




SAFETY

Safety checks

- General overview of system integrity, system is visually clean, all required accessories are available and suitable for patient group
- Check integrity of accessories, ensure mains lead is plugged in and that mains power is on

Disabling the touchscreen

- Press and hold the **Main Menu** quick key and slide as directed by the arrow. A padlock symbol  displays above the main menu quick key if the touchscreen is disabled
- The touchscreen lock period is configurable. To do so, follow this procedure:

Access **Display** by either of the following ways:

- Select the **Screen Setup** quick key → select the **Display**
 - Select the **Main Menu** quick key → from the **Display** column select **Display**
 - Set **Screen Lock Duration**
- The touchscreen is enabled when the pre-set time is reached
 - To manually enable the touchscreen, press and hold the **Main Menu** quick key and slide as directed by the arrow

Cleaning

- Adhere to the **Operators Manual** for advice on cleaning agents
- Follow hospital policy, but with an awareness that agents utilised by the hospital may cause damage to the monitor over time

Please Note: Some items that connect to the system are single patient use

N1

Removing and Inserting the N1

- Press the tab located on the underside of the N1 module and remove from the module housing
- Insert the N1 by sliding the module into the housing until a click is heard
- The monitored parameter waveforms appear on the host monitor screen
- Two green LEDs are illuminated on the front of the N1 module

N1 Battery

- Up to 8 hours within optimal conditions (powered by a new, fully charged battery at 25°C, ECG, SpO₂, auto NIBP measurements @ 15 min intervals)
- Battery life reduced to approximately 3 hours when using N1 and transfer CO₂ unit under the conditions stated above

N1 Storage

- Ensure the N1 is docked. When the host monitor is connected to AC mains power and in Standby, the N1 will receive a battery charge
- If the host monitor is switched off and connected to AC main power, only the host monitor receives a battery charge

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PATIENT ADMISSION & DISCHARGE

The monitor admits a new patient in the following situations:

- After a patient is manually discharged
- After being switched off for the selected time period
- If the monitor has not detected certain patient vital signs (ECG, SpO₂, PR, RR, NIBP) for 30 minutes, the user will be prompted whether to start monitoring a new patient if the vital signs are detected again

Admitting a patient

- Select the **Patient Management** option from the **Discharged Screen**
- OR
- Select **Patient Management** quick key
 - Enter patient details in the **Patient Management** window
 - Ensure the correct Patient Category (**ADU, PED or NEO**) and **Paced** status is selected
 - Select **Ok** when complete

Please Note: When docking the N1, if the patient information in the host monitor are inconsistent with those in the N1, a **Select Patient** menu may appear

Discharging a patient

Manually discharge a patient by selecting either of the following methods:

- Patient information area at the top left corner of the screen
- Patient Management quick key → Discharge Patient
- Main Menu quick key → from the Patient Management column select Discharge
- Two finger swipe in a downwards direction on the touch screen

Select an option from the Discharge Patient menu:

- **Selecting Print End Case Report:** discharges the patient and prints the end case report
- **Discharge:** discharges the patient and displays the Discharged screen. The monitor loads the default configuration and enters Standby Mode
- **Clear Patient Data:** all patient data is deleted from the monitor

SpO₂

Selection and application of the SpO₂ Sensor

- Different sensors are available for finger and earlobe placement, and as reusable / single patient use
- Sensor selection should depend on the weight range of the patient (see sensor packaging)
- The finger sensor should be fitted with the finger diagram uppermost
- Incorrect sensor placement can result in less than optimum measurements

Perfusion Index (PI)

- This is the numerical value for the pulsatile portion of the measured signal caused by arterial pulsation
- PI is an indicator of pulsatile strength, and is also used to assess the quality of an SpO₂ measurement
 - Above 1 is optimal
 - Between 0.3 and 1 is acceptable (displays with a **yellow** background)
 - Below 0.3 indicates low perfusion (displays with a **red** background)
Reposition the SpO₂ sensor or find a better sensor location. If low perfusion persists, choose another method of measuring oxygen saturation if possible

Low PI value



- This example displays a low PI of 0.2 indicating that the pulse is weak
- The PI value highlighted in **RED** offers a visual indicator of the PI status
- A '?' is displayed, as a further visual indication that the measurement may be unreliable

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CrozFusion™

- The ECG signal and the Pleth wave signal are analysed together to achieve more accurate arrhythmia analysis and HR/PR measurements
- The ECG SQI, Pleth SQI and signal fusion status are displayed when the Crozfusion™ function is enabled.
- If the Crozfusion™ function is disabled, ECG Signal and the leth wave signal will not be analysed together and the ECG SQI and Pleth SQI are not displayed



The quality of both ECG and Pleth signal is good and are independently analysed



The quality of the Pleth signal is poor. The PR value may be erroneous. The ECG signal is being used to correct the PR value



The quality of ECG signal is poor. The HR value and arrhythmia analysis may be erroneous. The Pleth signal is being used to correct the HR value

NIBP

Selection and application of the NIBP Cuff

- Select an appropriately sized cuff by referring to the limb circumference marked on the cuff
- Apply the cuff to the patient's upper arm or leg, ensuring the marking on the cuff matches the artery location
- The cuff should fit snugly, but with enough room for two fingers to be placed between the cuff and the patient's limb (on adults) and loosely on neonates with little or no air present within the cuff
- Do not use NIBP cuff on limb with an Intravenous Infusion or arterial catheter in place
- The middle of the NIBP cuff should be in line with the right atrium of the heart
- An incorrect cuff size may give inaccurate readings

Starting & Stopping NIBP measurements

- Start and stop NIBP measurement by selecting one of the options below:

Task	By Quick Key	From NIBP menu
Start a manual measurement	NIBP Start/Stop quick key	Start NIBP button
Start auto NIBP series	NIBP Start/Stop quick key	Setup tab → set Interval → Start NIBP button
	NIBP Measure quick key	
Start sequence NIBP measurement	NIBP Measure quick key → Sequence	Sequence tab → set NIBP sequence → Start NIBP button
Start STAT measurement	NIBP STAT quick key	STAT button
	NIBP Measure quick key → STAT	
Stop the current NIBP measurements	NIBP Start/Stop quick key	Stop NIBP button
End auto NIBP series	Stop All quick key	Stop All button
Stop STAT measurement and end series	NIBP Start/Stop quick key	Stop NIBP or Stop All button
	NIBP STAT quick key	

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IBP

Changing invasive blood pressure labels

- Select the IBP numeric area or waveform area to enter the corresponding pressure menu → **Setup** → Set **IBP1** or **IBP2** Label

Please Note: The pressure label is a unique identifier for each type of pressure, therefore, you should select a proper pressure label for the source of the pressure you want to monitor

Zeroing pressures

Zero the transducer by one of the following methods:

- Press the **Zero** hard key on the module
- Select the numeric area (such as the Art numeric area), and then select **Zero** option
- Select the **IBP Zero** quick key

Please Note: After the zero calibration is completed, close the three-way valve to the air and open to the patient. Ensure that the valve cap is reconnected as the final operation

CO₂

CO₂ measure & Standby modes



- Press the **Measure / Standby** hard key on the CO₂ / Anaesthetic Gas module.
- Select the CO₂ numeric area or waveform area to enter the CO₂ / AG menu → **Setup** → Set **Operating Mode** to **Measure / Standby**

GLASGOW COMA SCORE (GCS)

Performing GCS scoring on the patient monitor

Enter the GCS menu by selecting either:

- **GCS** quick key
- OR
- **GCS** parameter area

To perform scoring:

- Select an option from each column that represents the status of the patient, select **OK** to accept the total score.
- Select interval to set GCS scoring time interval

GCS		
• Eye opening	• Verbal Response	• Motor Response
Eyes open spontaneously (4)	Oriented and converses (5)	Obeys verbal commands (6)
Eyes open to verbal Command (3)	Disoriented and converses (4)	Localizes pain stimuli(UE) (5)
Eyes Open only with painful stimuli (2)	Inappropriate words (3)	Withdraws from pain stimuli (4)
No eye opening (1)	Incomprehensible sounds (2)	Flexor Posturing to pain stimuli (3)
	No verbal response (1)	Extensor Posturing to stimuli (2)
		No Motor Response (1)
Total Score 15		Confirm
Interval	4hr	

1. Sub score
2. Total score

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REVIEWING PATIENT DATA

Triggering & reviewing a manual event

- You can initiate a manual event by selecting the **Manual Event** quick key
- Manually triggered events can be viewed via the **Review** quick key → **Events**



- The monitor stores events in real time, including technical alarm events, physiological alarm events, manual events and operational events
- When an event occurs, up to 16 seconds of data prior to, and following the event, are stored
- Event type indicator: different colour blocks match different types of events:
 - **Red**: high priority alarm event
 - **Yellow**: medium priority alarm event
 - **Cyan**: low priority alarm event
 - **Green**: manual event
 - **White**: operation-related event

Displaying tabular trends & changing the viewable data interval

- **Review** quick key → **Tabular Trends**
- Select **Interval** option at the bottom of the **Tabular Trends** review window

ALARMS

Setting alarm limits

- **Alarm** quick key
- OR
- **Main Menu** quick key → **Setup** from the **Alarm column**
- OR
- Individual alarm settings can also be accessed from each parameter menu

Then select desired buttons to set alarm properties

Alarm Reset



- The alarm sound is silenced
- A ✓ appears before the alarm message, indicating that the alarm is acknowledged
- The colour of the parameter numeric background corresponds with the alarm priority, but the parameter numeric does not flash

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Alarm Pause / Audio Pause

Depending on system setup

- **Alarm Pause** quick key will temporarily disable all alarm indicators for a pre-set length of time



When alarms are paused, the following rules occur:

- No physiological alarm will be presented
- For technical alarms, alarm sounds are paused, but alarm lamps and alarm messages remain presented
- The remaining alarm pause time is displayed in the physiological alarm information area
- The alarm pause symbol is displayed in the system information area

- **Audio Pause** quick key pauses the **alarm tone only** for a pre-set length of time



Please Note: When the alarm pause/audio pause time expires, the alarm/audio paused status is automatically deactivated. You can also cancel the status by pressing the Alarm Pause/Audio Pause quick key

GENERAL OPERATION

Loading configurations

Changes can be made to some settings during operation. However, these changes or the pre-selected configuration may not be appropriate for the newly admitted patient. The monitor allows you to load a specific configuration

To load a configuration, follow this procedure:

N1

- Select the **Main Menu** quick key → **Load Configuration** → Select desired configuration → **Load** → **OK**

Host monitor

- Select the **Load Config** quick key → Select desired configuration → **Load** → **OK**

OR

- Select the **Main Menu** quick key → turn to second page → from the Configuration column select **Load** → **OK**

Night Mode

This is a clinical monitoring mode which allows you to avoid disturbing the patient, by enabling the user to preset specific volume and screen brightness levels

- **Night Mode** quick key → Adjust settings as required → **Enter Night Mode**

OR

- **Main Menu** quick key → from the Display column select **Night Mode** → Adjust settings as required → **Enter Night Mode**

To cancel night mode

- **Exit Night Mode** quick key → **Ok**

OR

- **Main Menu** quick key → from the Display column select **Exit Night Mode** → **Ok**

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Standby Mode

Temporarily stops patient monitoring without shutting down the monitor by entering standby mode

- **Standby** quick key → Select **Location** if desired → **OK**

OR

- **Main Menu** quick key → from the Patient Management column select **Standby** → Select **Location** if desired → **OK**

In standby mode, the monitor behaves as follows:

- All parameter measurements are suspended
- All alarm and prompt messages are suspended, except for the battery low alarm
- Screen brightness is reduced after 30 seconds

To exit standby mode, choose one of the following:

- **Resume Monitor** to exit standby mode and resume monitoring the current patient
- **Discharge Patient** to discharge the current patient
- **New Patient** to exit standby mode and admit a new patient

If the monitor automatically enters standby mode after a patient is discharged, choose one of the following:

- **New Patient** to exit standby mode and admit a new patient
- **Pre-admit** to enter patient information in preparation to admit a new patient