INSTRUCTIONS FOR USE

Central View

Central Monitoring System

786304EN-3 12/2021

HUNTLEIGH

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1. Safety

Please keep these Instructions for Use to hand for future reference.

1.1 Warnings

The Central View system is intended to be used by or under the guidance of clinical professionals only.

Central View is intended to run on a dedicated PC. Under no circumstances must any 3rd party software be installed on the system without prior approval, in writing, from Huntleigh Healthcare. In the event of unauthorised software being installed, Huntleigh Healthcare cannot be held responsible for resulting data corruption, misrepresentation, loss or any other failing of the system.

The system time must be set before putting Central View into use. Changing the system time during operation may lead to loss of stored data and/or interruption of the network connection between the Central View and any connected patient monitors.

The Central View system is intended only to provide a means of remote monitoring and should not be used as as a basis for clinical treatment.

Clinical evaluations should be conducted at the patients bedside where clinical signs and symptoms are best assessed.

The audio alarm system should not be relied upon in isolation for alarm indication.
Inadequate alarm volume or silenced alarms may endanger patient safety. The most reliable way of patient monitoring is to keep the patient under close surveillance.

In order to avoid affecting the patient monitoring or delaying the diagnosis and treatment, it is not recommended to use the system Audio Off function.

The dedicated computer should not be moved when the Central View is in operation.

Only Huntleigh patient monitors may be connected to Central View. Please read the Central View and patient monitor Instructions for Use prior to use.

All the data collected by Central View is stored on the hard disk of the dedicated computer. The hard disk will continue to store the waveform and parameter data from monitors until its storage is full.

The system administrator is responsible for ensuring compliance with any local, national or other regulatory requirements relating to patient information, the storing, displaying and archiving of such data, and access to such data.

At all times, clinicians must retain full responsibility for appropriate management of any situation. Central View, is designed as an information system intended to present information to assist clinicians in delivering the highest possible standard of care, not to replace established clinical practice. All users are responsible for ensuring the accuracy of entered data, and for confirming that it has been correctly logged.

The disposal of packaging materials shall comply with local laws and regulations and/or the waste disposal rules and regulations of the hospital. Packaging materials must be kept out of read of children.

Central View is not intended for home use.

1.2 Symbols

Symbols	
	Refer to this document (Instructions for Use) for a description of the product classification.
	This symbol signifies that this product, including its accessories and consumables is subject to the WEEE (Waste Electrical and Electronic Equipment) regulations and should be disposed of responsibly in accordance with local procedures.
	General Warning
CE 2797	This symbol signifies that this product complies with the essential requirements of the Medical Device Directive (93/42/EEC) - Medical Device Regulation (EU/2017/745)
	Legal Manufacturer in association with the CE mark in Europe ArjoHuntleigh AB Hans Michelsensgatan 10 211 20 Malmö, Sweden
Manufactured By:	**Huntleigh Healthcare Ltd.** 35 Portmanmoor Road, Cardiff, CF24 5HN, United Kingdom T: +44 (0)29 20485885 sales@huntleigh-diagnostics.co.uk www.huntleigh-diagnostics.com

MD	Medical Device	DI	Device Identifier
	Follow Instructions for Use		Cardboard packaging can be recycled.
SN	Serial Number	REF	Reference Number
	Keep Dry		This way up

1.3 Contraindications

None.

1.4 Service Life

Huntleigh Healthcare state that the lifetime of the Cenral View (HD786) product range is for as long as it is compatible with the available software and hardware systems. Therefore a definitive lifetime cannot be given. The intended service life for the device is at least 7 years.

2. Introduction

2.1 Intended Use

Smartsigns Central View is intended for use by Healthcare professionals for the centralised monitoring and management of Adult, Paediatric and Neonatal vital signs in Healthcare facilities.

It is intended to be used with the Smartsigns range of Vital Signs patient monitors for remote monitor management, storing, printing, reviewing or processing of information from networked devices.

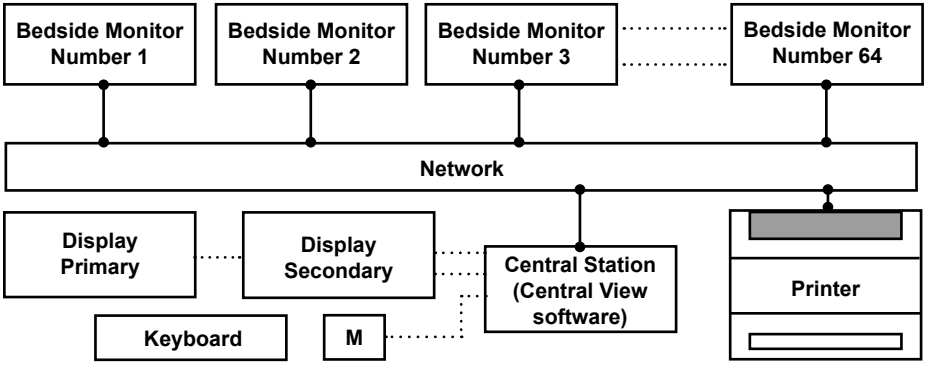
Central View provides a secondary annunciation of alarms for each of the connected devices.

2.2 Central View Operating Principle

Central View consists of a software package running on a desktop PC. The Central View System is connected to a Smartsigns Compact multi-parameter patient monitor via a wired network connection to form a monitoring network.

Central View collects and displays information gathered by each of the connected devices to provide a centralized display of all monitoring information from the bedside monitors and stores the information for analysis and processing.

System Components:



The Central View system software is contained within the central station, continuous real time data is sent over the network to the Central Station for display on the system's primary and secondary displays.

System management and control is affected through the keyboard and mouse.

2.3 Central View Features

The main features of the central monitoring system are as follows:

1. Connection of up to 64 bedside monitors using a stable network connection based on TCP/IP protocol.
2. Complete LAN network.
3. Patient status is displayed on a dual-screen work station.
4. Able to display multiple waveforms and values in different colours.
5. Simple easy to use user interface.
6. Bidirectional control between the work station and each bedside monitor.
   - The system supports all alarm functionality and the control of the bedside monitor
   - Convenient and simple alarm setting and control, such as upper/lower alarm limit settings
7. Waveform freeze function.
8. Multiple language support.
9. Multi-condition query function, allowing query by patient number, patient name and other terms.
10. Supports data storage.
    - Full disclosure waveform review
11. Display up to 12 waveforms including oxyCRG graph.
12. A4 report generation - patient reports, waveform data, parameter data and events.

3. Preliminary Checks

Contents (supplied with each system)

Item	Item
64 Bed license (pre-installed)	Sound bar
Security key	2 x Network switches (Min 64 way capacity)
Workstation (pre-installed)	A4 laser printer
2 x 24" Windscreen displays	Instructions for Use
Keyboard & Mouse	Getting Started Guide

Delivery Inspection

Huntleigh takes every precaution to ensure that goods reach you in perfect condition. However, accidental damage can occur in transit and storage. For this reason we recommend that a thorough visual inspection is made immediately the unit is received. Should any damage be evident or any parts missing, ensure that Huntleigh is informed at once.

3.1 Compatible Patient Monitors

Central View is compatible with the following Patient Monitors:

- Smartsigns Compact 500
- Smartsigns Compact 1200
- Smartsigns Compact 1500

4. Operation

4.1 Basic Operation

Central View supports dual screen functionality:

The Figure above shows the work station set up, the screen to the left is the primary display (main screen) and the screen to the right is the secondary display.

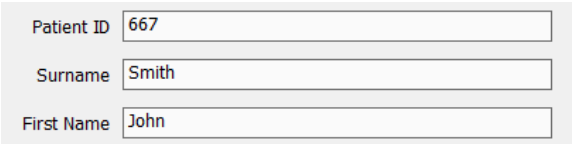
Up to 64 patient monitors can be displayed in this format, with system controls e.g. system setup, as well as additional information available on the secondary display.

4.1.1 On Screen Controls

There are a variety of input methods.

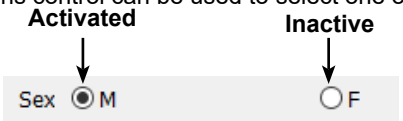
4.1.1.1 Text Entry Fields

The text entry fields are used to enter characters via the keyboard.



4.1.1.2 Radio Buttons

Radio buttons control can be used to select one of a number of options.



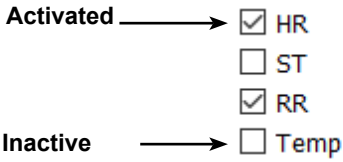
4.1.1.3 Check Box Convention

A Check box is used to select multiple options.

To activate a check box, select the square in front of a label text.

When active, a check mark (tick) is displayed in the box.

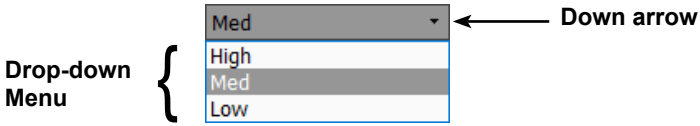
To deactivate a check box, select the square again. When inactive, no check mark is displayed.



4.1.1.4 Drop-down Menu

Drop-down lists are indicated by a down arrow.

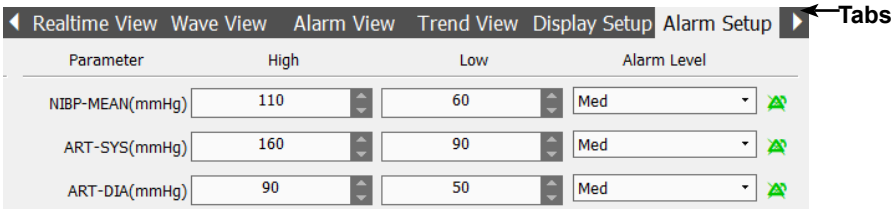
Select the arrow to open the drop-down menu and make a selection, select it again to close the drop-down menu.



4.1.1.5 Tabs & Pages

Certain pages on the Secondary display feature tabs to aid navigation.

It is possible to switch between pages by clicking on the required tab.



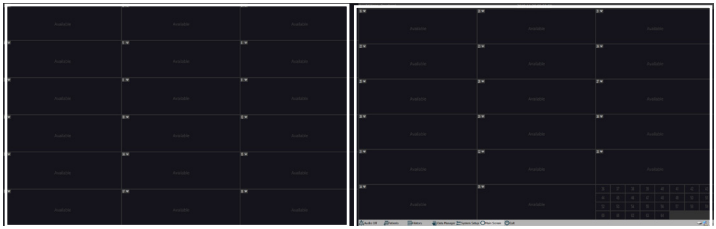
4.2 Main Screen

The figure below shows an example of the screen layout for primary and secondary displays when Main Screen is selected (Ward View).

This is the default display option that will be presented to the user upon startup of the system.

The example shown below is for a system configured for 64 patient monitors, this will vary depending on the number of beds the Central View has been configured for.

For further information on bed configuration refer to section 9.2.8.

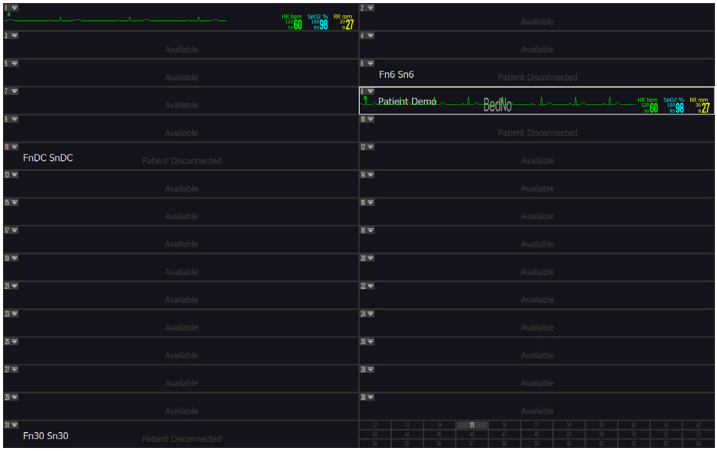


Primary Display **Secondary Display**

4.3 Primary Display

The figure below shows the layout of the primary display

The Compressed ward view is given on the primary display when an active bed is selected and shown on the secondary display (Bed View) :



4.4 Secondary Display

The figure below shows the layout of the secondary display with an active bed selected (Bed View) :

4.4.1 System Information Area

The system information area displays:

1. Hospital information:

   The hospital name and department where the Cental View II is located.
2. System time:

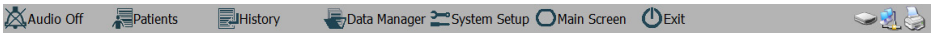
   Displays the date and time.
3. System status:

Displays all active system status indicators and messages.

4.4.2 System Buttons and Icons Area

4.4.2.1 System Buttons

The system information area displays:



- Select [Audio Off] to silence the audio including alarms, nurse call and other sounds (this function is password protected).
- Select [Patients] to enter the patient management page.
- Select [History] to enter the history review page.
- Select [Data Manager] to enter the data management window (this function is password protected).
- Select [System Setup] to enter the system setup page.
- Select [Main Screen] to close the auxiliary screen and return to the main screen.
- Select [Exit]: to exit the system (this function is password protected).

4.3.2.1 System Buttons

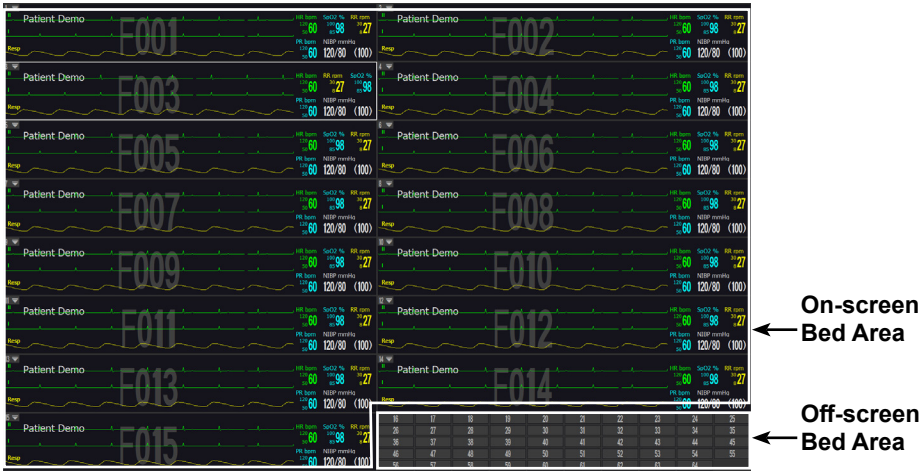
No.	Icon name	Icon	Description
1	Network Status		Network connection is OK
			Network connection is disconnected
2	Printer Status		Printer status is OK
			Printer error
			No printer connected
3	Hard disk status		Hard disk status is OK
			Insufficient hard disk space

5. Multi-bed Observation

5.1 Overview

Central View can display up to 64 on-screen beds.

For specific details refer to Section 9.2 User Setup - Bed Display Setup.



The number of beds displayed on-screen is user configurable.

When the number of beds exceeds the maximum on-screen configuration, additional beds will be displayed in the off-screen bed area.

The off-screen beds will be condensed into the last bed location of any display configuration.

5.2 Patient Observation

5.2.1 On Screen Bed Status

On-screen beds may be in one of the following states:

Connected. Please admit patient

Indicates that this on-screen bed has been connected with a monitor but no patient is admitted.

Patient Disconnected

Indicates that this on-screen bed has admitted a patient but the corresponding monitor has become disconnected from Central View.

Available

Indicates that there is no patient admitted in this on-screen bed, and that there is no corresponding monitor connected.

Duplicate Patient ID on Bed: X

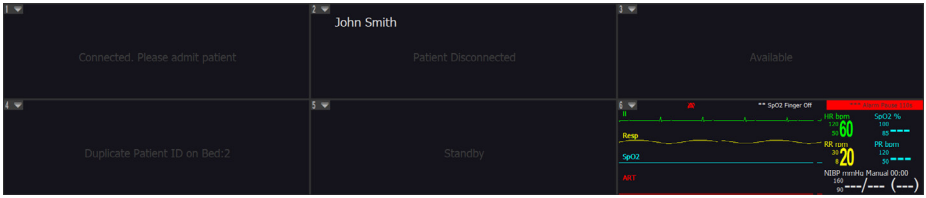
Indicates that the patient ID of the patient on this bed is the same as that of the patient on bed X.

Standby

Indicates that the corresponding monitor is in Standby mode.

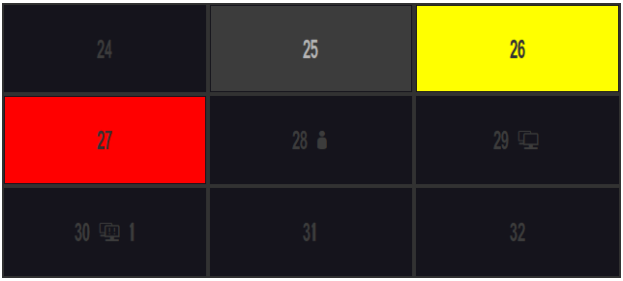
Monitoring

Displays waveforms and parameters from the corresponding monitors.



5.2.2 Off Screen Bed Area Identification

Each block in the off-screen bed area shows the Net number, monitoring status, and network connection status.



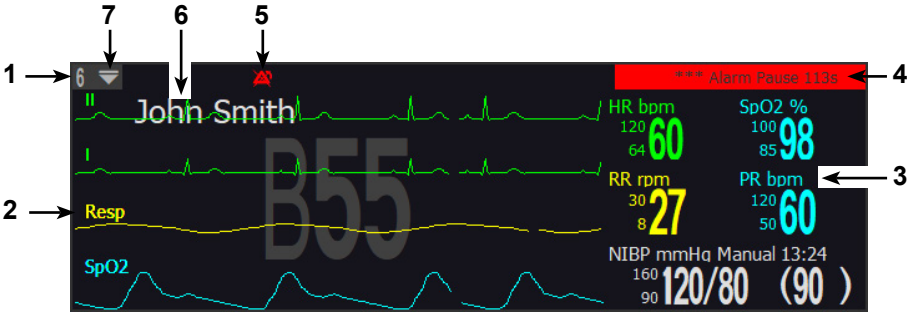
The following table shows the status of off-screen beds and the colour indication of the corresponding block.

Off-screen monitor status	Corresponding block – Colour Indicator
Network connected and patient admitted	The background is grey and the network bed number is white.
Network connected but no patient admitted	The background is black and the network bed number is grey with the icon displayed beside it.
Network disconnected and no patient admitted	The background is black and the network bed number is grey.

Off-screen monitor status	Corresponding block – Colour Indicator
Network disconnected but patient admitted	The background is black and the network bed number is grey with the icon displayed beside it.
Duplicate Patient ID	The background is black with the duplicate bed number on the left and pre-existing bed number to the right with between them.
Medium- or low-level alarm occurs	The background flashes yellow.
High level alarm/ Nurse call	The background flashes Red.

5.3 On-screen Bed

The on-screen bed can display up to 4 waveforms and 5 numerical parameters, as shown in the figure below.



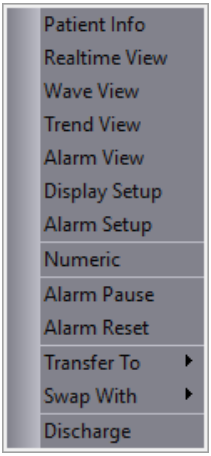
The following table describes the functionality of the different areas as indicated in the figure above.

No.	Name	Description
1	Net Number	The network bed number.
2	Waveform area	Display waveform. The background display “B55” is the hospital bed number.
3	Parameter area	Displays the parameter values.
4	Alarm message area	Displays alarm messages. When there is more than one alarm message, status messages will be cycled.
5	Alarm icons area	Indicates an alarm silenced state. indicates an alarm paused state.

No.	Name	Description
6	Patient information	Displays patient name.
7	Drop-down menu	Displays drop-down menu.

5.3.1 On Screen Bed Menu

The on screen bed menu controls the view, alarms, display and transfer for the selected bed.



Patient Info

Opens the patient information page.

Realtime View

Opens the real-time monitoring page.

Wave View

Opens the waveform review page.

Trend View

Opens the trend review page.

Alarm View

Opens the alarm review page.

Display Setup

Opens the display setup page.

Alarm Setup

Opens the alarm setup page.

Numeric

Switches the on-screen bed from waveform display to large number display.

There will be a check mark (☑) in front of [Numeric] when the mode is enabled.

To exit large number mode, uncheck the [Numeric] and the on-screen bed will return to displaying waveforms as well as parameter values.

Alarm Pause

Puts the on-screen bed and the corresponding bedside monitor into alarm paused state.

Select [Alarm Pause] again to exit the alarm paused state.

Alarm Reset

Sends an alarm reset to the corresponding bedside monitor. This acknowledges any currently active alarms.

Transfer To

Moves the patient from the selected bed to a target bed. Refer to 6.5 Transferring a Patient for details.

Swap With

Switches the selected bed with the target bed. Refer to 6.6 Switching a Patient for details.

Discharge

Discharges this patient from the Central View and from the corresponding bedside monitor simultaneously.

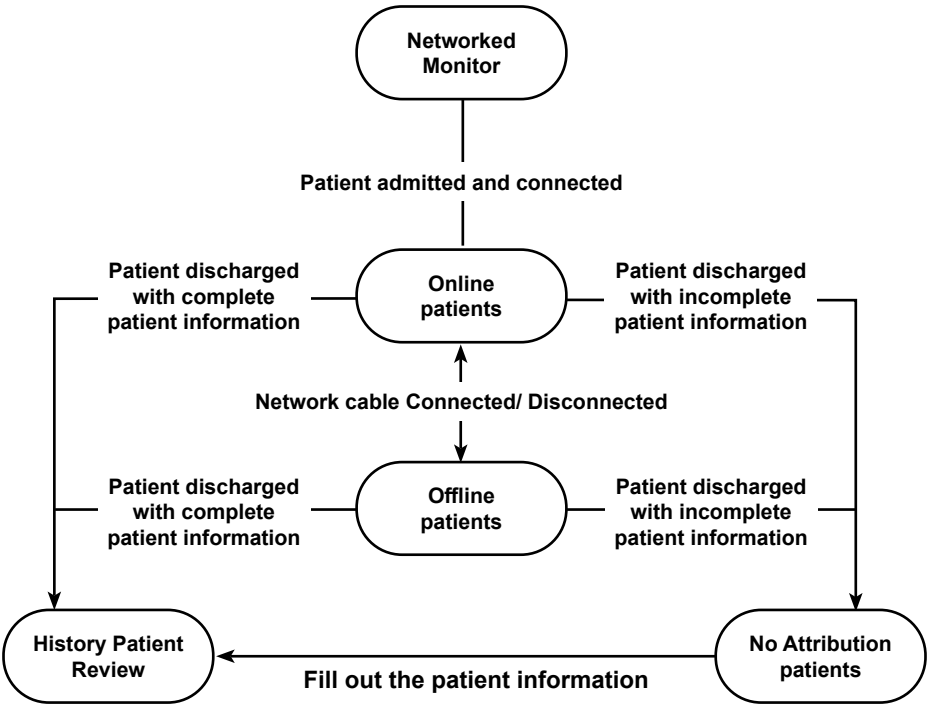
6. Patient Management

6.1 Overview

Patient management is to facilitate the observation of all patient information. Patient information can only be updated and deleted in the patient management window. On the secondary display, select the [Patients] system button to enter the patient management window.

The patient management window consists of online, offline and No-attribution pages. Select the radio button to switch between them.

The following diagram illustrates the various patient states and the connections between them;



6.1.1 Online Patients

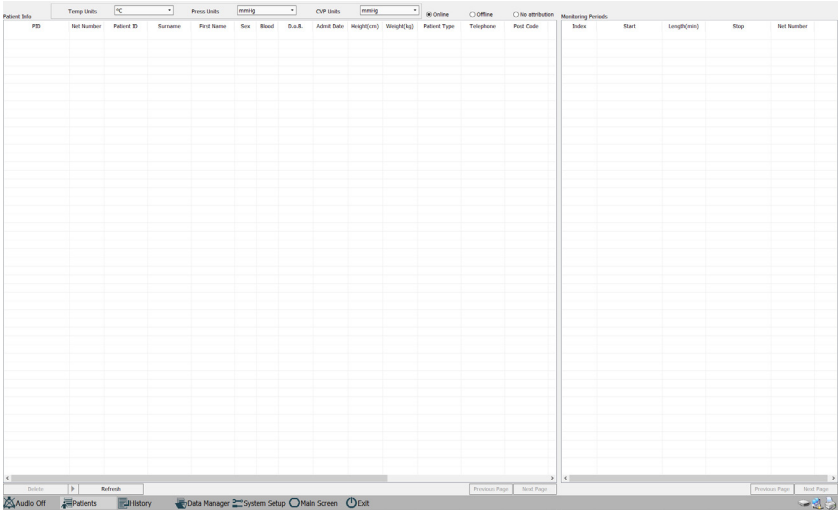
The patients list in the online page will display all the patients being monitored.

Select [Refresh] and all the current online patients will be displayed in the patient list.

Select an online patient and the monitoring periods of this patient will be displayed in the monitoring period list.

Double click any monitoring period to review the parameter waveforms, alarm events and trends of this patient.

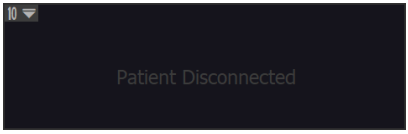
A monitoring period commences when a patient is admitted to the system and ends when the patient is discharged or the connection is lost.



6.1.2 Offline Patients

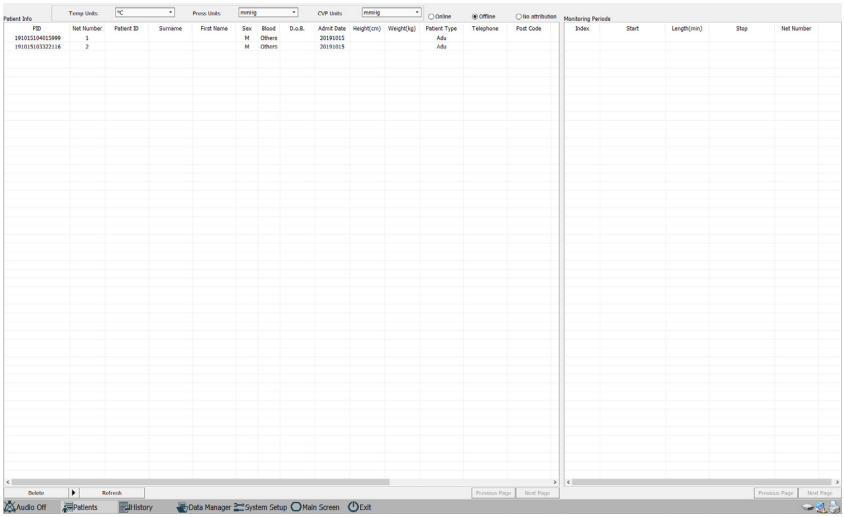
A patient becomes an offline patient when the connection between the patient monitor and the system becomes disconnected or the monitor shuts down without discharging the patient.

In this event, the system will display the status message [Patient Disconnected].



Once the reconnection is established, the patient automatically becomes an online patient with a new monitoring period.

To view the data associated with an offline patient, double click any of the monitoring periods / sessions to display stored waveforms, alarm events and trend information.



6.1.3 No attribution Patients

Patient files without any form of identification e.g. patient name or ID are identified as no attribution patients. These files may contain physiological information and are stored in the no attribution patient page section.

To access and review this information, select [Patients]>[No attribution].

Waveforms, alarm events and trend information can be reviewed.

6.1.3.1 Converting a no attribution patient to a historical patient file

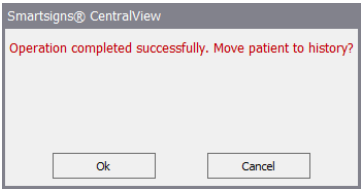
It may be necessary to convert a no attribution patient file to a historical file in order to allow the information to be attributed to the correct patient.

Select [Patients]>[No attribution].

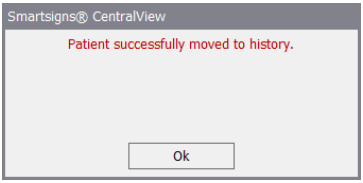
Double-click a patient to display the patient information page.

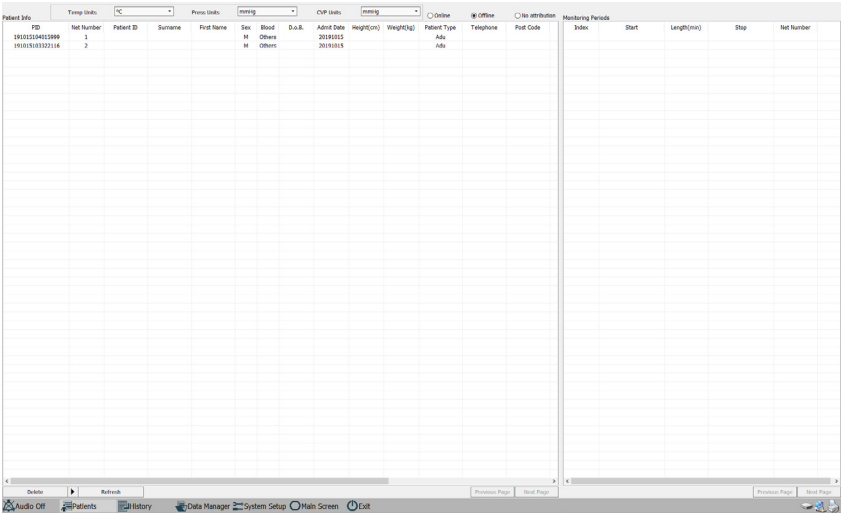
Input the [Patient ID], [Surname], [First Name] then select [Save].

Click [Ok] when prompted to complete the transfer.



Upon completion, a dialog box appears, click [Ok]. The file will now be identified as a historical patient.





Note
In the patient management window, double clicking the online patients, offline patients or no attribution patients, will allow for the review of patient data, such as the parameter waveforms, alarm events and trends.

6.1.4 Delete

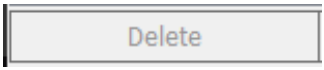
To preserve the integrity of patient files, only offline patients or no attribution patients can be deleted.

When deleting patient information, all monitoring data including the parameter waveforms, alarm events and measured data will be deleted.

This function is password protected to prevent unauthorized deletion.

How to delete a patient;

- In the offline patient page or no attribution patient page, select the patient to be deleted.
- Select the [Delete] button, a password input window will be displayed.
- Enter the password to delete this patient.



Note
To prevent accidentally deleting the patient information, the patient deleting function is password protected.

Note
An online patient's information cannot be deleted.

6.1.5 Refresh

Select [Refresh] button to refresh the patient list.

6.2 Admitting a Patient

A patient must be admitted onto the system for their vital signs data to be displayed and collected.

Patients can be admitted either at the bedside monitor or the Central View.

Admitting a patient from the Central View work station:

1. The network connection must be established between the bedside monitor and Central View.
2. Select the down arrow in the corresponding on-screen bed and select [Quick Admit] in the drop-down menu.

Refer to the User Manual of the corresponding bedside monitor for the methods of admitting a patient via the bedside monitor.

With the bedside monitor connected to the Central View network, admitting a patient via the bedside monitor or Central View workstation will admit the patient onto both simultaneously.

Admitting a new patient, when an off line patient exists on the corresponding bed, Central View will begin a new monitoring session.

The offline patient will be discharged and filed to History or No Attribution.

6.3 Changing Patient Information

There are two ways patient information can be changed, either:

- Via the bedside monitor. (Refer to the User Manual of the corresponding bedside monitor)

Or

- Via the Central View work station.

Changing patient information at the bedside monitor changes the patient information on the work station.

Similarly, changing the patient information on the work station changes the patient information on the bedside monitor.

Changing patient information from the work station:

1. Open the patient information page.

   On Screen-bed

   Select the drop down arrow next to the bed number of the desired on screen bed, Select [Patient Info] to open the patient information page

   or

   Select the desired on screen bed by selecting anywhere in the on- screen bed area, select [Patient Info] tab to open the patient information page of the on screen bed.

   Off Screen Bed

   Select any bed number from the off screen bed area to enter the [Realtime View] page, select [Patient Info] to open the patient information page.

   Alternatively right click any off screen bed in the off-screen bed area and select [Patient Info] in the pop-up menu to open the patient information page.

The following patient information can be modified on the patient information page.

Patient ID

Enter the patient ID.

Surname

Enter the last name of the patient.

First Name

Enter the first name of the patient.

Sex

Select the patient's gender, M(Male) or F(Female).

Blood

Select the patient's blood type.

D.o.B

Select the down arrow and select the date of birth of the patient in the drop-down menu.

Height

Enter the patient's height.

Weight

Enter the patient's weight.

Patient Type

Select the patient type, ADU (Adult), PED (Paediatric) or NEO (Neonate).

Admit Date

Select the down arrow and select the date of admitting the patient in the drop-down menu.

Department

Enter the department where the patient is admitted.

Ward

Enter the ward number of the patient.

Bed No.

Enter the bed number of the patient, which will be displayed in the background of waveform area in the on-screen bed.

Doctor

Enter the doctor's name.

Telephone

Enter the telephone number of the patient.

Post Code

Enter the post code of the patient.

Email

Enter the email address of the patient.

Address

Enter the address of the patient.

Diagnosis

Enter the patient's diagnosis result.

Order

Enter the doctor's notes for the patient.

2. After modifying the patient information, select [Save], the patient information on the bedside monitor will change accordingly.

Note
When the patient information is entered on the work station, the information is transferred to the bedside monitor and vice versa.

6.4 Discharging a Patient

The discharge process teminates the current monitoring session and clears the patient information from the system.

A patient can be discharged either from the:

- Bedside monitor

Or

- From the Central View work station.

To discharge a patient on the bedside monitor, please refer to the User Manual of the corresponding bedside monitor.

There are two methods of discharging a patient on the Central View work station:

Method one:

1. Select the on-screen bed corresponding to this patient, or select the block corresponding to this patient in the off-screen bed area.
2. Select the [Patient Info] tab to open the patient information page.
3. Select [Discharge], a dialog box will be displayed. Select [Ok] to discharge the patient. All the monitoring data for this patient will be stored.

Method two:

1. Select the down arrow in the on-screen bed corresponding to this patient, or right click the block corresponding to this patient in the off-screen bed area;
2. In the pop-up menu, select [Discharge], a dialog box will be displayed. Select [Ok] to discharge the patient. All the monitoring data for this patient will be stored.

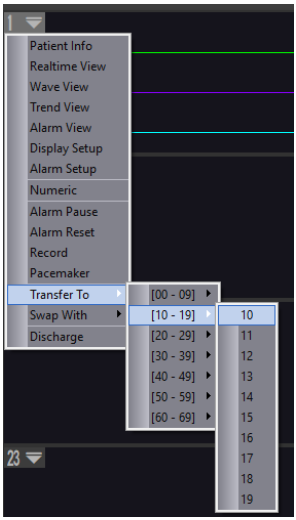
Note
When discharging a patient on Central View, the patient information on the bedside monitor will be cleared.

Note
If the patient to be discharged has no patient ID or patient name, after discharging the patient, the Central View will file the patient as a no-attribution patient.

6.5 Transferring a Patient

Patients can be transferred to other beds / monitors connected to the network.

Patient transfer refers to moving the patient from one bed (Original bed) to another bed (Target bed) during the course of monitoring.



The transfer function is as follows:

1. Select the down arrow in the on-screen bed corresponding to the patient and select [Transfer To] in the drop-down menu; or right click the block corresponding to the patient in the off-screen bed area and select [Transfer To] in the pop-up list box;
2. Select the target network bed number;
3. The system prompts [Are you sure you wish to transfer the patient?]. Select [Ok] to continue.
4. A prompt message will appear [This operation will interrupt monitoring. Continue?], select [Ok] the patient will be transferred to the target bed.

Select [Cancel] at any point to quit the patient transfer.

The original bed location will prompt [Connected. Please admit patient], the target bed prompts [Patient Disconnected].

- Upon connecting a monitor to the target bed, the patient information will be checked.
- If the patient information on the bedside monitor is different to the patient information of the transferred patient, Central View will discharge the transferred patient and then admit the monitor patient.

Note
When connecting Central View to a monitor, ensure that the patient information and ID match on the monitor and Central View.

6.6 Switching a Patient

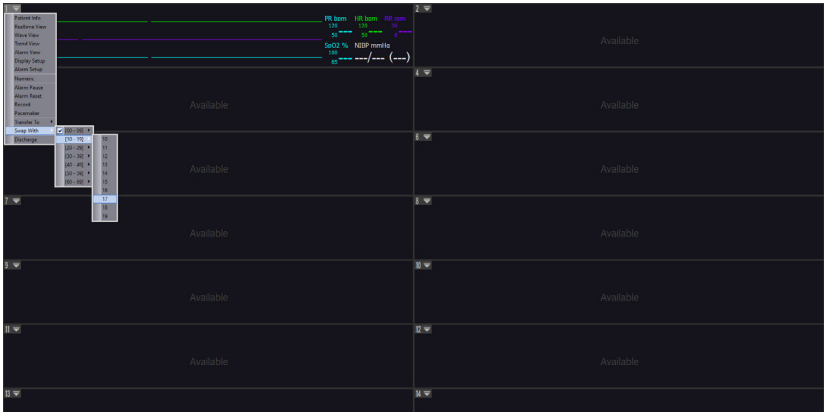
[Swap with] allows the user to switch 2 bed positions on the Central view display.

On Screen Bed

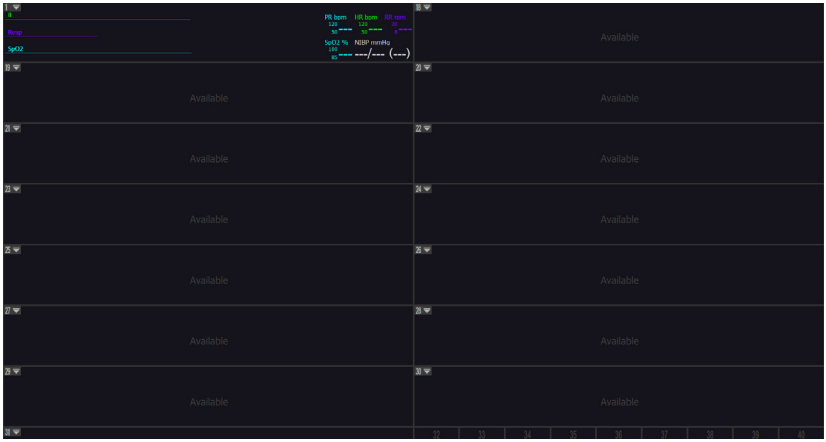
- Select the down arrow,
- Select [Swap With] in the drop-down menu
- Select the target bed

Off Screen Bed

- Right click the corresponding off-screen bed number
- Select [Swap With] in the pop-up menu
- Select the target bed



On screen bed 1 prior to switch



On screen bed 1 after switch

Note
The [Swap With] function is intended to switch the patient observation position between on-screen beds and off-screen beds, in order to observe a patient in more detail on the main screen.

7. Realtime Monitoring

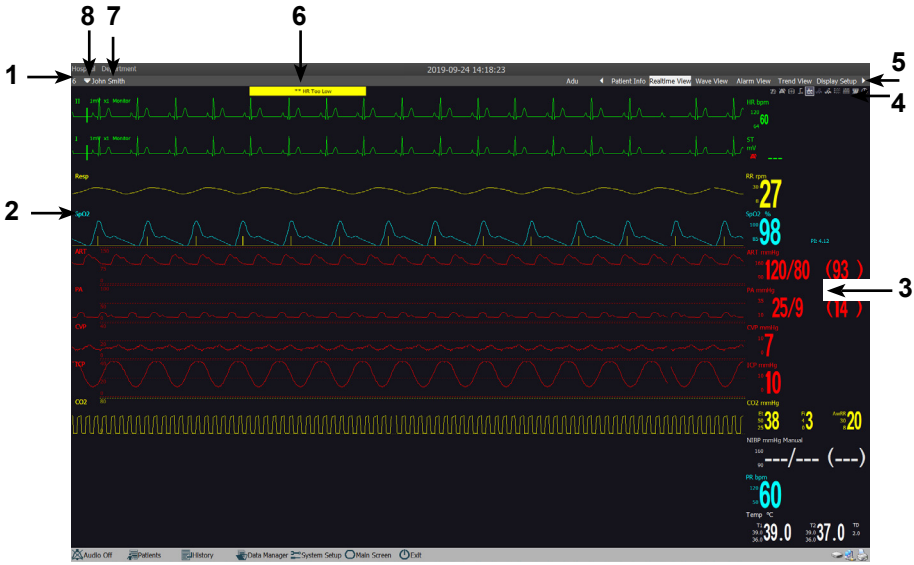
Real-time monitoring is used to perform in-depth monitoring on a single patient in real-time. The monitoring page shows patient information, waveforms and parameter values from the bedside monitor.

The real-time monitoring page can be opened in one of the following ways:

- Select anywhere in an active on-screen bed area except for the parameter area;
- Select an active off-screen bed.

Note
Central View uses the secondary display as the real-time monitoring screen.

7.1 Realtime View



Real-time monitoring

Note
If there are too many waveforms and parameters to fit on the screen a scroll bar will be added to allow the user to scroll over the full set of waveforms and parameters.

The following table describes the functionality of the different areas as indicated in the figure above.

No.	Name	Description
1	Network Bed No.	Network identification
2	Waveform area	Displays the waveform from the bedside monitor.
3	Parameter area	Display the physiological values from the bedside monitor.
4	Button area	Performs function when clicked.
5	Tabs	Switches pages when a new tab is selected.
6	Alarm message	Displays physiological alarm and technical alarm messages.
7	Patient information	Displays the patient's name.
8	Drop-down arrow	Clicking this will display a shortened version of the drop down menu containing only the [Swap With] and [Discharge] options.

7.1.1 Waveform Area

The waveform area displays the waveforms from the bedside monitor.

The vertical scroll bar can be dragged to view additional waveforms.

By right clicking on a waveform it is possible to make the following changes (using ECG as an example):

- Adjust the waveform speed
- Change the ECG filter
- Change the waveform gain setting
- Switch ECG lead
- Swap the position of waveforms

Note
The waveform display positions cannot be switched for 7-lead ECG or 12-lead ECG display.

7.1.2 Parameter Area

The parameter area displays the value of each of the parameters in a numerical format. To aid identification, the parameters are colour coded.

Drag the vertical scroll bar to view the off screen parameters.

Each parameter supports certain functionality, by clicking the parameter area a selection box will be displayed. The selection window will close automatically after 15s without any operation.

By right clicking in the parameter area it is possible to make the following changes:

- Change pressure units (NIBP, IBP and CO2 only)
- Change temperature units
- Change SatSeconds setting (Nellcor SpO2 only)
- Swap the position of parameters (PR, NIBP and Temp only)

7.1.3 Button Area

Not all of the following buttons are available on each supported monitor, refer to the relevant monitor's instructions for use for more information.

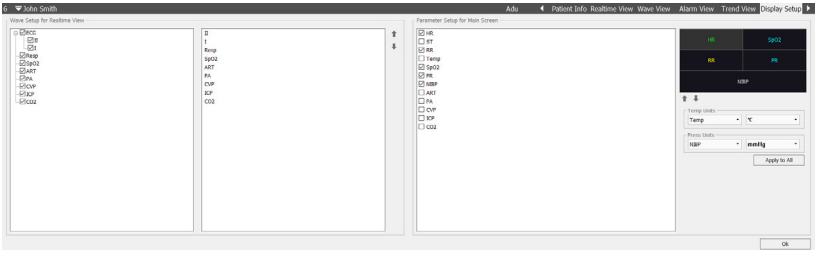
Button	Name	Description
	Alarm Reset	Resets the alarms of the corresponding monitor
	Alarm Pause	Pauses the alarms of the corresponding monitor. Select a second time to exit the pause state
	Wave freeze	Freeze/unfreeze waveforms
	Hide limits	Show/hide the upper and lower alarm limits of all parameters
	Standard	Standard display
	12-lead ECG	12-lead ECG display
	7-lead ECG	7-lead ECG display
	Dynamic trend	Dynamic short trend list
	OxyCRG	Show/hide the oxyCRG graph
	Print	Opens the print preview window
	Standby	Enter the standby mode. Exit standby mode by selecting [Cancel Standby] from the drop-down menu.

7.1.4 Display Setup

Note
Display setup discussed in this section only affect the displayed information on the Central View system, no changes are made to any connected patient monitors display configuration.

Users can organize the layout of the screen to suit local preferences.

From the real time monitoring page, select [Display Setup] to present the set up options.



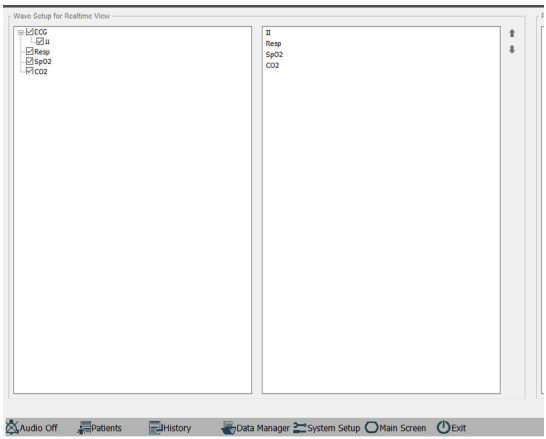
Display Setup

This page allow the re-organization and selection of both the real time waveforms and supporting parameters as they appear on the real time view and the main screen.

7.1.4.1 Wave Setup for Realtime View

To the left, [Wave Setup for Realtime View] allows the user to configure the standard view as follows:-

- Set displayed waveforms
- Set the waveform display order



Wave Setup for Realtime View

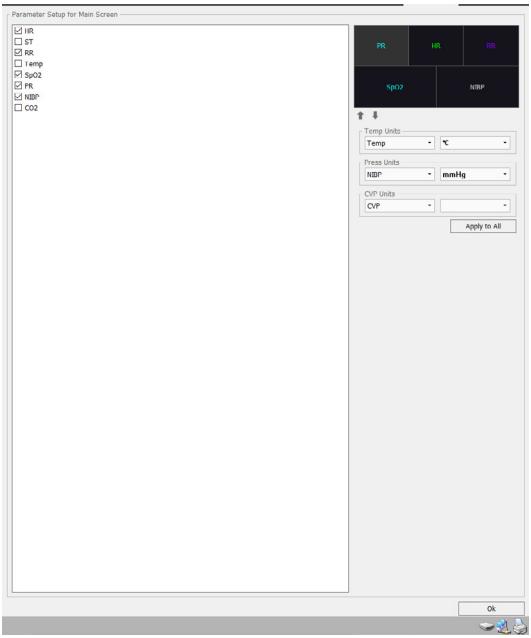
Setup operations are as follows:

- Select the check boxes next to the desired waveform labels.
- The selected waveforms will appear in the list to the right.
- Selected waveforms will be displayed on the Realtime View page.
- Select the waveform label in the list, then use the the up and down arrows or drag the waveform label to adjust the waveform display order.
- Up to 12 waveforms can be displayed on the Real-time View Page.
- If more than 12 waveforms are selected, only the first 12 will be displayed on the Real-time View page.
- The on-screen bed will display up to the first 4 waveforms on the list according to the multi-bed observation layout.
- After setting, select [Ok] to save.

7.1.4.2 Parameter Setup for Multi-bed Observation

To the right [Parameter Setup for Main Screen] allows the user to configure the on screen bed view as follows:-

- Parameter selection
- Parameter display order



Parameter Setup for Multi-bed Observation

Setup operations are as follows:

- Select the check boxes next to the desired parameter labels.
- The selected parameters will appear in the preview box to the right.
- Selected parameters will be displayed on the On-screen bed display.
- Select a parameter in the preview box, then use the the up and down arrows to adjust the parameter display order.
- Up to 5 parameters can be displayed on the On-screen bed display.
- If more than 5 parameter are selected, only the first 5 will be displayed on the On-screen bed display.
- After setting, select [Ok] to save.

7.1.4.3 Unit Selection

To the right side of the display setup page, unit selection controls are provided.

Users can select the displayed temperature and pressure values.

Temperature units

- °C
- °F.

Pressure units

- mmHg
- kPa.

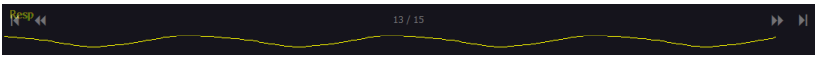
The [Apply to All] button will apply the selected settings to all online monitors.:

Note
Central View uses the secondary display as the real-time monitoring screen.

7.1.5 General Operations

7.1.5.1 Freeze Waveform

Select , to freeze the waveforms in the waveform area to review the last 240 seconds.



Frozen waveform

When the waveforms are frozen hover the mouse over the frozen waves, navigation controls and number of pages will be displayed at the top of the page.

Select or to view the frozen waveform on the next page or previous page respectively.

Select ⏮ or ⏭ to view the waveform on the first page or last page respectively.

In the frozen state, unfreeze all frozen waveforms by once again selecting ⋈ .

7.1.5.2 Hide/Show the Upper and Lower Limits

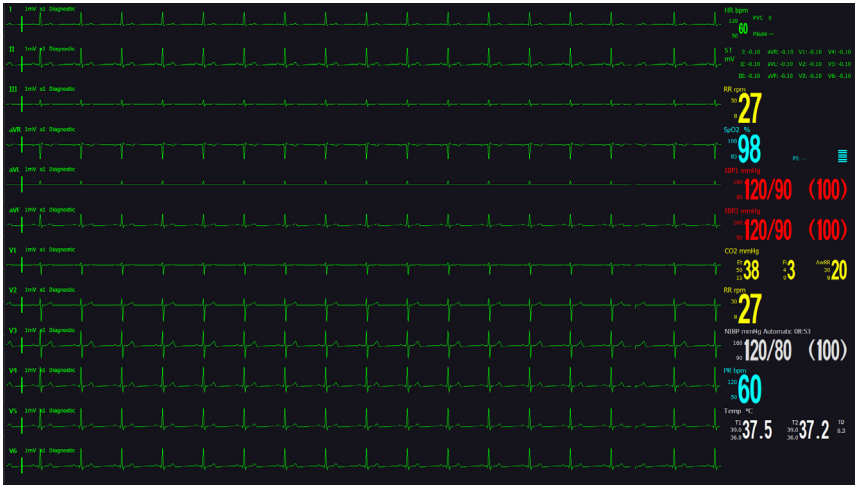
The upper and lower alarm limits are displayed to the left of each parameter, with the upper limit at the top and the lower limit at the bottom, as shown below.

Selecting ⎍ toggles the display of the upper and lower alarm limits for all physiological parameters.

Parameter upper and lower alarm limits

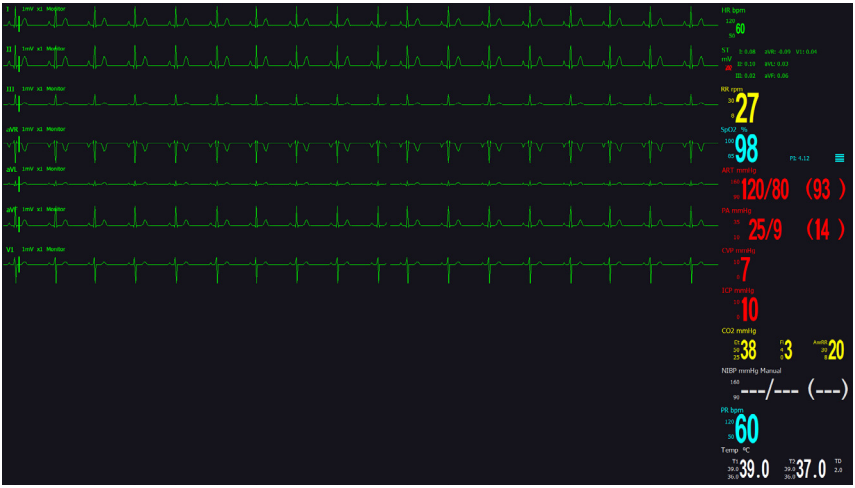
7.1.5.3 12 lead, 5 lead or standard view

When the connected patient monitor is configured for 12-lead ECG, select 12 to display all 12 ECG waveforms, as shown below;



12-lead ECG display

When the connected monitor is configured for 5-lead ECG, select to display all 7 ECG waves shown below.



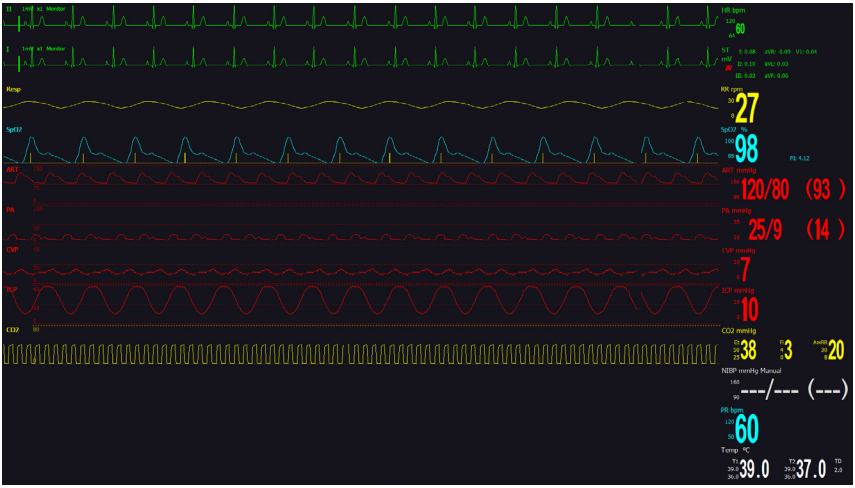
7-lead ECG display

When the monitor is configured for 3 lead ECG, and are unavailable.

When the monitor is configured for 5 Lead ECG, is unavailable.

When the dynamic short trends or oxyCRG screens are selected on the patient monitor neither the or are available.

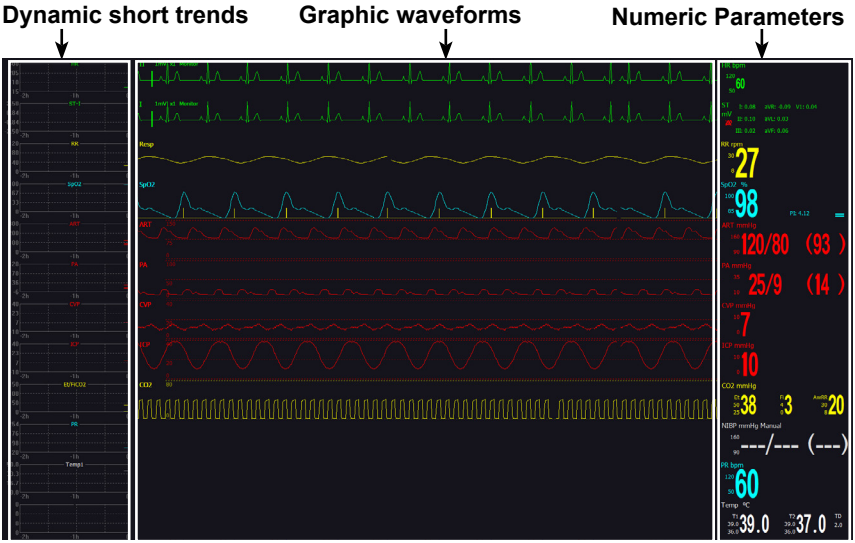
Select to revert back to standard display.



Standard display

7.1.5.4 Show/Hide Dynamic Short Trend

Select the button to display the graphic trends layout, as shown below. The colours and display order of dynamic short trend graphs are adjacent to their respective parameter.



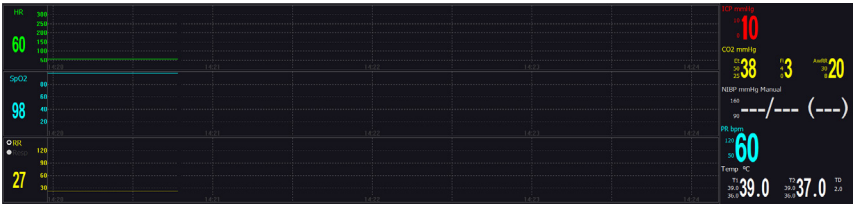
Dynamic short trend display

In the dynamic short trend graph area, it is possible to view short trends for each parameter. For each short trend graph, there is a corresponding parameter label at the top, a trend scale to the left and a time scale below. The dynamic short trends update automatically every minute and the total display time is 2 hours.

It is possible to re-arrange the position of these trends as appropriate;

1. Using the HR short trend graph as an example, right click the HR short trend graph.
2. In the pop-up box, select SpO2 parameter.
3. The system will switch the position of the HR trend with that of the SpO2 trend.

To display the OxyCRG display, select the button, the system will show the OxyCRG data as shown below:



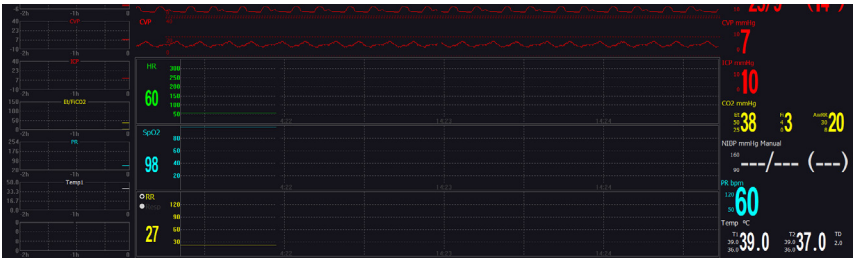
OxyCRG display

The oxyCRG is displayed in the lower part of the waveform area.

The oxyCRG can display HR trend, SpO2 trend and RR (or RESP) trend. The RR trend and RESP trend are displayed in the same position, it is possible to switch between them by clicking on the radio button.

The dynamic short trend graph and OxyCRG table can also be displayed simultaneously, as shown in the figure below.

The short trend graph is positioned to the left of the waveform area, whilst the OxyCRG is in the lower part of the waveform area.



Dynamic short trend and oxyCRG display

7.1.5.5 Printing

Printing options from the work station are as follows:-

Refer to Chapter 11 Printing for details.

Printing Standard Realtime wave report

With the 12-lead ECG waveforms displayed, select . The print preview page will open displaying the [Realtime Wave Report(12Lead)]. Select button to print.

Printing 12-lead ECG Realtime wave report

With the 12-lead ECG waveforms displayed, select .The print preview page will open displaying the [Realtime Wave Report(12Lead)]. Select button to print.

Printing 7-lead ECG Realtime wave report

With the 7-lead ECG waveforms displayed, select .

The print preview page will open displaying the [Realtime Wave Report(7Lead)] Select to print.

8. Data Review and Management

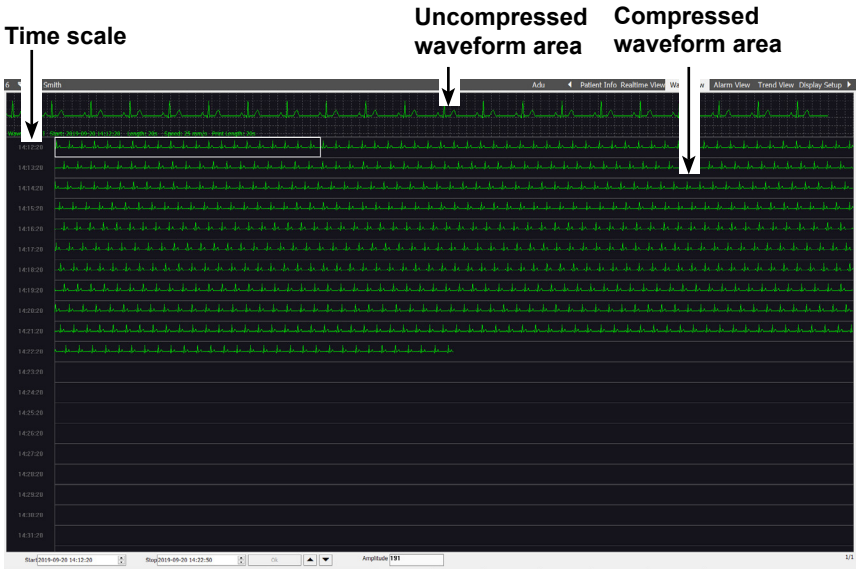
8.1 Online Review

The workstation provides data review of the following:-

- Wave review
- Alarm Review
- Trend Review

8.1.1 Waveform Review

Select [Wave View] in the real-time monitoring page to open the waveform review as shown below:



Multi-parameter waveform review

The waveform review page allows the following operations:

1. Normal View

The normal view window at the top of the display area shows an uncompressed view of the highlighted compressed waveform, this is indicated by the white box.
The waveform is supported by the following information:-

- The waveform name
- The start time
- The waveform length
- Waveform speed
- Print length

2. Compressed View

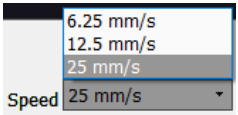
The compressed waveform area shows 1 minute of waveform data per line with each page showing 20 minutes.
When waveforms of more than 20 minutes are present
Select [Next Page] or [Previous Page] to view the waveform on the next page or previous page respectively.
Select [First Page] or [Last Page] to view the waveform on the first page or last page respectively.

3. Speed

The length of the displayed uncompressed wave is determined by the waveform speed.
The length of waveform highlighted in the compressed waveform area is determined by the waveform speed.

Select [Speed] then change the waveform length to one of the following options:-

- 6.25mm/s
- 12.5mm/s
- 25mm/s



4. Review Period Adjustment

The [Start] and [Stop] time is adjusted by selecting each of the following fields and using to set the desired time.

- day
- hour
- minute
- second
- month

5. Waveform Selection

Select [Wave Type] and select the waveform label in the drop down menu, the selected waveform will be displayed in the waveform review page.

6. Waveform display mode

When set to multiple waveforms no compressed view is provided.

- Single waveforms

Select [Display Mode]>[Single Waveforms], to a display single waveform.

- Multiple waveforms

Select [Display Mode]>[All Waveforms], to display multiple waveforms.

7. Refresh

Select [Refresh] and the waveform in the waveform review page will update.

8. Storage Setup

Users can configure which waveforms are stored by the work station.

- Select [Storage Setup],
- Select the waveforms.
- Select [Ok].

The storage location, total space, free space and estimated available time are also displayed.

The default waveforms stored on the work station are I, II, RESP and SpO2.

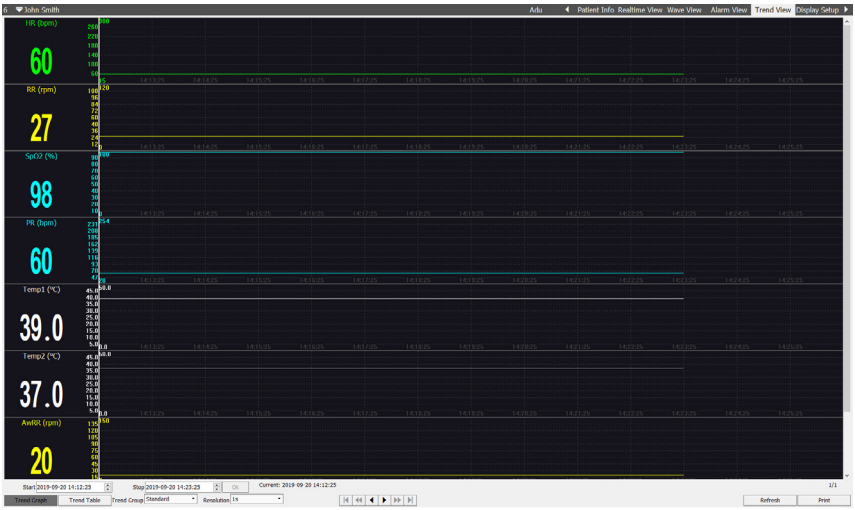
9. Print

Drag the mouse in the compressed waveform area to select the part of the waveform to be printed, and select [Print]. For specific instructions, please refer to Chapter 11 Printing for details.

Print	First Page	Previous Page	Next Page	Last Page	Refresh	Storage Setup

8.1.2 Trend Review

In the real-time monitoring page, select [Trend View] to open the trend review page, as shown below:



Trend review

Symbols	Description
◀ ▶	Move the cursor to the left or to the right by one-resolution step.
◀◀ ▶▶	Go to the previous page, or the next page.
|◀ ▶|	Go to the first page, or the last page

Select [Trend Graph] or [Trend Table] to switch between the two views.

The trend review page allows the following operations:

1. Trend review period adjustment

The [Start] and [Stop] time is adjusted by selecting each of the following fields and using ▲▼ to set the desired time.

- day
- hour
- minute
- second
- month

2. Trend View resolution

To adjust the trend view resolution, set the time interval to the desired resolution.

Selectable resolutions are:-

- 1 second
- 5 seconds
- 10 seconds
- 15 seconds
- 30 seconds
- 1 minute
- 5 minutes
- 10 minutes
- 30 minutes
- 60 minutes.

With [NIBP List] selected as the trend group, only one second resolution is supported.

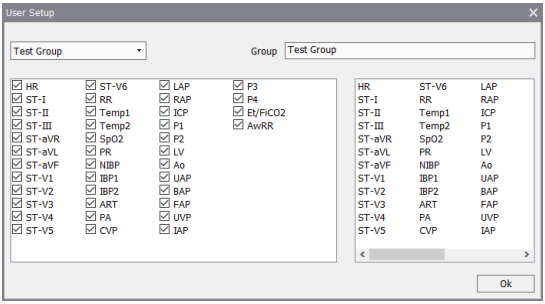
3. User Trend Group setup

The default trend groups include [All], [Standard], [ECG], [IBP List] and [NIBP List].

There are three user configurable trend groups that can be customize by the user, these are by default User 1, User 2 and User 3.

Change the Trend review groups as follows:

- Select [Trend Group] then [User Setup] in the drop-down menu, the [User Setup] window will be displayed.



The list to the left shows all available parameters that are available for selection.

The list to the right shows the currently selected parameters that are included in the trend review group.

- In the upper left corner of the user setup window, select the down arrow to select the user trend group to be modified.
- Change the Trend group name by changing the current name in the [Group] input field.
- Select the check box for each parameter required for inclusion in the trend group.
- Select [Ok] to save this user trend group.

4. Trend Graph
   - Selecting anywhere in the trend graph will move the time reference marker to select position.
   - The time relative to the reference marker position will be displayed below the trend graph.
   - Parameter values at the time reference will be displayed to the left of the trend graph.
   - Select ◀ or ▶ to move the cursor left or right by one resolution step.
5. Trend Graph View
   - Select ◀◀ or ▶▶ to view the trend graph on the next page or previous page respectively.
   - Select |◀ or ▶| to view the trend graph on the first page or the last page respectively.
6. Trend table- list length

The trend table list length can user defined.

- On the trend table review page set the [Count] input field to the desired value between 1 and 720.
- Press enter and the table will be redrawn with the desired number of trends displayed per page.

7. Refresh

Select [Refresh] and the data in the trend table/graph review page will update

8. Print
   - Select on the trend graph page, this will open the trend graph print preview.
   - Select , the trend graph review report will be printed.
   - Select on the trend table page, this will open the trend table print preview.
   - Select , the trend table review report will be printed.

8.2 Historical Review

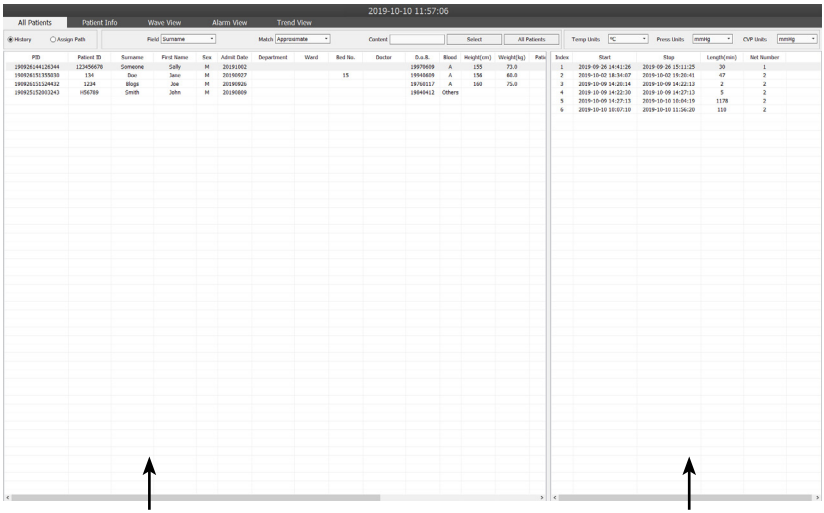
Historical review allows the user to view the patient data of previously admitted patients.

Select [History] to open the following pages:-

- [All Patients]
- [Patient Info]
- [Wave View]
- [Alarm View]
- [Trend View]

8.2.1 All Patients

Select [History] >[All Patients] to open the All Patients page, as shown below::



All patients page

Selecting the [All Patients] tab allows the user to view historical patient data or patient data from a specified folder path / server location.

All historical patient information is displayed in the patient list.

Selecting a patient will display all monitoring periods for that patient in the monitoring period list.

All Patients

All Patients page allows the following operations:

1. Historical patient search

Historical patients can be searched through a search query.

Search criteria include

- [Surname]
- [First Name]
- [Patient ID]
- [Admit Date]
- [Blood]
- [Patient Type]
- [Telephone]
- [Doctor]
- [Ward]
- [Bed No.]

Search steps are as follows:

- Select [Field] drop down menu and select the criteria to be searched.
- Select [Match] and select the match condition.
  - o [Approximate]
  - o [Exact]
- Enter the search text in the [Content] field.
- Select the [Select] button and all the matched historical patients will be displayed in the patient list box.

If no matching historical patient data is found, the patient list will be empty.

- Selecting [All Patients] will clear the search results and returns the user to the all patients list.

2. View the monitoring period of a historical patient

- Select a historical patient in the patient list box, the monitoring periods for this patient will be displayed in the monitoring period list.
- Double click a monitoring period to view the waveform, trends and alarm events for this patient in this monitoring period.

Additionally, right clicking a historical patient in the patient list allows the user to view the patient information, waveform, trends and alarm events for the selected patient.

3. Delete a historical patient

- Right click an historical patient in the patient list.
- Select [Delete] in the pop up menu.
- Enter the password; the historical patient will be deleted.

4. Assign Path

To view a patient list from a specified file path e.g. exported historical patient information

- Select [Assign Path] radio button
- Change the selected file type
- Select a previously exported patient file
- Select Open

The historical patient data from the specified path will be displayed in the patient list.

8.2.2 Patient Information

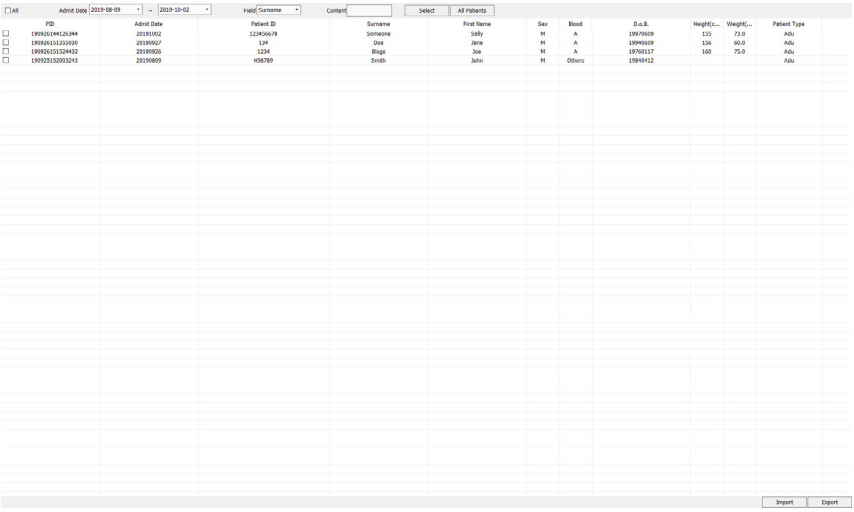
Select a historical patient in the patient list box, select the [Patient Info] tab and it is possible to view detailed patient information about the selected patient.

Note
The steps for performing waveform review, alarm review and trend review for historical patients are the same as those for online patients. Refer to 7.1 Online Review for details.

8.3 Data Management

The data management function is for the import or export of historical patient data (including patient information, waveforms, alarm events, trends, etc.). Data can be exported in Excel and Access file formats.

Select the [Data Manager] system button and enter the password to open the data management window, as shown below:



Data management window

The management window allows the import and export patient data.

To Import patient data:-

- Select [Import] located in the bottom right corner of the display
- Select the required file format
- Select the data path
- Select the patient data to be imported to Central View
- imported data can be viewed on the historical patients list.

To export patient data:

To export all the historical patient data:

- Select [All Patients]
- Select [All] checkbox to select all patients listed
- Select [Export]
- Select the export path
- Select the required file format
- Input the required file name in the file name field
- Select save to complete the export

Partial export patient data:

- Select checkboxes for the required patients data to be exported
- Select [Export]
- Select the export path
- Select the required file format
- Input the required file name in the file name field
- Select save to complete the export

Note
It is recommended to export historical patient data once a month in order to free up hard-disk storage space for future data acquisition.

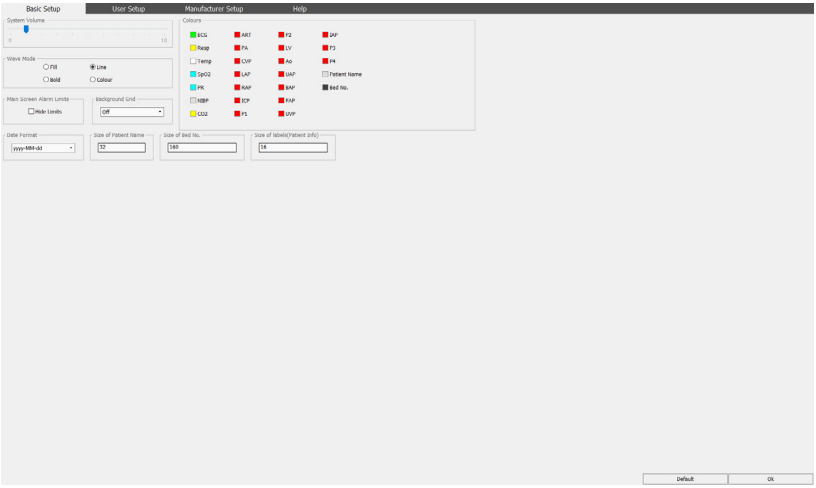
Note
Data import/export prevents the normal use of the Central View system. Import/export should be carried out when no monitoring session are in progress.

WARNING
All operating functions of Central View are disabled during the import/ export of patient data.

9. System Setup

9.1 Basic Setup

Select [System Setup] >[Basic setup] to open the basic setup page, as shown below



9.1.1 System Volume

Central View provides 10 levels of system volume from 1 to 10, and the alarm volume can be changed by adjusting the system volume.

9.1.2 Wave Mode

The Central View provides four waveform draw modes: Fill mode, Line mode, Bold mode and Colour mode.

9.1.3 Main Screen Alarm Limits

Check the [Hide Limits] to hide the upper and lower alarm limits of all main screen parameters. Uncheck [Hide Limits] to show the upper and lower alarm limits of all parameters. This operation applies to all beds simultaneously.

9.1.4 Background Grid

Select [On] or [Off] to respectively show or hide the background grid in the waveform area for multi-parameter patient monitors.

9.1.5 Colours

Set the colour of the patient's name, waveform or parameter value per parameter. On Central View, information related to the same parameter is displayed in the same colour. To set the colour of a certain parameter, e.g. Resp, select Resp, and select the colour in the pop-up window, and then select [Ok].

Note
The colour of parameter and waveform should not be the same as or similar to the background colour of Central View, or the parameters and waveforms may be illegible.

9.1.6 Date Format

Sets the date format, yyyy-MM-dd, dd/MM/yyyy and MM/dd/yyyy are available.

9.1.7 Size of Patient Name

Sets the font size to use for patient names on the main screen.

9.1.8 Size of Bed No.

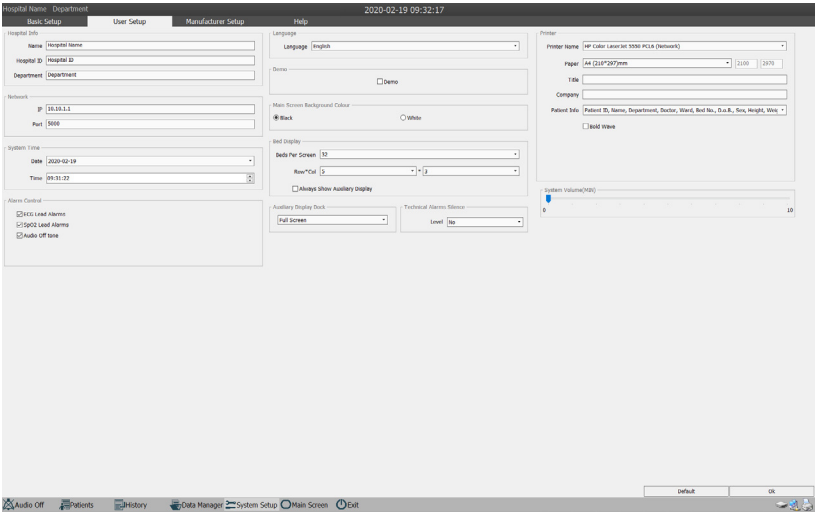
Sets the font size to use for bed numbers on the main screen.

9.1.9 Size of labels (Patient Info)

Sets the font size to use for labels on the [Patient Info] page.

9.2 User Setup

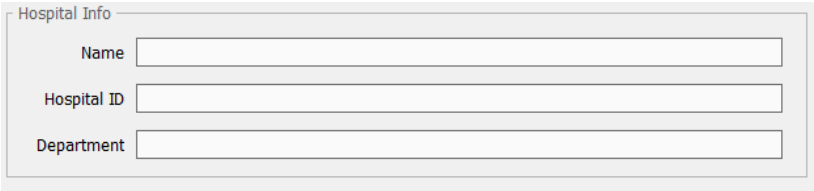
Select [System Setup]>[User Setup]>[Password], to open the user setup page.



User Setup Includes:		
Hospital Info	Network	System Time
Alarm Control	Language	Demo
Main screen background colour	Bed display	Auxiliary Display Dock
Technical Alarm Silence	Printer	System Volume

9.2.1 Hospital Information

Enter the hospital name, hospital ID and the name of the department where the patient is admitted in the [Hospital Info] fields. The hospital information will be displayed in the hospital information area on the main screen.

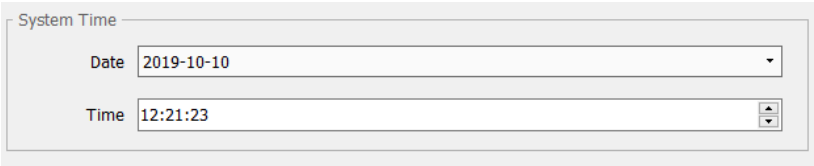


9.2.2 Network Setup

Enter the IP address and port of the Central View in the [Network] fields. When there is only one Central View in a hospital, the default port is 5000 and the default IP address is 10.10.1.1.

9.2.3 System Time Setup

Set the system time in the [System Time] field according to the local time. The system time will be displayed in the system time area on the main screen.



Note
Changing the system time during the operation of the Central View will cause all the online beds to temporarily disconnect (they will automatically reconnect). This function is to be used with caution.

9.2.4 Alarm Control

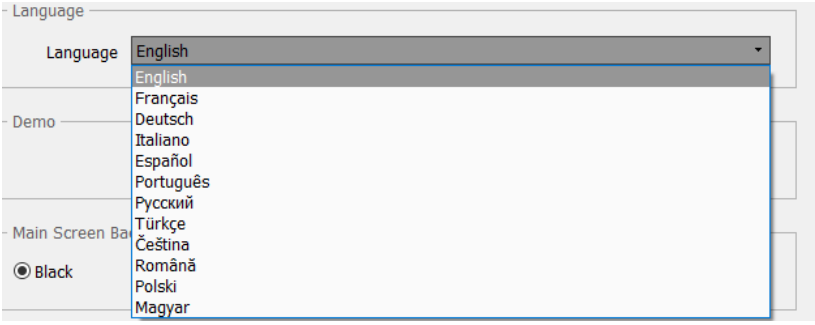
It is possible to control the following alarms:

- **ECG Lead Alarms** - Globally enable/disable ECG lead alarms
- **SpO2 Lead Alarms** - Globally enable/disable SpO2 lead alarms
- **Audio Off tone** - Enable/disable the periodic beep when Audio Off is active

Messages will be displayed on the right side of the System Information Area when any of these are disabled.

9.2.5 Language Setup

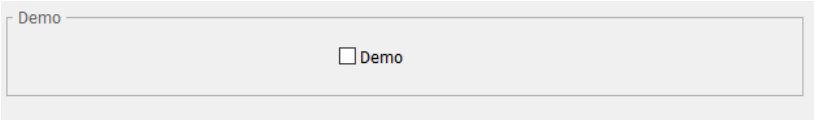
Select the down arrow in the [Language] field and select the language of Central View in the drop-down menu.



9.2.6 Enable the Demo Function

Select the [Demo] checkbox to enable the Demo mode of Central View.

To disable Demo, deselect the [Demo] checkbox.

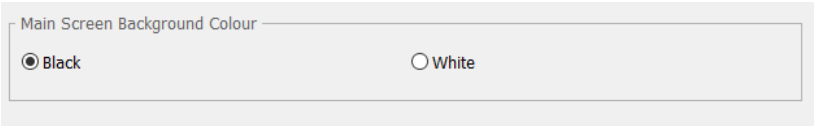


WARNING
Demo mode is a simulation of waveforms. This should only be used for demonstration and training purposes and must be disabled in actual clinical use.

WARNING
Functions that require the software to reconfigure the display may cause the application to restart.
If the application does not restart automatically then the application will need to be re-started manually.

9.2.7 Main Screen Background Colour Setup

There are two main screen styles available on Central View, the black background and the white background. To set the main screens background colour, select [Black] or [White] in the [Main Screen Background Colour] field.

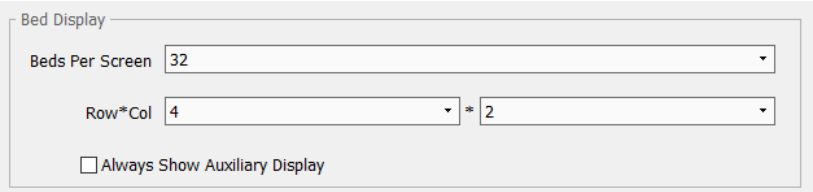


9.2.8 Bed Display Setup

Bed Display setup is to set the layout of multi-bed observation area as required. In the [Bed Display] fields,it is possible to:

- Select [Beds Per Screen] and select the number of beds displayed on the one screen.
- Select [Row*Col] (Row*Column) to set the layout of the beds in the multi-bed observation area. The row range is from 2 to 8, while the column range is from 1 to 4.

When the number of beds per screen is equal to the number of “row*column”, all the beds will be on-screen beds; when the number of beds per screen is more than the number of “row*column”, the last bed will be used as the off-screen bed area to display the status of all off-screen monitors under observation.



9.2.9 Auxiliary Display Dock

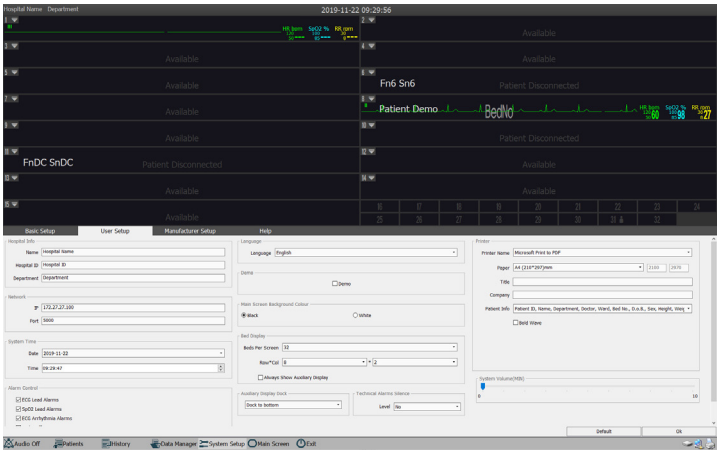
The axillary display is the area of the display used to display, settings, Patient information and History.

There are three docking positions options provided in single-screen mode.

- Dock to bottom
- Dock to Right
- Full screen

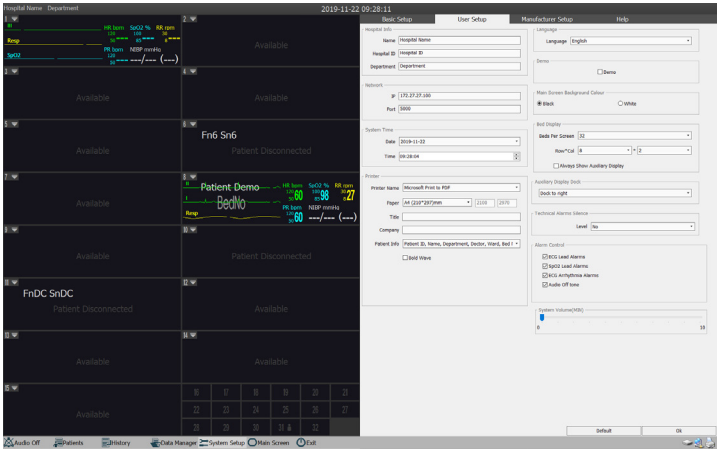
[Dock to bottom]

The auxiliary screen in single screen mode will locate itself in the lower half of the main screen.



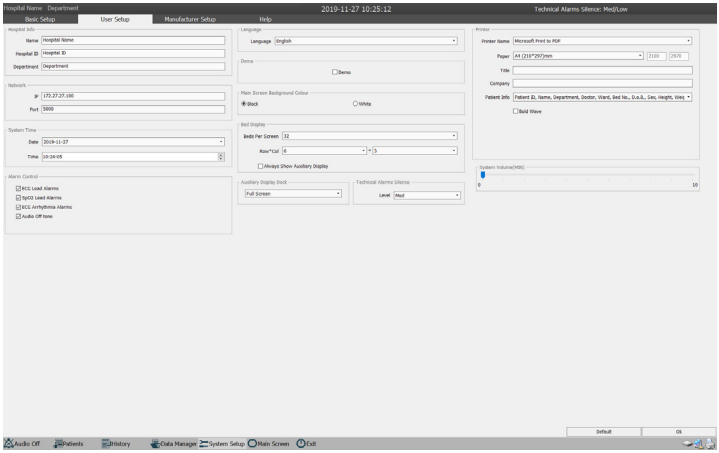
[Dock to right].

The auxiliary screen in single-screen mode locates itself in the right half of the main screen.



[Full Screen].

The auxiliary screen in single-screen mode will occupy the whole of the display.



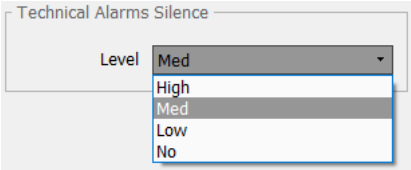
9.2.10 Technical Alarms Silence

This setting silences any technical alarms with a level equal to or lower than the selected level.

Settings:-

- [High]
- [Med]
- [Low]
- [No]

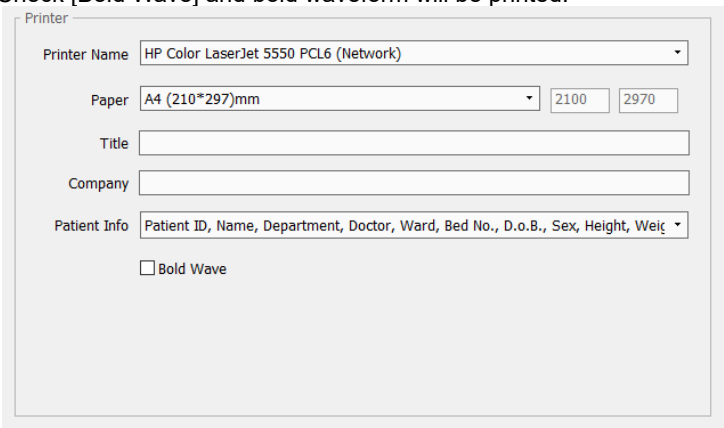
For example, with a setting of Med any technical alarm with a medium priority or low priority will be ignored.



9.2.11 Print Setup

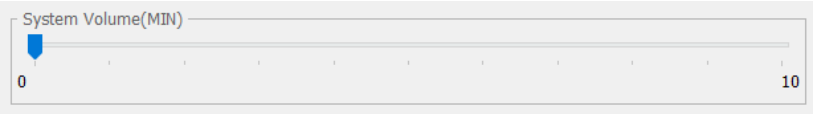
In the [Printer] fields, it is possible to:

- Select the [Printer Name] box for available printer options.
- Select the [Paper] box for available paper size options, or enter the custom paper size.
- In [Title] text entry field, enter the title which will be displayed on the reports printed.
- In the [Company] text entry field, enter the company name.
- Select the [Patient Info] box, then select the patient information to be printed.
- Check [Bold Wave] and bold waveform will be printed.



9.2.12 System Volume (MIN)

This setting controls the minimum volume that the user is allowed to set for the [System Volume] setting on the Basic Setup page.



9.3 System Help

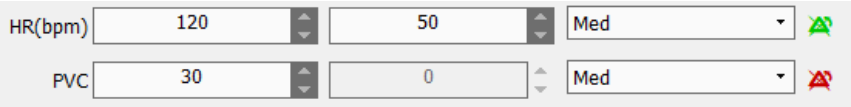
Select [System Setup]>[Help] to open the system help page, where software information is displayed including the version and the format of the database.

Note
While the system help screen is active, access to other Central View functionality may be limited.

10. Alarms

10.1 Alarm Type

The alarms on Central View are divided into physiological alarms and technical alarms.



Physiological alarms
A physiological alarm is patient specific and generated when a parameter exceeds a specific threshold established by the user.
Physiological alarms are supported by a visual indication and status message.

Technical alarms
Technical alarms or system error messages are triggered when the system detects a malfunction. An example of a technical alarm or system error message is ECG lead off or sensor fault.
Technical alarms are supported with a visual indication and status message.

10.2 Alarm Level

Based on severity, the physiological alarm given on Central View can be classified into three levels: high, medium and low.

	Physiological alarm	Technical alarm
High-level alarm	The patient is in life-threatening, imminent danger (e.g., asystole, ventricular fibrillation/ventricular tachycardia), and emergency treatment should be carried out.	Serious device failures or mis-operations (e.g., low battery) may result in failure to monitor the critical conditions of the patient, which will threaten his/her life.
Medium-level alarm	Abnormality is detected in the patient's vital signs; treatment measures should be taken promptly.	Some device failures or mis-operation may not endanger the patient's safety, but will affect normal monitoring of vital physiological parameters.
Low-level alarm	Abnormality is detected in the patient's vital signs; treatment may be necessary.	Some device failures or mis-operation may result in certain malfunctions, but will not endanger the patient's safety.

All alarm levels for technical alarms as well as some physiological alarms, have been set on the monitors as a default, and users are not able to change them. The level of some physiological alarms can be modified.

To aid with the identification, each group of priorities are assigned different colours:

- Red High priority, potentially life threatening e.g. asystole
- Yellow Medium priority, lower priority e.g. respiration alarm violation
- Cyan Low priority e.g. most INOP situations

10.3 Alarm Mode

When an alarm is generated, Central View will use the following methods to alert the user:

- Audio Alarm
- Status message
- Flashing parameter

There is a differentiation within the audio signals and alarm message to indicate different alarm levels.

10.3.1 Audio Alarm

The audible alarm tone is linked to the severity level:

- High Beep Beep Beep - - Beep Beep - - Beep Beep Beep - - Beep Beep
- Medium Beep – Beep – Beep
- Low Beep

WARNING
Both bedside monitors and Central View are provided with sound alarm function.

WARNING
When the monitor is connected to the Central View , upper and lower alarm limits are synchronised. If an alarm delay enable is enabled at the bedside, the Central View alarm will also be delayed.

WARNING
When multiple alarms of different levels are generated simultaneously, the audio and visual indications of the alarm will be given based on alarm priority level.

CAUTION
Alarms can be paused and reset at the Central View terminal.

CAUTION
Alarms can be enabled and disabled at the Central View terminal.

10.3.2 Alarm Status Message

Alarm messages are shown in the physiological alarm area or technical alarm area of the screen.

Different marks are added to the alarm status messages to indicate the alarm levels:

High-level: ***

Medium-level: **

Low-level: *

Different background colours are used to indicate the alarm levels:

High-level: Red

Medium-level: Yellow

Low-level: Yellow (Physiological Alarm) /Cyan (Technical Alarm)

10.3.3 Flashing parameter indicator

When a parameter exceeds the alarm limit, the parameter and the corresponding alarm threshold will flash once per second indicating that the measurement has violated the preset threshold.

10.4 Alarm State

In addition to the above alarm modes, the screen also displays the following alarm state icons to indicate the different alarm states.

- Indicating alarm paused.

- Indicating alarm silence.

10.5 Alarm Volume

Alarm volume can be set by any user.

Select [System Volume]>[Basic Setup] adjust the system volume to the required level.

Global alarm volume can be set from 0 to 10.

- 0 is the minimum possible volume and all audio is turned off.
- 10 is the maximum audio volume.

Setting the system volume to 0 is password protected.

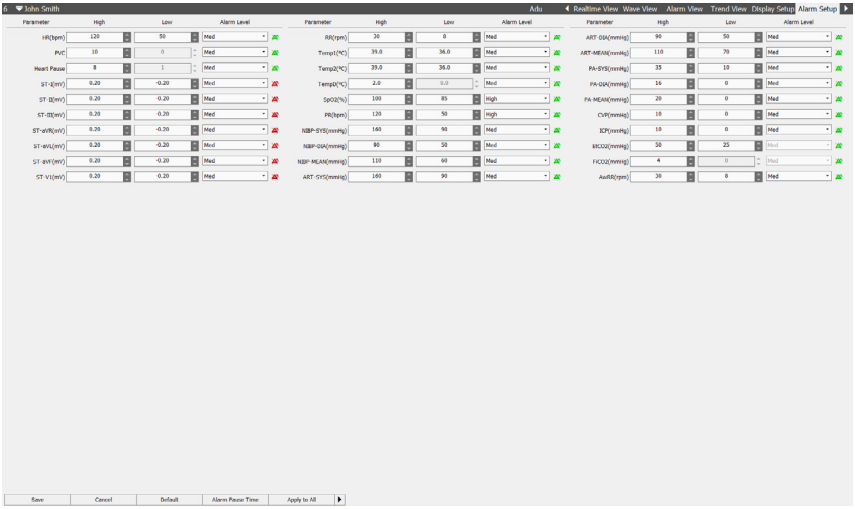
WARNING
Windows volume control overrides all Central View audio controls.

10.6 Alarm Setup

Alarm setup sets the upper and lower alarm limits and the alarm level for all parameters.

The alarm setup operation on Central View and on the bedside monitor is controlled mutually. This means that when changing the upper and lower alarm limits, and the alarm priority level on the work station, the upper and lower alarm limits and alarm priority level on the bedside monitor will change accordingly.

In the real-time monitoring page, select [Alarm Setup] tab to open the alarm setup, as shown below:



Alarm setup tab

1. On the alarm setup tab, the following options are available:
   - Set the upper and lower alarm limits and the alarm level.
   - Enable or disable the alarm function for all parameters.
   - Set the upper and lower alarm limit: select the up and down arrow to adjust the upper and lower alarm limit, or position the mouse pointer on the upper or lower alarm limit and then scroll the mouse wheel to adjust the upper and lower alarm limit.
   - Set the alarm level: select the alarm level down arrow and select the alarm level in the drop-down menu.
   - Enable or disable the alarm function: select the green icon behind any parameter and the alarm function for this parameter will be disabled when the grean icon turns to red. Select the red icon behind a parameter, and the alarm function of this parameter will be enabled when the red icon turns to green.
   - After setting, select [Save].

2. Restore factory default alarm settings.

   It is possible to restore the default alarm settings by clicking [Default] in the bottom left corner of the secondary screen and entering the password.

3. Apply the alarm settings to all beds.

   If the patient types on all bedside monitors are the same, it is not necessary to perform the alarm setup on all beds one by one. After setting the alarms for one bed, it's possible to apply the alarm settings for this bed to all beds by clicking [Apply to All].

   It's also possible to select the arrow beside [Apply to All] and select a specified bed to apply the alarm settings of this bed to the specified bed.

4. Set the alarm pause time.

   Select [Alarm Pause Time], enter the password and select the alarm pause time in the pop-up list box. Available alarm pause times include 1min, 2min, 3min, 5min, 10min and 15min.

Note
The alarm range for each parameter on Central View and the bedside monitor is the same. Please refer to the user manual of the bedside monitor for it's alarm range.

10.7 Pausing Alarm

On the real-time monitoring page, select the alarm pause icon place the corresponding bedside monitor and bed on Central View into an alarm paused state.

In the alarm paused state, the alarm pause icon will be displayed in the corresponding bed on Central View in red, and the alarm pause time will be displayed in the physiological alarm message area.

The default alarm pause time is 2 minutes and can be adjusted in the user setup page.

The bedside monitor and the corresponding bed display will exit the alarm paused state automatically after the alarm pause time.

Manually select the alarm pause icon again to exit the alarm paused state.

Note
The alarm pause function on the bedside monitor and on Central View is bi-directionally controlled. If the alarm pause function is enabled for one bed on Central View, the corresponding bedside monitor will enter the alarm paused state accordingly

11. Printing

Central View can be connected with a local printer or a network printer to print out reports.

The following can be printed on Central View; real-time waveform, 12-lead ECG, 7-lead ECG, alarm list, alarm waveform, trend graph, trend table, etc.

11.1 Print Preview

In the print preview page, the following options are available:

- Select to print the preview contents.
- Select and the preview contents can be saved as .jpg or .PDF format.
- Select to save the paper orientation.
- Select 100% to change the magnification level of the displayed print preview.
- Select to adjust the paper orientation. When the orientation of the paper changed, the display of the preview contents will change accordingly.
- Select to exit the print preview page.

Note
While the print preview screen is active, access to other Central View functionality may be limited.

11.2 Printing Operations

Printing Standard Real-time wave report

- Select to enter the print preview page, (the report is called [Realtime Wave Report]);
- Select to print the Real-time wave report.

Printing 12-Lead ECG wave report

- On the Real time monitoring page, select to display 12-lead ECG;
- Select to enter the print preview page, (the report is called [Realtime Wave Report (12 Lead)]);
- Select to print the 12-Lead ECG wave report.

Printing 7-Lead ECG wave report

- On the Real time monitoring page, select to display 7-lead ECG;
- Select to enter the print preview page, (the report is called [Realtime Wave Report (7 Lead)]);
- Select to print the 7 lead ECG wave report.

Printing Wave review report

- Select a bed.
- Select Wave View.
- In the compressed waveform area, use the mouse to select the section of the waveform to be printed.
- Select to enter the print preview page, [the report is called [Wave Review Report]
- Select to print the Wave review report.

Printing Alarm list report

- Enter the [Alarm View] tab;
- Select the button to enter the print preview page, (the report is called [Alarm Event Review Report]);
- Select to print the Alarm event review report.

Printing alarm waveform

- Select the [Alarm View] tab.
- Select an alarm event in the alarm list.
- he corresponding alarm waveform will be displayed, showing 16 seconds before and after the alarm event together with parameter values at the time of the alarm event.
- Select [Print Wave] to enter the print preview page (the report is called [Alarm Wave Review Report].
- Select to print the Alarm wave review report.

Print trend graph

- Select [Trend View]>[Trend Graph]
- Select the trend group and set the desired resolution
- Select [Print] to enter the print preview page, (the report is called [Trend Graph Review Report]).
- Select to print the trend graph review report

Print trend table

- Select [Trend View]>[Trend Table]
- Select a trend group
- Set the resolution
- Select [Print] to open the print preview page, (the report is called [Trend Table Review Report]).
- Select to print the trend table review report.

12. Technical Specifications

Minimum hardware configuration	
Components	**Requirements**
Operation system	Microsoft Windows 10 Professional 64 bit
Display	24 inch
Resolution	1920 x 1200
Network card	PC with integrated 10M/100M adaptive Ethernet NIC
Graphics card	256M or above independent video memory
CPU	2.1GHz or above Intel dual-core CPU
Memory	8GB or above
Hard disk	1TB or above
Sound card	16 bits

Note
It is preferable for the loudspeakers to be integrated in the display.

Note
The above minimum configuration is subject to change without prior notification due to product upgrades.

Review	
Dynamic short trend	2 hours
Trend review	Trend table and trend graph, mass storage
Waveform review	Mass storage
NIBP review	Mass storage
Alarm review	Mass storage of Alarm events including the all parameter values at the alarm moment and waveform of 16s before and after the alarm moment.

Printing	
Print paper	A4, A5, B5 (195*245)mm, B5 (182*257)mm, B5 (176*250)mm, C5, 16K, user defined
Print contents	Real-time waveform, 7-lead ECG, 12-lead ECG, waveform review, trend table, trend graph, alarm event list, alarm event review, patient information.

Data import and export	
File format	Binary file
Storage medium	Mobile hard disk, flash drive
Contents	Patient information, waveform data, parameter trend data, alarm events.

Environmental	
Operating conditions	Refer to original manufacturers data provided with each of the system components.
Transport conditions	Refer to original manufacturers data provided with each of the system components
Storage conditions	Refer to original manufacturers data provided with each of the system components.

13. Trouble-shooting

Due to the nature of the system, it is not possible to cover all possible areas of trouble-shooting in this manual. This section includes first-line trouble-shooting relating primarily to difficulties in using the system. For more in-depth system support refer to your system administrator

Problem	Possible solutions / explanations
Screen is blank	Check the screen is connected to mains power. Check the power is switched on at the mains socket. Check the screen on/off switch is on. Most screens have a small green or amber light – confirm that this is lit. A blank screensaver may have been activated – move/click the mouse or enter a keystroke on the keyboard to re-activate screen. The computer may have been switched off.
System not responding	Check connections between the computer, keyboard, mouse and the network socket. Refer to your administrator – the server may need to be shut-down and re-started – do NOT attempt to do this unless authorised and trained.
Mouse / Keyboard not responding	Check cable and connection
Print-outs not printing	Check the printer is switched on, is 'On-line' and has sufficient paper loaded. For ink-jet printers, the ink cartridge may need replacing – refer to the printer manual for details. For laser printers, the toner may need replacing – refer to the printer manual for details.
System error message appears on screen	During system maintenance, while shutting down or re-starting the system, error messages may appear – these will normally clear themselves after a short delay. If the message does not clear after ~1 minute, contact your system administrator or first line support team.

14. System maintenance

14.1 General maintenance

Scheduled maintenance is required to back up the patient database.

This is subject to local policy and must be managed by your IT department.

For further information on Data export please refer to section 8.3 Data management.

IMPORTANT: In the event of hardware failure, software bugs or other system related problems, disk storage overflow, etc., data may be lost at any time. Note that data may also be lost in the event of network issues and other infrastructure issues which are managed by and remain the responsibility of the customer. The customer is responsible for ensuring that regular back-ups of the database are kept in accordance with established industry practice, local protocols and guidelines. Failure to do so may result in total loss of all patient information, waveforms, records, etc.

Huntleigh Healthcare cannot, under any circumstances, accept any responsibility for loss of, or corruption of, any stored data relating to Central View. Such data is the property of the customer who is solely responsible for protecting it.

It is recommended to perform routine general PC maintenance, for further information on general maintenance please refer to installation guidelines

If you have maintenance contract cover, contact your system administrator or supplier for details. Note that this does not include data back-up which at all times remains the responsibility of the customer.

15. Service support

First-line support is provided by your local super-user or local IT support. For service support & details of maintenance contracts, contact your supplier.

15.1 Licence renewal

The use of this software is controlled by a licence key. To extend or renew your licence, or to add software options, refer to the installation instructions supplied with the product. Contact your supplier for further information on options, upgrades & support.

This section is only applicable to United Kingdom (UK) market when UK marking is applied to the Arjo medical device labelling.

UK Symbol:

UK CA 0086	UK marking indicating conformity with UK Medical Devices Regulations 2002 (SI 2002 No 618, as amended) Figures indicate UK Approval Body supervision.

UK Responsible Person & UK Importer:

Arjo (UK) Ltd., ArjoHuntleigh House, Houghton Regis. LU5 5XF

Is the appointed UK Responsible Person as defined in UK Medical Devices Regulations 2002 (SI 2002 No 618, as amended).

For Northern Ireland (NI) CE marking will still apply until further amendment to applicable regulations.

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If a serious incident occurs in relation to this medical device, affecting the user, or the patient then the user or patient should report the serious incident to the medical device manufacturer or the distributor.
In the European Union, the user should also report the serious incident to the Competent Authority in the member state where they are located.

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