.
   - Select the parameter tile and select the desired parameter from the drop down list.

NOTE:

The parameters and waveforms in the **Tile Layout** tab are a superset and not dependent on a specific monitoring device. If a parameter or waveform is not supported by the monitoring device, it cannot be displayed on the multibed (main) screen.

PATIENT SETUP

Patient Management Screen

The **Patient Management** screen allows the clinician to enter and modify patient demographics.

To enter the patient information on the CentralStation/WorkStation:

1. Select the **Patient Management** tab from the **ViewBed** screen, the **Review** screen or the **Calculation** screen.

Or,

1. Select **Room1-4** (for example) in the desired patient tile, and select 👤 (patient category icon).
2. Enter the patient information using on-screen or external keyboard.
3. Select **Save**.

Enter Patient Information Using Hospital Database (ADT Query)*

When connected to a hospital database, patient information can be queried or imported into the CentralStation/WorkStation.

To enter patient information using a hospital database:

1. Select the **Patient Management** tab from the **ViewBed** screen, the **Review** screen or the **Calculation** screen.

Or,

1. Select **Room1-4** (for example) in the desired patient tile, and select 👤 (patient category icon).
2. Select the **Find Patient** button**.**
3. Select the **ADT** tab.
4. Input query criteria.
5. Select 🔍 .
6. Select ⤵ beside the desired patient to import patient information to the CentralStation/WorkStation.

NOTE:

The **ADT** tab is available only when the ADT feature is enabled. Refer to *BeneVision Central Monitoring System Operator's Manual* for complete details.

Synchronously Admit/Discharge a Patient from Hospital Database*

When the CentralStation is connected with a hospital database, enabling the HIS patient synchronization feature can synchronously admit and discharge the patients on the monitoring devices.

To synchronously admit or discharge a patient from the hospital database:

1. Select the **Patient Management** tab from the **ViewBed** screen, the **Review** screen or the **Calculation** screen.

Or,

1. Select **Room1-4** (for example) in the desired patient tile, and select 🧍 (patient category icon).

2. Select **HIS Sync Patient**.

3. Switch on **HIS Admit/Discharge Patient**.

4. Set **HIS Admit Patient :**

   - **Prompt**: For N series and ePM series monitors. When HIS admits a new patient, a dialog box pops out. Select **Yes** to synchronously admit the patient from HIS to monitors. Select **No** to ignore the prompt and not admit the patient from HIS.

   - **Omit**: If the monitoring device has already admitted a patient, it doesn't synchronously admit the patient from HIS. If the monitoring device has not admitted a patient, it synchronously admit the patient from HIS.

   - **Auto Perform**: The monitoring device always synchronously admits the patient from HIS.

5. Set **HIS Discharge Patient :**

   - **Prompt**: This option is applied to the N series and ePM series monitors. When HIS discharges a patient, a dialog box pops out. Select **Yes** to synchronously discharge the patient from HIS to

monitors. Select **No** to ignore the prompt and not discharge the patient from HIS.

- Omit: The monitoring deviceing device doesn't synchronously discharge the patient from HIS.

- Auto Perform: The monitoring deviceing device always synchronously discharges the patient from HIS.

Import Discharged Patient Information

To readmit a previously discharged patient:

1. Select the **Patient Management** tab from the **ViewBed** screen, the **Review** screen or the **Calculation** screen.

Or,

1. Select **Room1-4** (for example) in the desired patient tile, and select (patient category icon).

2. Select **Find Patient.**

3. Select the **Discharged Patients** tab.

4. Input query criteria.

5. Select .

6. Select beside the desired patient.

7. Select **History Data** to merge the patient demographic information and history data into current data for this patient.

8. Select **OK** to confirm.

Assign A Care Group

The care group function allows assigning a patient to a defined care group.

Care groups may include departments, care givers, Code Status Identification, or other facility defined groups.

Care groups can be either manually or automatically assigned to beds. This section only describes how to manually assign a care group. For details on how to automatically assign a care group, refer to *BeneVision Central Monitoring System Operator's Manual* for complete details.

To manually assign a care group:

1. Select the **Patient Management** tab from the **ViewBed** screen, the **Review** screen or the **Calculation** screen.

Or,

1. Select **Room1-4** (for example) in the desired patient tile, and select (patient category icon).

2. Select ▸ beside **Care Group.**

3. Scroll and select the desired care group.

4. Select **OK** to confirm.

After assigning a care group to a bed, **114** (for example) in the desired patient tile is filled with the assigned care group's color.

NOTE:

If the monitoring devices are fixed in the tile, the care group remains assigned upon patient discharge. If the monitoring devices are flexible in the tile, the care group is removed upon discharge.

TRANSFER PATIENT DATA

The Transfer function allows the clinician to move patient information from one monitoring device to another monitoring device.

To transfer patient data from one monitoring device to another monitoring device on a same CentralStation/WorkStation:

1. Select the **Patient Management** tab from the **ViewBed** screen, the **Review** screen or the **Calculation** screen.

Or,

1. Select **Room1-4** (for example) in the desired patient tile, and select (patient category icon).

2. Select **Transfer Patient** and select **Local** from the destination department.

3. Scroll and select the desired bed/room number from the **Select the destination bed** list.

4. Select **OK** to confirm.

To transfer patient data from one CentralStation/WorkStation to a different CentralStation:

1. Select the **Patient Management** tab from the **ViewBed** screen, the **Review** screen or the **Calculation** screen.

Or,

1. Select **Room1-4** (for example) in the desired patient tile, and select (patient category icon).

2. Select **Transfer Patient** and select **Other** from the destination department.

3. Scroll and select the desired bed/room number from the **Select the destination bed** list.

4. Select **OK** to confirm.

Data transfer time depends on the amount of data stored on the patient. Once the transfer is completed, the source patient tile is displayed **Discharged**. The **Transferring Data... xx** message is displayed in the alarm information area of the destination patient tile, indicating merging patient data from the source to the destination patient tile is in progress.

NOTE:

• To ensure data preservation during transfer, the system date and time at the Central Station/Workstation should be consistent.

• To ensure patient safety, monitor the patient at the source and destination beds during transfer.

DISCHARGE A PATIENT*

Discharging a patient clears all patient information, places the patient in the **Discharged Patients** list, and restores default (preset) settings.

Patients can be discharged from the CentralStation/WorkStation, a bedside monitor, or from a telemetry monitor. For complete details on discharging a patient from the monitoring bedside devices, refer to the corresponding operator's manual.

To discharge a patient from the CentralStation/WorkStation:

1. Select the **Patient Management** tab from the **ViewBed** screen, the **Review** screen or the **Calculation** screen.

Or,

1. Select **Room1-4** (for example) in the desired patient tile, and select (patient category icon).
2. Select **Discharge Patient**.
3. Select **Print End Case Report** if desired.
4. Enable Standby if desired.
5. Select **OK** to confirm.

STANDBY

Enter Standby

The Standby function allows the clinician to suspend monitoring on a patient. While in standby, the patient is not monitored; however, all data and settings are preserved.

To place a patient into Standby at the CentralStation/WorkStation:

1. Select ⬛ in the desired patient tile.
2. Select ⏻ (quick key).

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select ⏻ (quick key).

Or,

1. Select **Room1-4** (for example) in the desired patient tile.
2. Select ⏻ from the drop down list.
3. Select **Location** to define the patient location while in standby.
4. Select **OK** to confirm.

NOTE:

Standby can also be enabled from bedside device.

Change Patient Location in Standby

To change the patient's location while in standby mode, select the current location from the Standby screen, scroll and select the new location.

Exit Standby

To resume monitoring and exit standby:

1. Select **Resume Monitor** in the patient tile.

Or,

1. Select **Room1-4** (for example) in the desired patient tile.
2. Select ⏻ from the drop down list.

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ALARMS

Adjust Alarm Limits

The **Alarm** menu allows the clinician to configure alarm limits of all parameters and the responses of the CentralStation/WorkStation when an alarm occurs.

To adjust an alarm limit through the **Alarm** menu:

1. Select ![icon] in the desired patient tile.
2. Select ![icon] (quick key).

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select ![icon] (quick key).

Or,

1. Select **Room1-4** (for example) in the desired patient tile.
2. Select **Alarm Setup** from the drop down list.
3. Select the **Limits** tab.
4. Select the desired parameter.
5. Scroll and select a desired value for the high or low limit.

To adjust an alarm limit through a parameter's setup menu:

1. Select ![icon] in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select a numeric or waveform of the desired parameter.
3. Select the **Alarm** tab.
4. Scroll and select a desired value for the high or low limit.

NOTE:

Alarm limits changed on the CentralStation will also be changed on the WorkStation or the bedside monitor.

Adjust Alarm Responses

To adjust the alarm responses through the **Alarm** menu:

1. Select ⬛ in the desired patient tile.
2. Select ⬛ (quick key).

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select ⬛ (quick key).

Or,

1. Select **Room1-4** (for example) in the desired patient tile.
2. Select **Alarm Setup** from the drop down list.
3. Select the **Limits** tab.
4. Select the desired parameter.
5. Select **Alarm Outputs** and select the desired option:

    • Off: to disable the alarm outputs.

    • **Paging**: to send alarm information to a configured paging device when an alarm is triggered.

    • **Print**: to send alarm information to a configured printer and print out when an alarm is triggered.

    • **All**: to send alarm information to configured paging device and print out when an alarm is triggered.

To adjust the alarm responses through a parameter's setup menu:

1. Select in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select a numeric or waveform of the desired parameter.
3. Select the **Alarm** tab.
4. Select **Alarm Outputs** and select the desired option:

   - Off: to disable the alarm outputs.
   - **Paging**: to send alarm information to a configured paging device when an alarm is triggered.
   - **Print**: to send alarm information to a configured printer and print out when an alarm is triggered.
   - **All**: to send alarm information to configured paging device and print out when an alarm is triggered.

NOTE:

If alarm settings configured are remotely controlled, alarm settings cannot be changed at the CentralStation/WorkStation. is displayed beside a parameter's alarm on/off option for indicating this limitation.

Adjust Arrhythmia Alarms

To adjust a patient's alarm arrhythmia alarm through the **Alarm** menu:

1. Select in the desired patient tile.
2. Select (quick key).

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select (quick key).

Or,

1. Select **Room1-4** (for example) in the desired patient tile.
2. Select **Alarm Setup** from the drop down list.
3. Select the **Arrhythmia** tab.

4. Scroll and select individual arrhythmia.

5. Set alarm properties.

  - **On/Off**: to enable or disable arrhythmia alarm notification

  - **Priority**: to adjust the level of the alarm.

  - **Alarm Outputs**: to enable or disable automatic functions when an alarm occurs. For details on each option, refer to *Adjust Alarm Responses* section for complete details.

To adjust a patient's alarm arrhythmia alarm through the **ECG** menu:

1. Select 🖥 in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.

2. Select a numeric or waveform of ECG.

3. Select the **Arrhythmia** tab.

4. Scroll and select individual arrhythmia.

5. Set alarm properties.

  - **On/Off**: to enable or disable arrhythmia alarm notification

  - **Priority**: to adjust the level of the alarm.

  - **Alarm Outputs**: to enable or disable automatic functions when an alarm occurs. For details on each option, refer to *Adjust Alarm Responses* section for complete details.

Reset Alarms*

To reset alarms (silence) on a patient:

1. Select 🖥 in the desired patient tile.

2. Select 🔔 (quick key).

Or,

1. Select the parameter area or waveform area in the desired patient tile.

2. Select 🔔 (quick key).

Or,

1. Select **Room1-4** (for example) in the desired patient tile.

2. Select from the drop down list.

Or,

Select in the desired patient tile.

Or,

Select Alarm Reset (hard key or quick key) on the monitoring device.

NOTE:

If a new alarm is triggered after an alarm is reset, the visual and audible alarm indications will be activated.

Pause Alarms

To pause all alarms for a pre-configured period:

1. Select in the desired patient tile.
2. Select (quick key).

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select (quick key).

Or,

1. Select (for example) in the desired patient tile.
2. Select from the drop down list.

Once the alarm pause time lapses, all alarms are automatically reactivated. Alarms can be reactivated before time lapses by selecting (quick key) a second time.

Acknowledge Latched Alarms

Lethal alarms can be latched and must be acknowledged even if the alarm condition is resolved.

Latched alarms can be acknowledged by selecting (quick key). For details on resetting alarms, refer to **Reset Alarms** section for complete details.

NOTE:

A unacknowledged, latched alarm continues to alarm (audio and visual

notifications) on the patient even after the alarm condition has been resolved.

PRINT REAL-TIME WAVEFORMS

To print an All Strips Report of current waveform(s) on a patient at the CentralStation/WorkStation:

1. Select ![icon] in the desired patient tile.
2. Select ![icon] (quick key**)**.

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select ![icon] (quick key**)**.

Or,

1. Select **Room1-4** (for example) in the desired patient tile.
2. Select **Print** from the drop down list.

To adjust the waveforms printed on the patient at the CentralStation/WorkStation:

1. Select ![icon] in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select ![icon] (quick key**)**.
3. Select the **Normal Report** tab.
4. Select the **Realtime Report** tab.
5. Select

    *   **Current Waveforms**: to print the displayed waveforms.
    *   **Selected Waveforms**: to print the selected waveforms.

NOTE:

Waveform print selection on the CentralStation/WorkStation is independent.

NIBP MEASUREMENT*

Start An NIBP Measurement

To start an NIBP measurement on a patient:

1. Select ![icon] in the desired patient tile.
2. Select ![icon] (quick key).

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select ![icon] (quick key).

Or,

1. Select **Room1-4** (for example) in the desired patient tile.
2. Select **NIBP Start/Stop** from the drop down list.

WARNING:

Before starting an NIBP measurement, make sure that the patient category on the monitoring device is correct and the NIBP cuff size is appropriate for this patient.

Set An NIBP Measurement Interval

In addition to starting and stopping and an NIBP measurement on a monitoring device, automatic NIBP measurements (intervals) can be set. The NIBP measurements will be automatically repeated at a pre-configured interval.

To set an NIBP measurement interval on a patient:

1. Select ![icon] in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select the NIBP numerics.
3. Select the **Setup** tab.
4. Set **Interval** to the desired option.

Stop An NIBP Measurement

To stop the proceeding measurement:

1. Select ⬚ in the desired patient tile.
2. Select ⬚ (quick key).

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select ⬚ (quick key).

Or,

1. Select **Room1-4** (for example) in the desired patient tile.
2. Select **NIBP Start/Stop** from the drop down list.

ALTERNATE OPERATING MODES*

This section only describes how to enable the following operating modes at the CentralStation/WorkStation only. For details on how to set remote control for these modes, refer to *BeneVision Central Monitoring System Operator's Manual* for complete details.

Night Mode

To enter night mode:

1. Select ⬚ in the desired patient tile.
2. Select ⬚ (quick key**)**.

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select ⬚ (quick key**)**.

Or,

1. Select **Room1-4** (for example) in the desired patient tile.
2. Select **Night Mode** from the drop down list.
3. Select the current bedside monitor or all the bedside monitors.
4. Select **OK** to confirm.

The ⬚ symbol is displayed in the desired patient tile in night mode.

To exit night mode:

1. Select in the desired patient tile.
2. Select (quick key**)**.

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select (quick key**)**.

Or,

1. Select **Room1-4** (for example) in the desired patient tile.
2. Select **Night Mode** from the drop down list.
3. Select the current bedside monitor or all the bedside monitors.
4. Select **OK** to confirm.

NOTE:

The night mode can be enabled on the bedside monitor connected to the CentralStation/WorkStation. If the bedside monitor in night mode is disconnected from the CentralStation/WorkStation, night mode will automatically be disabled.

Privacy Mode

Privacy mode does not display patient information and monitoring data at the bedside monitor. In privacy mode, the bedside monitor continues monitoring the patient, but patient data is only visible at the CentralStation/WorkStation.

To enter privacy mode:

1. Select in the desired patient tile.
2. Select (quick key**)**.

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select (quick key**)**.

Or,

1. Select **Room1-4** (for example) in the desired patient tile.
2. Select **Privacy Mode** from the drop down list.
3. Select the current bedside monitor or all the bedside monitors.

4. Select **OK** to confirm.

The 👁 symbol is displayed in the desired patient tile.

WARNING:

In privacy mode, all audible alarms are suppressed and the alarm light is deactivated at the bedside monitor. Alarms are presented only at the CentralStation/WorkStation.

To exit privacy mode:

1. Select 🖥 in the desired patient tile.
2. Select 👁 (quick key**)**.

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select 👁 (quick key**)**.

Or,

1. Select **Room1-4** (for example) in the desired patient tile.
2. Select **Privacy Mode** from the drop down list.
3. Select the current bedside monitor or all the bedside monitors.
4. Select **OK** to confirm.

NOTE:

The privacy mode can be enabled on the bedside monitor connected to the CentralStation/WorkStation. If the bedside monitor in privacy mode is disconnected from the CentralStation/WorkStation, privacy mode will automatically be disabled.

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VIEWBED SCREEN

The **ViewBed** screen provides a more detailed view of a single patient's information.
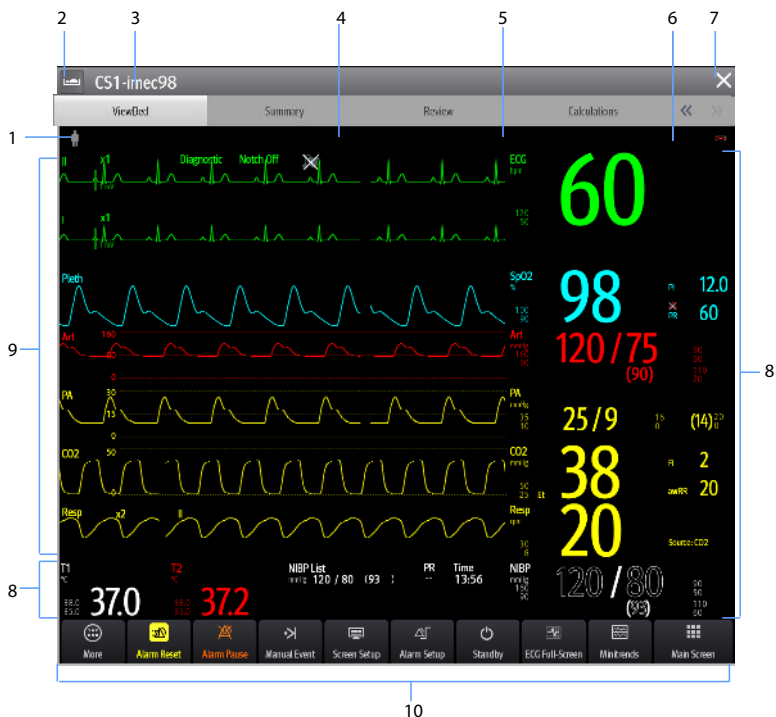
1. Patient category symbol

2. Patient list icon

   Select to view a patient list for all local patients at the CentralStation/ WorkStation or remotely monitored patients.

3. Bed number, room number and patient name

4. Technical alarm information area

5. Physiological alarm information area

6. Alarm status symbol

7. Close button

   Select to return to the multibed (main) screen.

8. Parameter area

    Displays parameter values, alarm limits, and alarm status.

    Selecting a parameter opens the corresponding parameter's menu.

9. Waveform area

    Displays the parameter's waveforms. Selecting a waveform opens the corresponding parameter's menu.

10. Quick key area

    Select to access commonly used functions.

Enter the ViewBed Screen

To enter the **ViewBed** screen:

*   Select ![icon] in the desired patient tile from the multibed (main) screen.

Or,

*   Select the parameter area or waveform area in the desired patient tile.

Adjust ViewBed Screen Layout

The **Screen Setup** menu on the ViewBed screen allows the clinician to modify the screen layout, and display layout of parameters or waveforms on the ViewBed screen.

To configure the **ViewBed** screen layout:

1. Select ![icon] in the desired patient tile.
2. Select ![icon] (quick key).

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select ![icon] (quick key).
3. Select the **ViewBed Screen** tab.
4. Select the **Choose Screen** tab and select the desired option.

    *   **Normal Screen**: to display real time parameters and waveforms.

    *   **Minitrends**: to provide a split screen with continuously displayed graphic minitrends on left side beside real time waveforms and numeric parameters on the main display.

- **Integrated Devices**: to dispaly information of the external devices integrated with the monitors.

- **ECG Full-Screen**: to display the ECG leads with numeric parameters on the main display.

- **12-Lead**: to display the waveform area of the ECG 12-lead screen.

To adjust patient's displayed parameters or waveforms on the **ViewBed** screen:

1. Select ⬚ in the desired patient tile.
2. Select ⬚ **(**quick key).

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select ⬚ **(**quick key).
3. Select the **ViewBed Screen** tab.
4. Select the **Tile Layout** tab and select the desired option.
   - Select a desired parameter from the drop down list.
   - Select a desired waveform from the drop down list.

NOTE:

- The parameters and waveforms in the **Tile Layout** tab are a superset and not dependent on a specific monitoring device. If a parameter or waveform is not supported by the monitoring device, it cannot be displayed on the **ViewBed** screen.

- Display layout changes made to the multibed (main) screen and the **ViewBed** screen are independent.

- Changes to the screen settings are per patient. Once patient is discharged, departmental default (preset) configurations are restored.

Viewing Other Patients

To view other patients in the same department or in a different department on the ViewBed screen:

1. Select the patient list icon⬚.
2. Select ⬚ and select the department of the desired patient.

3. Select the desired patient.

REVIEW

Patient historical data stored and able to be reviewed. The review screen provides several tabs to display patient numeric and waveform information.

To review a current patient's historical data:

1. Select 📟 in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.

2. Select the **Review** tab from the **ViewBed** screen.

To review a previously discharged patient's historical data:

1. Select system menu on the multibed (main) screen.

2. Select **Discharged Patients** from the drop down list.

3. Select **Detail** for the desired patient.

4. Select the **Review** tab.

View and Print Tabular Trends

To view and print tabular trends at the CentralStation/WorkStation:

1. Select 📟 in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.

2. Select the **Review** tab from the **ViewBed** screen.

3. Select ▼ on the **Review** screen.

4. Select **Tabular Trends** from the drop down list.

5. Select 🖶 .

6. Verify or adjust print setup options.

7. Select **Print**.

To adjust the amount and types of trends types displayed on the tabular trends page:

1. Select 📟 in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select the **Review** tab from the **ViewBed** screen.
3. Select ▼ on the **Review** screen.
4. Select **Tabular Trends** from the drop down list.
5. Set **Trend Group** and select the desired option.
6. Set **Interval** and select the desired option.

NOTE:

The parameters displayed for **Trend Group** are dependent on the parameters available on monitoring device.

View and Print Graphic Trends

To view and print graphic trends at the CentralStation/WorkStation:

1. Select 🖥 in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select the **Review** tab from the **ViewBed** screen.
3. Select ▼ on the **Review** screen.
4. Select **Graphic Trends** from the drop down list.
5. Select 🖶 .
6. Verify or adjust print setup options.
7. Select **Print**.

To adjust the amount of trends displayed on the graphic trends page:

1. Select 🖥 in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select the **Review** tab from the **ViewBed** screen.
3. Select ▼ on the **Review** screen.
4. Select **Graphic Trends** from the drop down list.
5. Set **Trend Group** and select the desired option.

6. Select **Zoom** and select the desired length of trend data displayed on the current screen.

   • **8 min**: displays eight minutes of trend data. Up to one hour of data can be viewed.

   • **30 min**, **1 hr**, **2 hrs**, **4 hrs**: displays the selected length of trend data. Up to four hours of data can be viewed.

   • **8 hrs**, **12 hrs**, **24 hrs**, **48 hrs**: displays the selected length of trend data. Up to 240 hours of data can be viewed.

7. Select **Trends** to adjust the number of parameter trended on the screen at a time.

NOTE:

Trend display selection on the Central Station/WorkStation is independent.

View and Print Events

The event review page stores physiologic and technical events on a patient.

To view events at the CentralStation/WorkStation:

1. Select 🖥 in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.

2. Select the **Review** tab from the **ViewBed** screen.

3. Select ▼ on the **Review** screen.

4. Select **Events** from the drop down list.

To print a list of all events:

1. Select 🖥 in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.

2. Select the **Review** tab from the **ViewBed** screen.

3. Select ▼ on the **Review** screen.

4. Select **Events** from the drop down list.

5. Select 🖶 .

6. Verify or adjust print setup options.

7. Select **Print All Event List**.

8. Select **Print**.

To print a list of selected events:

1. Select ⬚ in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.

2. Select the **Review** tab from the **ViewBed** screen.

3. Select ▼ on the **Review** screen.

4. Select **Events** from the drop down list.

5. Select the desired events.

6. Select 🖶 .

7. Verify or adjust print setup options.

8. Select **Print List of Selected Events**.

9. Select **Print**.

To view and print details of the selected event:

1. Select ⬚ in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.

2. Select the **Review** tab from the **ViewBed** screen.

3. Select ▼ on the **Review** screen.

4. Select **Events** from the drop down list.

5. Select the desired events.

6. Select 🖶 .

7. Verify or adjust print setup options.

8. Select **Print Detail of Selected Events**.

9. Select **Print**.

To view and print details of the currently displayed event:

1. Select ⬚ in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.

2. Select the **Review** tab from the **ViewBed** screen.

3. Select ▼ on the **Review** screen.

4. Select **Events** from the drop down list.

5. Double click a desired event. Or,

   Select the desired event, and select **Detail**.

6. Select 🖶 .

7. Verify or adjust print setup options.

8. Select **Print Detail of Selected Events**.

9. Select **Print**.

To access options on a stored event in the events list:

1. Select 🖳 in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.

2. Select the **Review** tab from the **ViewBed** screen.

3. Select ▼ on the **Review** screen.

4. Select **Events** from the drop down list.

5. Select the desired event.

6. Select ⬚ .

7. Select the desired option.

   • **Lock**: to lock the event manually. 🔒 beside an event indicates a locked event cannot be deleted.

   • **Unlock**: to unlock the event.

   • **Delete**: to delete the event.

   • **Select All**: to select all events in the events list.

   • **Cancel All**: to cancel selecting all events in the events list.

   • **Rename**: to rename an event (if enabled).

   • **Note**: to allow a note to be saved and printed with the event.

To access options on a stored event in the detail event window:

1. Select in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.

2. Select the **Review** tab from the **ViewBed** screen.

3. Select ▼ on the **Review** screen.

4. Select **Events** from the drop down list.

5. Double click a desired event. Or,

   Select the desired event, and select **Detail**.

6. Select .

7. Select the desired option.

   - **Lock**: to lock the currently displayed event manually. beside an event indicates a locked event cannot be deleted.

   - **Unlock**: to unlock the currently displayed event.

   - **Delete**: to delete the event.

   - **Rename**: to rename an event (if enabled).

   - **Note**: to allow a note to be saved and printed with the event.

   - **Export to EMR**: exports 20 seconds of waveform data. Refer to *BeneVision Central Monitoring System Operator's Manual* for complete details.

8. Perform caliper measurement. Refer to *Caliper Measurement* section for complete details.

BeneVision CMS Quick Reference Guide

View and Print Full Disclosure

The full disclosure review page stores all waveforms and numeric information collected on a patient for a configured period.

To view full disclosure data at the CentralStaion/WorkStation:

1. Select 🖵 in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select the **Review** tab from the **ViewBed** screen.
3. Select ▼ on the **Review** screen.
4. Select **Full Disclosure** from the drop down list.

To change the displayed and stored disclosure data:

1. Select 🖵 in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select the **Review** tab from the **ViewBed** screen.
3. Select ▼ on the **Review** screen.
4. Select **Full Disclosure** from the drop down list.
5. Select **Setup**.
6. Select the **Storage** tab.
7. Select the desired waveforms.
8. Select the **Display (Maximum: 3)** tab.
9. Select the desired waveforms to be displayed.

To print all compressed waveforms of full disclosure:

1. Select ![icon] in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.

2. Select the **Review** tab from the **ViewBed** screen.

3. Select ▼ on the **Review** screen.

4. Select **Full Disclosure** from the drop down list.

5. Select 🖶 .

6. Verify or adjust print setup options.

7. Select **Print Waveform Overview**.

8. Select **Print**.

To select the desired compressed waveform segments:

1. Select ![icon] in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.

2. Select the **Review** tab from the **ViewBed** screen.

3. Select ▼ on the **Review** screen.

4. Select **Full Disclosure** from the drop down list.

5. Select **Select**.

6. Click the mouse, hold and drag it to select the desired waveform segment.

Or,

6. Touch the waveform and drag finger to select the desired waveform segment.

7. If multiple waveform segments are desired, repeat Step 6.

8. Select ✕ adjacent to the selected waveform to cancel the selection if needed.

9. Select **Select** to exit the selection function.

To print the selected compressed waveform segments:

1. Select ![icon] in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.

2. Select the **Review** tab from the **ViewBed** screen.

3. Select ▼ on the **Review** screen.

4. Select **Full Disclosure** from the drop down list.

5. Select the desired compressed waveform segments.

6. Select 🖶 .

7. Verify or adjust print setup options.

8. Select **Print Overview of Selected Waveforms**.

9. Select **Print**.

To view and print details of the selected waveform segments:

1. Select 🖵 in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.

2. Select the **Review** tab from the **ViewBed** screen.

3. Select ▼ on the **Review** screen.

4. Select **Full Disclosure** from the drop down list.

5. Select the desired waveform segments.

6. Select 🖶 .

7. Verify or adjust print setup options.

8. Select **Print Detail of Selected Waveforms**.

9. Select **Print**.

To view and print details of a selected waveform segment:

1. Select ⬚ in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.

2. Select the **Review** tab from the **ViewBed** screen.

3. Select ▼ on the **Review** screen.

4. Select **Full Disclosure** from the drop down list.

5. Select the desired waveform segment.

6. Select **Detail** or double click the desired compressed waveform.

7. Select 🖶 .

8. Verify or adjust print setup options.

9. Select **Print Displayed Waveform Detail**.
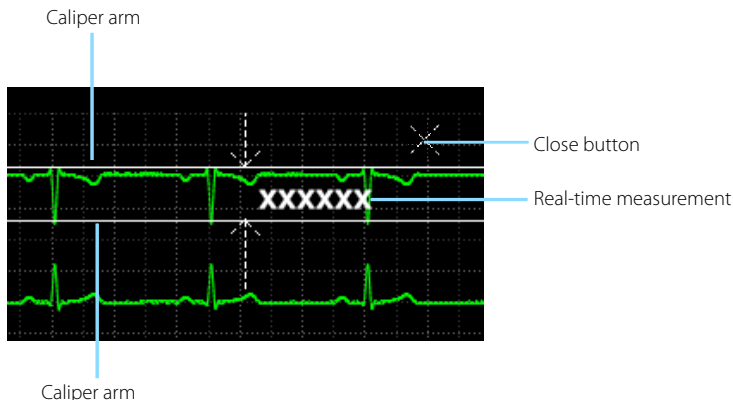
10. Select **Print**.

Caliper Measurement

Caliper allows the ability to electronically measure ECG segment such as PR and QRS intervals. The caliper is available in event detail and full disclosure detail waveform at the CentralStation/WorkStation.

• PR, QRS, QT and R-R interval Measurement

- ST Measurement

Caliper arm

Close button

Real-time measurement

Caliper arm
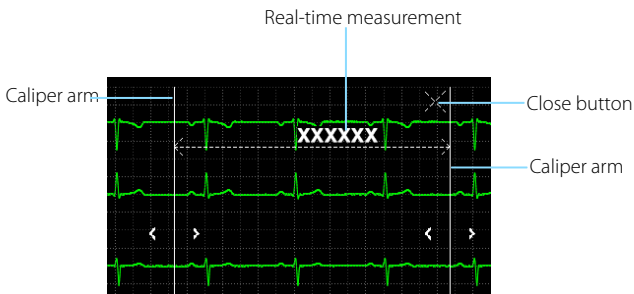
To measure PR, QRS, QT and R-R interval:

1. Enter the event detail view or the full disclosure detail view.

2. Select **Caliper**.

3. Click the mouse at a place in the desired waveform area, hold and drag the mouse horizontally to the desired location.

Or,

4. Touch at a place in the desired waveform area, and drag the finger horizontally to the desired location.

5. Select **PR**, **QRS**, **RR** or **QT** from the Caliper menu to obtain the measured values. The QTc value is calculated after RR and QT value have been acquired.

6. Select

- **Save**: to save the caliper measurement values as a manual event in the event review page. Enter the name and comments as desired and select **OK** to confirm. Up to 32 characters can be entered. The measured values are displayed in the first ECG waveform and printed in the detail reports.

- **Reset**: to clear the measured values.

7. Select ✕ to exit the caliper window.

To measure ST:

1. Enter the event detail view or the full disclosure detail view.

2. Select **Caliper**.

3. Select **ST**.

4. Click the mouse at a place in the desired waveform area, hold and drag the mouse horizontally to the desired location.

Or,

5. Touch at a place in the desired waveform area, and drag the finger horizontally to the desired location.

6. Select

   • **Save**: to save the caliper measurement values as a manual event in the event review page. Enter the name and comments as desired and select **OK** to confirm. Up to 32 characters can be entered. The measured values are displayed in the first ECG waveform and printed in the detail reports.

   • **Reset**: to clear the measured values.

7. Select ✕ to exit the caliper window.

To move the caliper:

• When displaying the caliper arms, point inside the caliper, select ✛ to move the entire caliper.

• When measuring PR, QRS, QT and R-R interval, select ⬌ to move the caliper horizontally.

• When measuring ST, select ↕ to move the caliper.

To adjust the caliper arms:

When displaying a caliper, adjust the caliper arms to change the time difference between two points.

• When the caliper displays in the shape of ⬌, select ◁ or ▷ to move the caliper arm horizontally.

• When the caliper displays in the shape of ↕, select ⌃ or ⌄ to move the caliper arm vertically.

View and Print 12-Lead ECG Analysis Reports

The 12-lead ECG review page allows the clinician to view and print a 12-lead ECG analysis report.

To view a 12-lead ECG analysis report:

1. Select ![icon] in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select the **Review** tab from the **ViewBed** screen.
3. Select ▼ on the **Review** screen.
4. Select **12-Lead ECG** from the drop down list.
5. Select **Speed** to adjust the waveform speed.
6. Select **Gain** to adjust the waveform size.
7. Select **Layout** to adjust the waveform layout.

    - **12×1**: to display 12-lead ECG waveforms on one page in one column.
    - **6×2**: to display 12-lead ECG waveforms on one page in two columns, with 6 lines in each column.
    - **6×2+1**: to display 12-lead ECG waveforms on one page in two columns, with 6 lines in each column, and one rhythm lead waveform at the bottom.
    - **3×4+1**: to display 12-lead ECG waveforms on one page in 4 columns, with 3 lines in each column, and one rhythm lead waveform at the bottom.
    - **3×4+3**: to display 12-lead ECG waveforms on one page in 4 columns, with 3 lines in each column, and three rhythm lead waveforms at the bottom.

To print a 12-lead ECG analysis report:

1. Select ![icon] in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.
2. Select the **Review** tab from the **ViewBed** screen.

3. Select ▼ on the **Review** screen.

4. Select **12-Lead ECG** from the drop down list.

5. Select 🖶 .

6. Verify or adjust print setup options.

7. Select **Print**.

View and Print Arrhythmia Statistic Reports

The arrhythmia statistics page allows the clinician to view and print the statistics about the HR value and the number of each arrhythmia within a specific time period.

To adjust time, view and print an arrhythmia statistic report:

1. Select 🖳 in the desired patient tile.

Or,

1. Select the parameter area or waveform area in the desired patient tile.

2. Select the **Review** tab from the **ViewBed** screen.

3. Select ▼ on the **Review** screen.

4. Select **Arrh Statistics** from the drop down list.

5. Select **Zoom** to adjust length of time.

6. Select 🖶 .

7. Verify or adjust print setup options.

8. Select **Print**.

View and Print aEEG Reports

The aEEG review page allows the clinician to view and print the aEEG report.

To view and print an aEEG report:

1. Select an aEEG display type:

   • **aEEG with EEG**: default option, displays up to four aEEG waveforms and up to four EEG waveforms in the first half and second half of the page respectively.

   • **aEEG with DSA**: displays up to four aEEG waveforms and DSA trends of up to four EEG channels in the first half and second half of the page respectively.

- **aEEG with Trend**: displays up to four aEEG waveforms and HR/SpO2 trends in the first half and second half of the page respectively.

2. Select ⎙ .

3. Verify or adjust print setup options.

4. Select **Print**.

SUMMARY

You can view summary data for online patients on the summary screen.

To enter the summary screen, select the **Summary** tab beside the ViewBed screen and the Review screen. Two kinds of summaries are provided:

- **Vital Sign Summary**:provides the parameter trend of the patient's vital sign and the alarm events statistics.

- **ECG Summary**:provides ECG statistics of the patient. It also displays the patient's typical ECG strips.

PAGING*

The Paging window allows the configuration of pagers for the CentralStation/WorkStation.

To access the Paging window:

1. Select system menu on the multibed (main) screen.

2. Select **Paging** from the drop-down list.

3. Select **OK** to confirm.

To add a pager:

1. Select the **Pager Assignment** tab in the Paging window.

2. Select **Add a New Pager**.

3. Enter the desired number in the **Pager Number** text box.

4. Enter the name of the person who will be responsible for the pager or some other identifying information In the **Pager Assignment** text box.

5. Select **OK** to confirm.

NOTE:

Pager numbers must be unique. If an existing pager number is entered, the message "Pager Number already exists! Please enter a new number." is

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displayed.

To assign an online bed to a pager:

1. Select the **Pager Assignment** tab in the Paging window.
2. Select ⋮ beside the desired pager from the Pager List.
3. Select **Add Online Bed**.
4. Select the desired bed from the bed list.
5. Select **OK** to confirm.

NOTE:

An online bed refers to a bed that has been already admitted to the BeneVision CMS.

To assign a manually input bed to a pager:

1. Select the **Pager Assignment** tab in the Paging window.
2. Select ⋮ beside the desired pager from the Pager List.
3. Select the **Add Bed Manually** button.
4. Enter the desired bed number in the **Bed No** text box.
5. Select **OK** to confirm.

To remove a bed assignment:

1. Select the **Pager Assignment** tab in the Paging window.
2. Select a pager from the Pager List.
3. Select the desired bed.
4. Select ✕.

To remove a pager:

1. Select the **Pager Assignment** tab in the Paging window.
2. Select ⋮ beside the desired pager from the Pager List.
3. Select the **Delete** button. The A**re you sure you want to delete this pager and all its assignments?** question dialog box is displayed.
4. Select **OK** to confirm.

To edit a pager:

1. Select the **Pager Assignment** tab in the Paging window.
2. Select ⋮ beside the desired pager from the Pager List.

3. Select the **Modify** button.

4. Edit the pager information. The **Pager Number** and **Pager Assignment** are required fields.

5. Select **OK** to confirm.

To resend a page that failed:

1. Select the **Failed Pages** tab in the Paging window.

1. Select a failed page from the list box. If a clinician want to select all the failed pages, select **Select All**.

To print a Paging report:

1. Select the **Pager Assignment** tab in the Paging window.

2. Select 🖶 .

CONNECTING A PATIENT MONITOR WITH A TELEMETRY DEVICE

If both a patient monitor and a telemetry device are available for the same bed and you need to choose the device per patient's condition, you can connect the patient monitor with the telemetry device at the CentralStation or the WorkStation. After these devices are connected successfully, when the patient's condition improves and the patient can perform out-of-bed activities , you can choose the telemetry device to view patient monitoring data. When the patient's condition worsens, you can choose the patient monitor to view patient monitoring data.

When a patient monitor supports connecting a telemetry device or vice versa, the 📲 symbol is displayed in the lower right corner of the patient sector on the device assignment screen.

To connect a patient monitor with a telemetry device:

1. Select an empty (unoccupied) patient tile with **+** on the multibed (main) screen to access the **Device Assignment** screen.

Or,

1. Select system menu on the multi (main) screen. Then select **Device Management** from the drop down list.

2. Select 📲 on the left side of the screen.

3. Select the desired device. If you wish to view more details about this device, select ⓘ.

4. Select **OK** in the popup dialog box.

To disconnect a patient monitor with a telemetry device:

1. Select an empty (unoccupied) patient tile with on the multibed (main) screen to access the **Device Assignment** screen.

Or,

1. Select system menu on the multi (main) screen. Then select **Device Management** from the drop down list.
2. Select on the left side of the screen.
3. Select the desired device and select **OK**.

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mindray
NORTH AMERICA