


GE Healthcare
Technologies

 **GE Medical Systems**
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SUPPORT**
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Dash Series V6

Quick Reference Guide



Dash Series V6 Table of Contents

-  01.0 Equipment Overview
Pages 01.01 - 01.09
-  02.0 Basic Use - Admit/Discharge
Pages 02.1 - 02.12
 - 02.01 The Basics
 - 02.03 Monitoring Admit Modes
 - 02.03 Standard
 - 02.05 Patient Demographics
 - 02.06 Rover
 - 02.08 Combo
 - 02.10 Rover-Combo
 - 02.12 Silence Alarm
-  03.0 ECG/Pace
Pages 03.01 - 03.12
 - 03.01 ECG
 - 03.10 Pace
-  04.0 12-Lead ECG/ST Analysis
Pages 04.01 - 04.08
 - 04.01 12-Lead ECG
 - 04.04 ST Analysis
-  05.0 NBP
Pages 05.01 - 05.06
-  06.0 SPO₂
Pages 06.01 - 06.08
 - 06.05 Masimo SET[®]
 - 06.06 Nellcor OxiMax[®]
 - 06.07 GE Ohmeda

Dash Series V6
Table of Contents

■ 07.0 Respiration/Temperature
Pages 07.01 - 07.04

■ 08.0 Invasive Pressure/PA
Pages 08.01 - 08.12
08.07 IABP
08.08 PA Insert/Wedge

■ 09.0 Cardiac Output
Pages 09.01 - 09.04

■ 10.0 Alarm Control
Pages 10.01 - 10.08
10.01 Alarm Structure
10.05 Arrhythmia Alarm Level
10.06 Parameter Alarm Level

■ 11.0 Patient Data
Pages 11.01 - 11.06
11.01 Alarm History
11.02 Vital Signs
11.03 Graphic Trends
11.04 Dose Calculations
11.05 Titration Table
11.06 Cardiac Calculations

■ 12.0 Monitor Setup
Pages 12.01 - 12.06
12.01 Waveforms On/Off
12.02 Parameters On/Off
12.03 Graph/Print Setup
12.06 Display Mode

■ 13.0 View Other Patients/AVOA
Page 13.01

Dash Series V6 Quick Function Key Icons



Power
Press once to turn the monitor On or Off.



Silence Alarm/Admit
Press Silence Alarm to control audible alarms. Also serves as a Quick Admit key.



Zero All
Press once to zero all invasive pressures lines which are open to the atmosphere.



NBP Go/Stop
Press once to start the noninvasive blood pressure measurement. Press again to stop the measurement.



Graph Go/Stop (3000/4000) Print (5000)
Press once to print patient data or an information window. Press again to stop the print job.



Standby (5000 only)
Press once to enter the Standby mode. Press again to return to the normal mode.



Admit/Discharge (5000 only)
Press once to admit the patient. Press again to discharge an admitted patient.



NBP Auto (5000 only)
Press once to view the NBP Auto menu. Select one of the 13 pre-defined time intervals or select CUSTOM to create a new automatic measurement interval cycle for the patient.



Trend (5000 only)
Press once to display patient trends. The type of trend displayed depends on the factory or custom default setting.

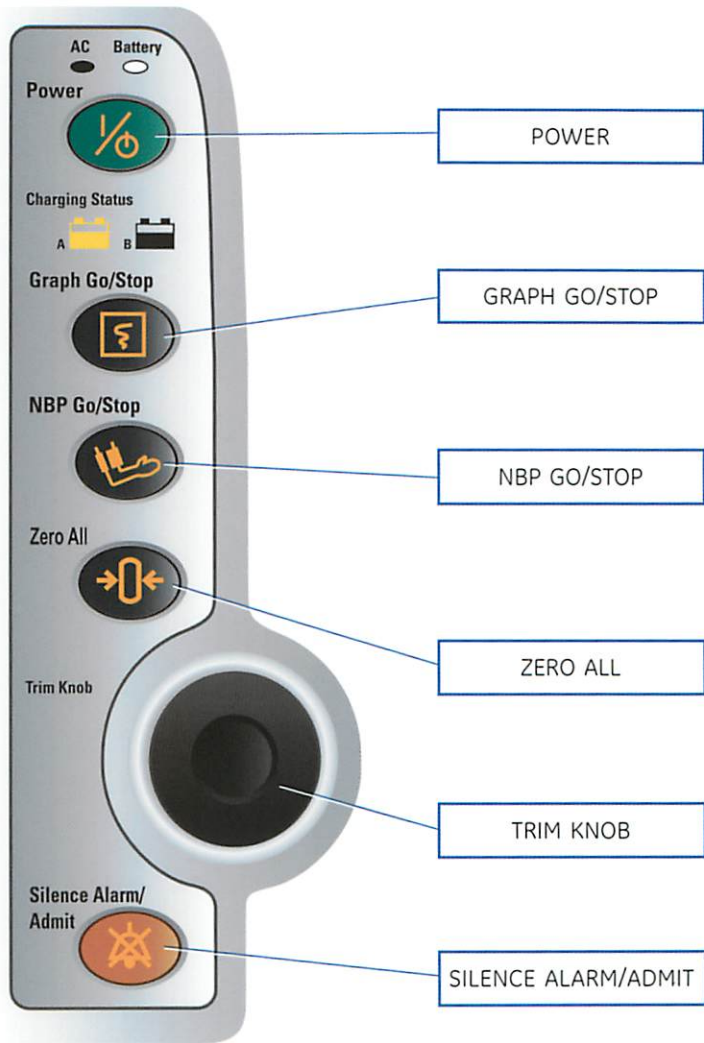


Main View (5000 only)
Press once to close all open menus and information windows and return to the main display.

Dash 3000

■ Control Panel

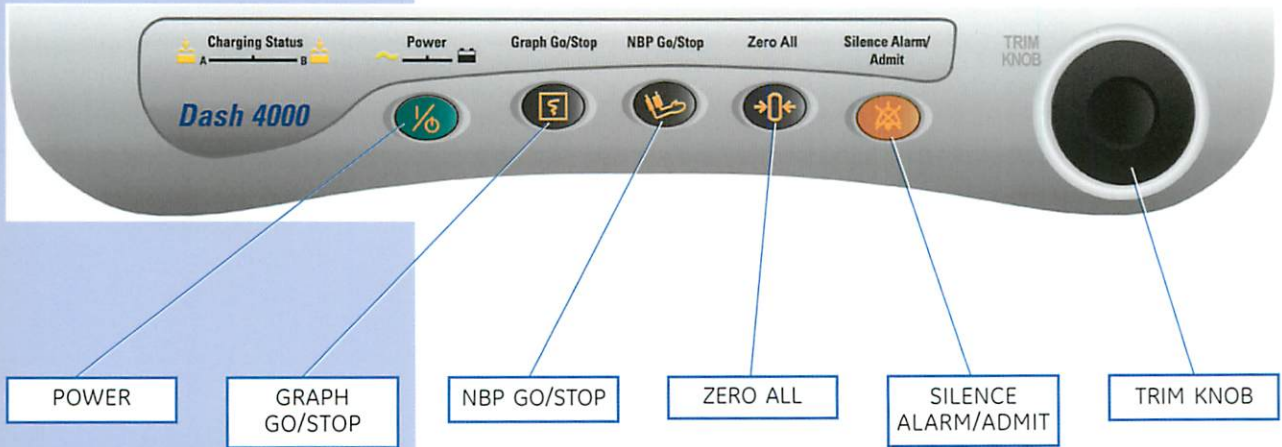
- Quick function keys
 - Provides direct action to certain options.
 - Trim Knob: Turn and push.



Dash 4000

■ Control Panel

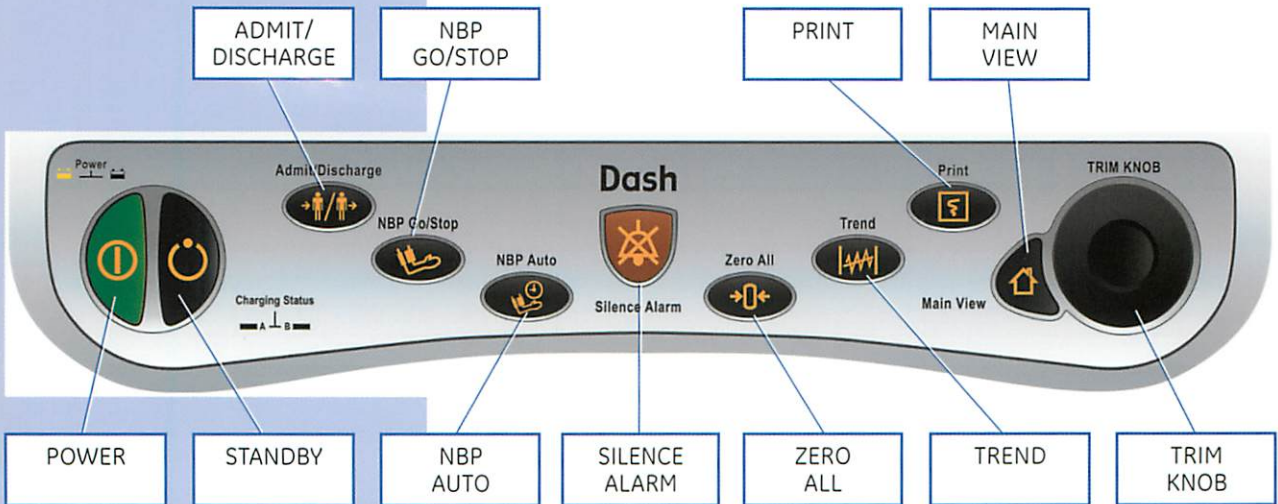
- Quick function keys
 - Provides direct action to certain options.
 - Trim Knob: Turn and push.



Dash 5000

■ Control Panel

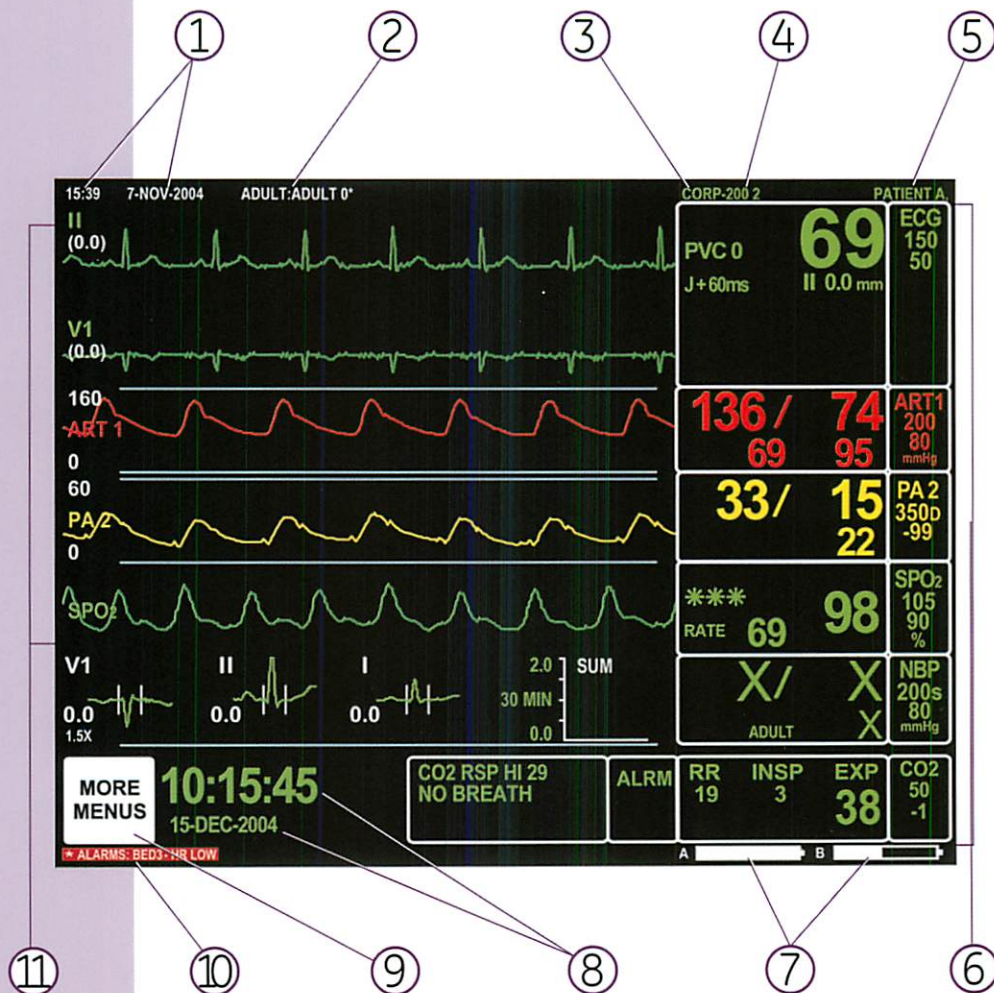
- Quick function keys
 - Provides direct action to certain options.
 - Trim Knob: Turn and push.



The Basics

■ Display

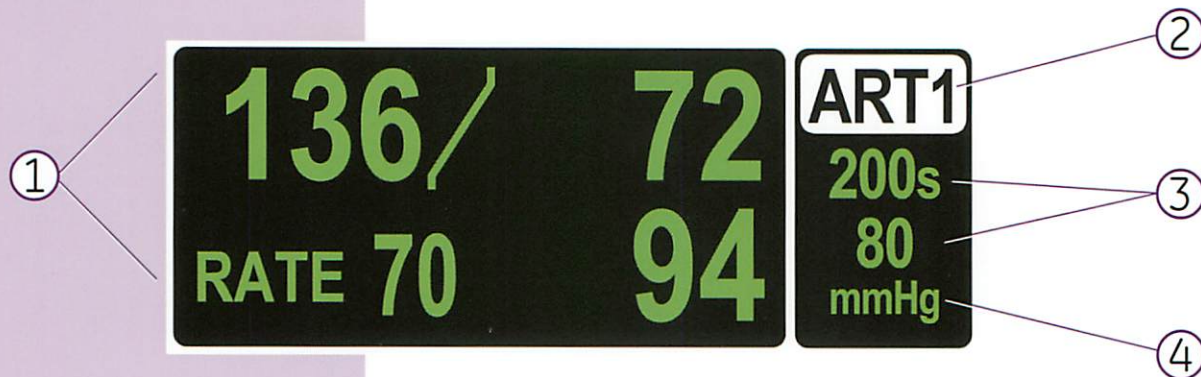
- 1 Time and Date
- 2 Factory or Custom Default Name
- 3 Care Unit Name
- 4 Bed Number
- 5 Patient Name
- 6 Parameter Windows
- 7 Battery Gauge
- 8 Optional Large Clock/Date
- 9 More Menus
- 10 Message Line
- 11 Waveforms



The Basics

■ Parameter Window

- 1 Digital Values
- 2 Parameter Window Label
- 3 Alarm Limits
- 4 Units of Measurement



Monitoring Admit Modes

The bedside monitor can be used in four different ways depending on hospital need. Differences between each mode will be apparent in the monitor's admit menu.

Standard

The Standard mode uses a monitor mounted in a room and does not accommodate telemetry.

■ To Admit a Patient

- Select MORE MENUS.
- Select ADMIT MENU.
- Select ADMIT PATIENT.

NOTE: Dash 5000: The Admit/Discharge key on the front of the monitor can also be used to Admit or Discharge the monitor.

NOTE: Dash 3000/4000: The Silence Alarm/Admit key on the front of the monitor can also be used to Admit the monitor.

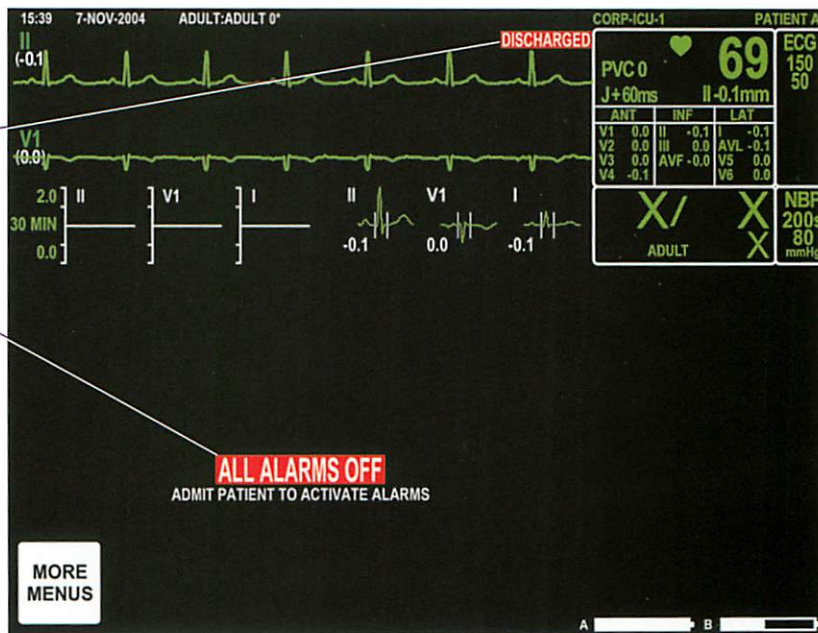


Standard (continued)

■ To Discharge a Patient

- Remove all ECG leads from the patient.
- Select MORE MENUS.
- Select ADMIT MENU.
- Select DISCHARGE PATIENT.
- Turn the Trim Knob to move the cursor in front of Discharge and press to select.

- A message **DISCHARGED** and **ALL ALARMS OFF** will appear on the display after the discharge cycle is completed.



NOTE: Dash 5000: The Admit/Discharge key on the front of the monitor can also be used to Admit or Discharge the monitor.

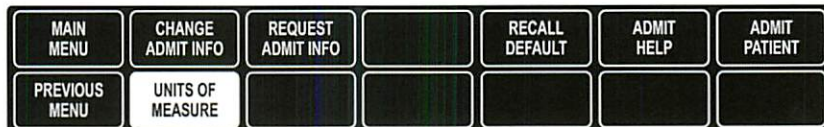
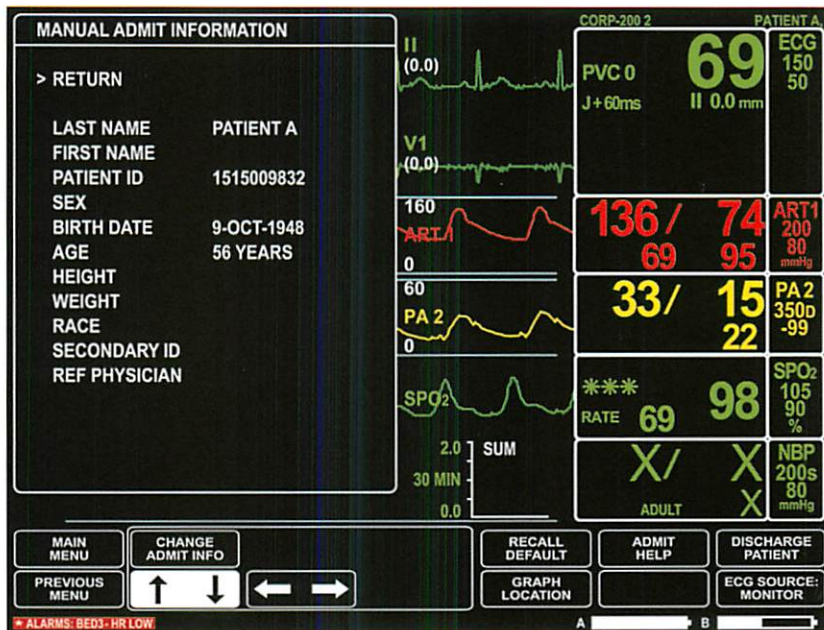
How to Enter Demographic Information

- Select MORE MENUS.
- Select ADMIT MENU.
- Select CHANGE ADMIT INFO. An information window with menu options is displayed.
- Rotate the Trim Knob control to move the pointer (>); repeat the press, turn, press process to enter characters or make selections.
- Select RETURN after all information is entered.
- Select desired option: SAVE CHANGES or DO NOT SAVE CHANGES.

NOTE: If the monitor is connected to a CIC, the Name and ID Number may be entered from the CIC instead of the bedside. All other information must be entered at the bedside monitor.

Units of Measure

Select the Units of Measure for patient's age, height, and weight.



- Age — Choices are:
 - Days
 - Weeks
 - Months
 - Years

NOTE: Months is only available in Neonatal mode.

- Height — Choices are:
 - Inches
 - Centimeters
- Weight — Choices are:
 - Pounds (lb)
 - Kilograms (kg)
 - Grams (g)

Rover

The Rover mode allows the monitor to move or “rove” to the patient’s bedside and does not accommodate telemetry.

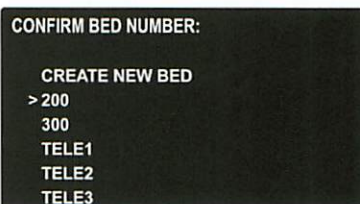
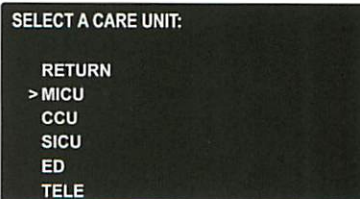
■ To Admit a Patient

- Connect the AC Power source and Network cable (not required with wireless).
- Push the Power button to activate the display.

NOTE: Display must be turned on and, if applicable, network cable plugged in, for at least two minutes for monitor to acquire Unit/Bed information.

- Select MORE MENUS.
- Select ADMIT MENU.
- Select SET UNIT NAME.
- Move cursor in front of the desired unit.
- Select SET BED NUMBER.
- Move cursor in front of the desired bed number.
- Select ADMIT PATIENT.

NOTE: The Unit Name and Bed Number windows should appear automatically. If not, be sure enough time has passed to allow network to collect information and check that network cable is connected, if applicable.

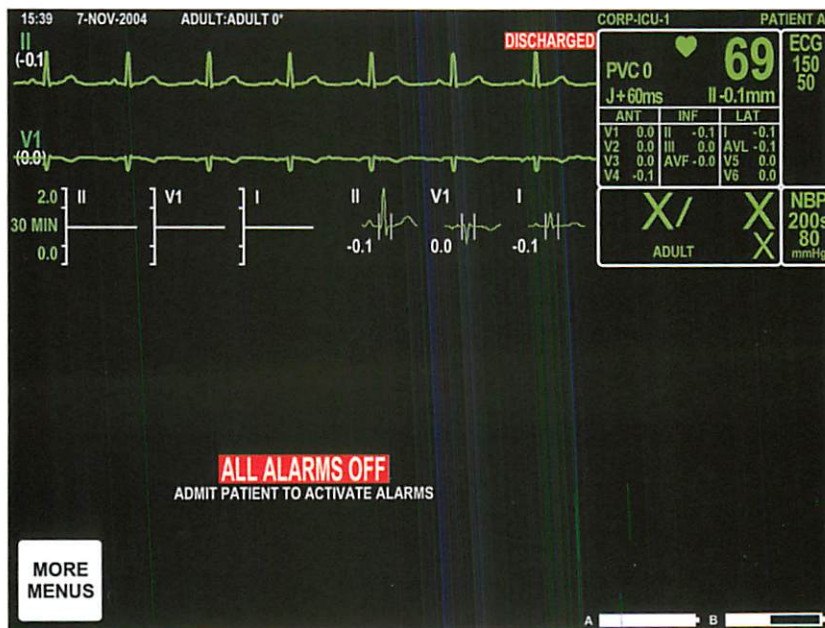


Rover (continued)

■ To Discharge a Patient

- Remove all ECG leads from the patient.
- Select MORE MENUS.
- Select ADMIT MENU.
- Select DISCHARGE PATIENT.
- Turn the Trim Knob to move the cursor in front of Discharge and press to select.
- A message DISCHARGED and ALL ALARMS OFF will appear on the display when the monitor is in a discharged mode.
- Push the Power button to turn the display off.
- Store the monitor with AC power cord plugged in and display/power off.

NOTE: It is recommended that the Dash display stay on for two minutes following discharge and, if applicable, the network cable plugged in.



Combo

The Combo mode uses a monitor mounted in a room, but the ECG data can be acquired from either the monitor or a telemetry transmitter/transceiver.

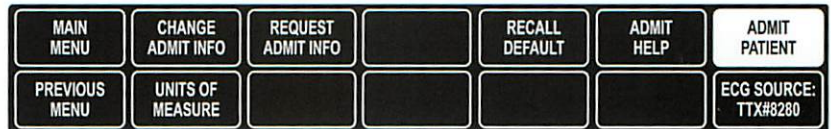
■ To Admit a Patient to the monitor

- Select MORE MENUS.
- Select ADMIT MENU.
- Select ECG SOURCE.
- Turn the Trim Knob to move the cursor in front of the desired telemetry transmitter/transceiver or MONITOR and press to select.
- Select ADMIT PATIENT.



SELECT ECG SOURCE:

> MONITOR
8280
8281
8282
8283

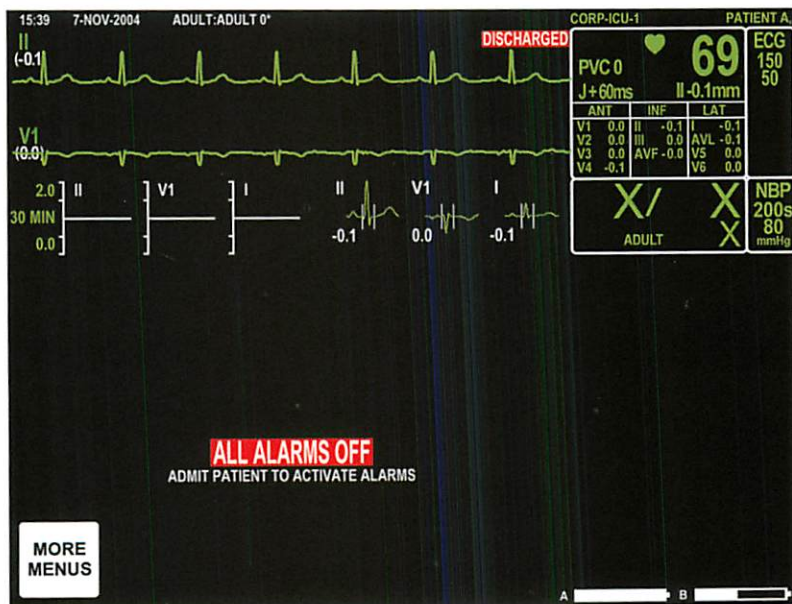
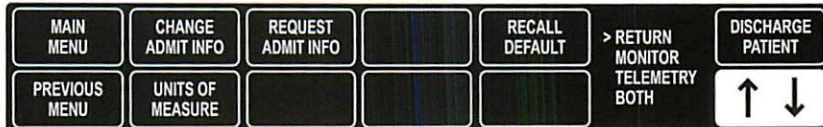


NOTE: If the Telemetry transmitter/transceiver is being used for the ECG signal, the TTX number will appear in the ECG parameter box.

Combo (continued)

■ To Discharge a Patient

- Remove all ECG leads from the patient.
- Select MORE MENUS.
- Select ADMIT MENU.
- Select DISCHARGE PATIENT.
- Select the desired discharge option:
 - Return: Cancels the action and exits to Main Menu.
 - Monitor: Discharges only the bedside monitor.
 - Telemetry: Discharges patient from telemetry only.
 - Both: Discharges both the monitor and telemetry. All patient data will be lost.
- A message DISCHARGED and ALL ALARMS OFF will appear on the display when the monitor is in a discharged mode.
- Push the POWER button to turn the display off.
- Store the monitor with the AC power cord plugged in and the DISPLAY/POWER OFF.



NOTE: When discharging ONLY the bedside monitor, all stored vital sign data will be deleted. The only data which remain available will be: HR, ST, PVC, and Alarm Histories.

Rover-Combo

The Rover-Combo mode combines the mobility feature of Rover monitoring with the telemetry capabilities of Combo monitoring.

■ To Admit a Patient

- Connect the AC Power source and Network cable (not required with wireless).
- Push the Power button to activate the display.

NOTE: Display must be turned on and, if applicable, network cable plugged in, for at least two minutes for monitor to acquire Unit/Bed and ECG source information.

- Select MORE MENUS.
- Select ADMIT MENU.
- Select SET UNIT NAME.
- Move cursor in front of the desired unit.
- Select SET BED NUMBER.
- Move cursor in front of the desired bed number.
- Select ECG SOURCE.
- Move cursor in front of the desired transmitter/transceiver or MONITOR and press to select.
- Select ADMIT PATIENT.

NOTE: The Unit Name, Bed Number and ECG Source windows should appear automatically. If not, be sure enough time has passed to allow network to collect information and check that network cable is connected, if applicable.



SELECT A CARE UNIT:

```

RETURN
> MICU
  CCU
  SICU
  ED
  TELE
  
```



CONFIRM BED NUMBER:

```

CREATE NEW BED
> 200
  300
  TELE1
  TELE2
  TELE3
  
```



SELECT ECG SOURCE:

```

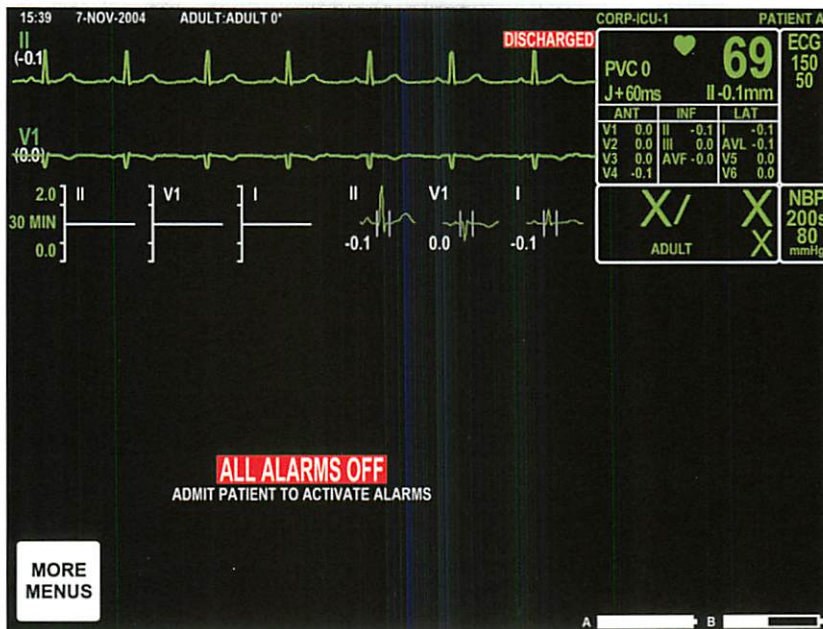
> MONITOR
  8280
  8281
  8282
  8283
  
```



Rover-Combo (continued)

■ To Discharge a Patient

- Remove all ECG leads from the patient.
- Select MORE MENUS.
- Select ADMIT MENU.
- Select DISCHARGE PATIENT.
- Select the desired discharge option:
 - Return: Cancels the action and exits to Main Menu.
 - Monitor: Discharges only the bedside monitor.
 - Telemetry: Discharges patient from telemetry only.
 - Both: Discharges both the monitor and telemetry. All patient data will be lost.
- A message DISCHARGED and ALL ALARMS OFF will appear on the display when the monitor is in a discharged mode.
- Push the POWER button to turn the display off.
- Store the monitor with the AC power cord plugged in and the DISPLAY/POWER OFF.



NOTE: When discharging ONLY the bedside monitor, all stored vital sign data will be deleted. The only data which remain available will be: HR, ST, PVC, and Alarm Histories.

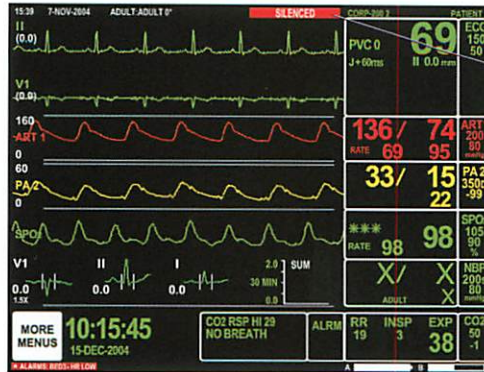
NOTE: It is recommended that the Dash display stay on for two minutes following discharge and, if applicable, the network cable plugged in.

■ Silence Alarm

- Pressing the Silence Alarm key once will silence an active alarm for one minute. The message SILENCED will appear on the display. Any new alarm at an equal or greater priority will sound.
- Pressing the Silence Alarm key twice if an alarm is sounding will start an ALARM PAUSE. The length of pause will vary depending on the monitor's mode. The message ALARM PAUSE will appear on the display.
- Alarms will reactivate if the Silence Alarm key is pressed again.
- An Alarm Pause will immediately be activated if the Silence Alarm key is pushed in the absence of an alarm.

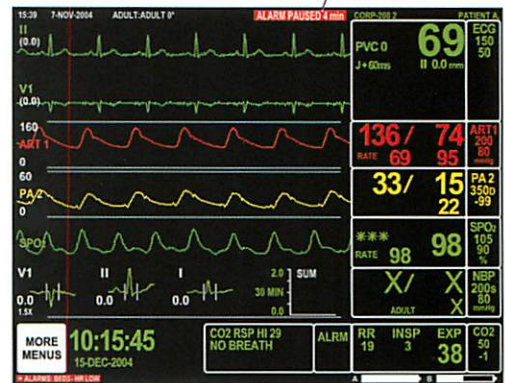


Silence Alarm Key



SILENCED

ALARM PAUSED 4 min



NOTE: Alarm Pause Lengths:

- Adult ICU Mode: 5 minutes.
- Neonatal ICU Mode: 3 minutes.
- Operating Room Mode: 5 minutes. 15 minutes, Alarm Paused (permanent pause).

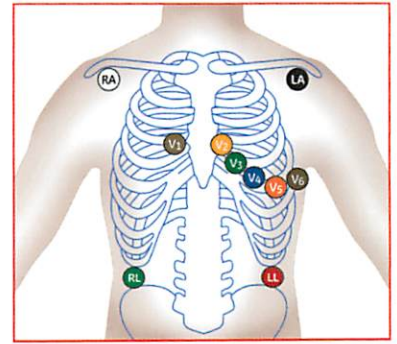
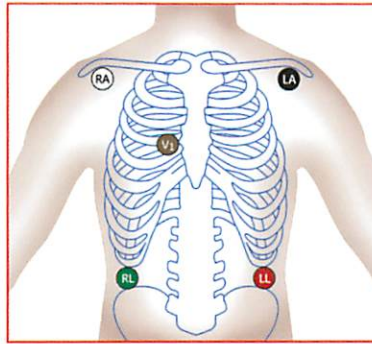
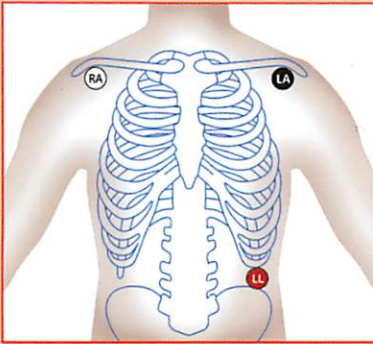
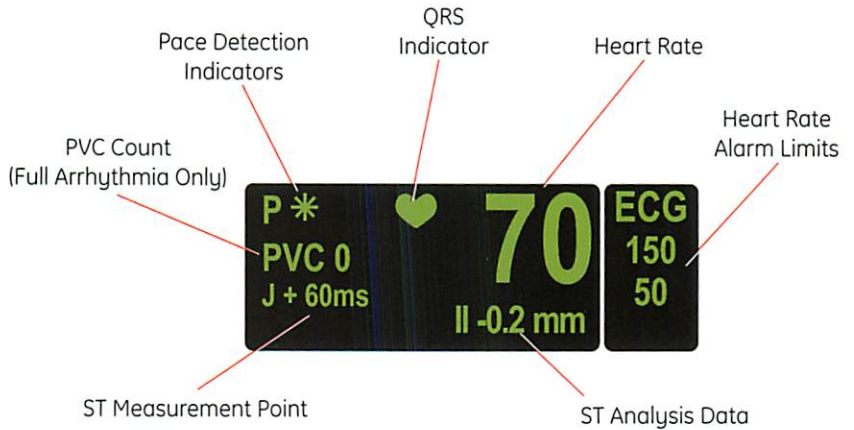
NOTE: If Crisis Alarm Breakthrough is set in defaults, all crisis alarms will break through Alarm Silence and Alarm Pause.

ECG

■ Skin Preparation and Lead Placement

The quality of the signal received from the electrodes is a direct result of skin preparation and lead placement.

- Clip or shave hair from application sites.
- Gently rub the area with a gauze pad to remove dead skin cells.
- Cleanse site with alcohol or mild soap and water.
- Dry skin completely.
- Apply electrodes according to manufacturers recommendations.



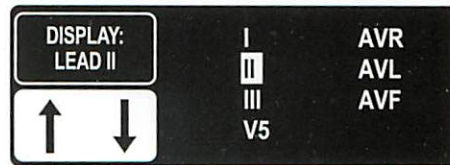
Electrode color code and labels per AHA (American Heart Association)

■ Display Lead

Top or first lead displayed on the bedside and graphed with alarms and manual prints.

MAIN MENU	DISPLAY: LEAD II	ECG SIZE: 1X	DETECT PACE: OFF	ECG LIMITS	VIEW ALL ECG	CLEAR V2-V6 FAIL
ARRHYTHMIA: FULL	RELEARN	ST ANALYSIS	ECG FILTER: DIAGNOSTIC	12 LEAD ECG ANALYSIS	LD ANALYSIS: MULTI-LEAD	MORE ECG

- To Change the Display Lead:
 - Select ECG.
 - Select DISPLAY LEAD II.
 - A popup menu opens.
 - Move the cursor in front of the desired display lead and press to select.
 - Select MAIN MENU to exit.



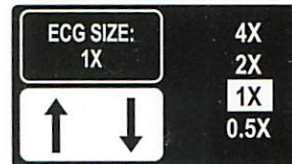
■ Size

Changes the size of all ECG waveforms displayed and graphed. 1X is the standard size.

NOTE: At least a 0.5 millivolt QRS complex at standard size is needed for beat detection.

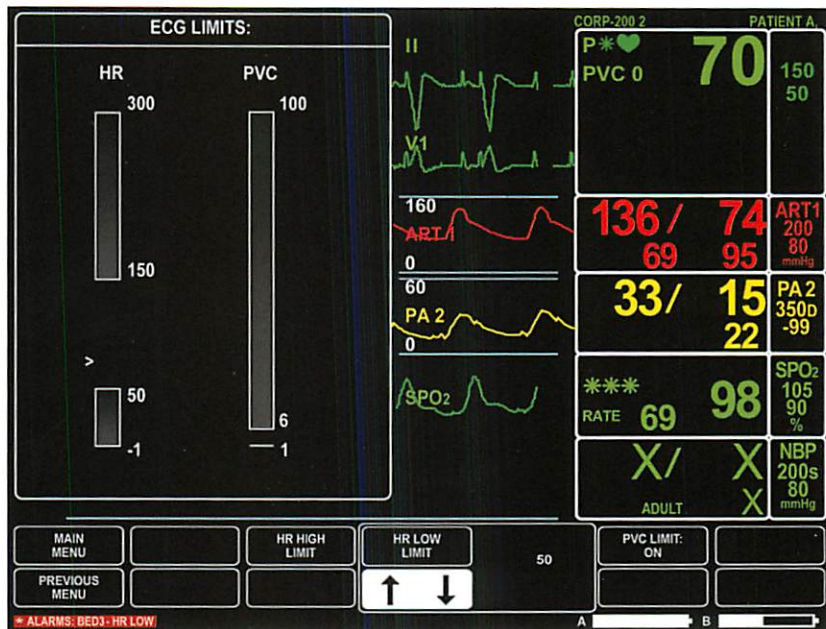
MAIN MENU	DISPLAY: LEAD II	ECG SIZE: 1X	DETECT PACE: OFF	ECG LIMITS	VIEW ALL ECG	CLEAR V2-V6 FAIL
ARRHYTHMIA: FULL	RELEARN	ST ANALYSIS	ECG FILTER: DIAGNOSTIC	12 LEAD ECG ANALYSIS	LD ANALYSIS: MULTI-LEAD	MORE ECG

- To Adjust ECG Size:
 - Select ECG.
 - Select ECG SIZE.
 - Turn the Trim Knob to highlight desired selection and press to select.
 - Select MAIN MENU to exit.



■ Limits

- To Change the ECG Alarm Limit:
 - Select ECG.
 - Select ECG LIMITS.
 - Select desired alarm limit.
 - Turn the Trim Knob to the desired alarm limit and press to select.
 - Select MAIN MENU to exit.

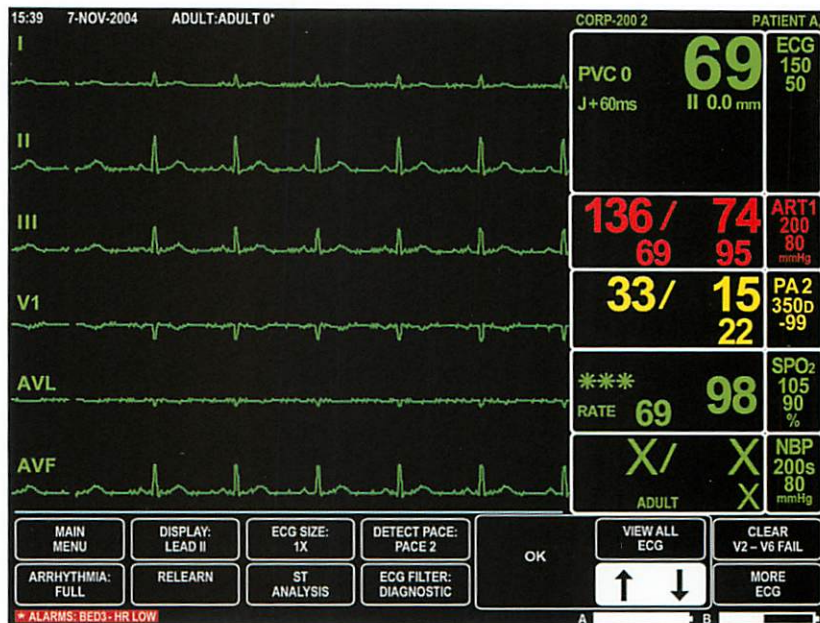


■ View All ECG

Allows six leads of ECG to be viewed on the display.

- To View All ECG:
 - Select ECG.
 - Select VIEW ALL ECG.
 - Six waveforms will be displayed.
 - Press GRAPH GO/STOP to print seven leads.
 - Press the Trim Knob to remove displayed leads.
 - Select MAIN MENU to exit.

NOTE: When printing, all seven leads of ECG will print (AVR as well), even though only six leads are viewed.



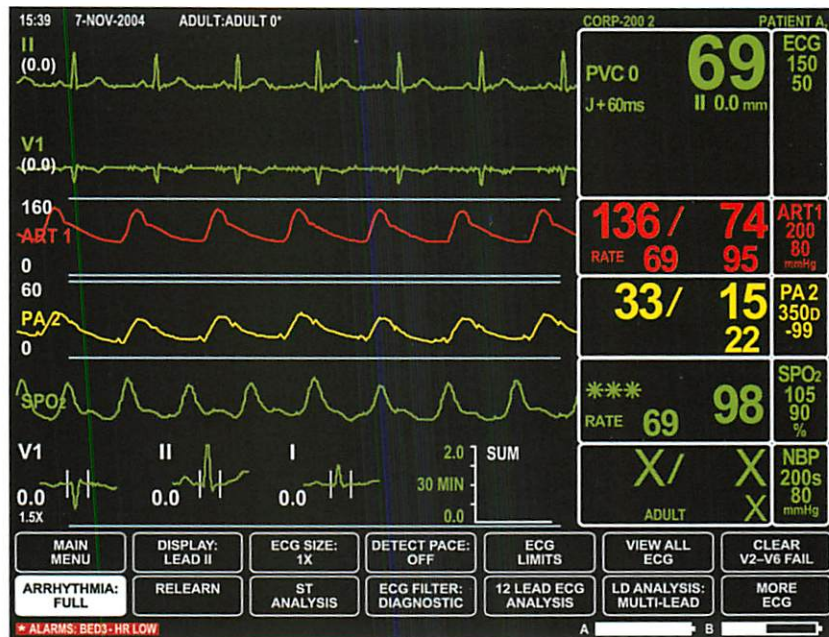
■ Arrhythmia

Arrhythmia processing can be manually changed to one of the following conditions:

- Full: Expands detection to all arrhythmia conditions defined by the software level.
- Lethal: Arrhythmia processing is limited to Asystole, VFib/VTac and VTach.
- Off: Disables all arrhythmia alarms. Parameter alarms remain active.

NOTE: In Neonatal Mode, lethal includes asystole, V-fib/tach and Brady.

- To Change the Arrhythmia Processing Mode:
 - Select ECG.
 - Select ARRHYTHMIA.
 - Turn the Trim Knob to move the cursor in front of the desired arrhythmia processing mode and press to select.
 - Select MAIN MENU to exit.

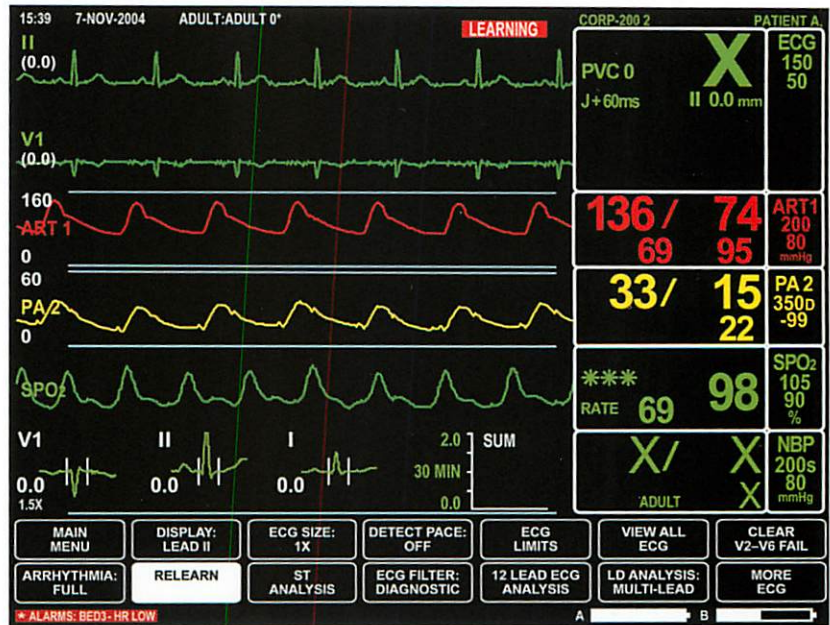


NOTE: A minimum arrhythmia processing mode can be set up in the monitor defaults.

■ Relearn

During ECG monitoring, it may be necessary to relearn the ECG waveform if a change in the patient's normal ECG pattern has occurred, or the electrode placement has changed.

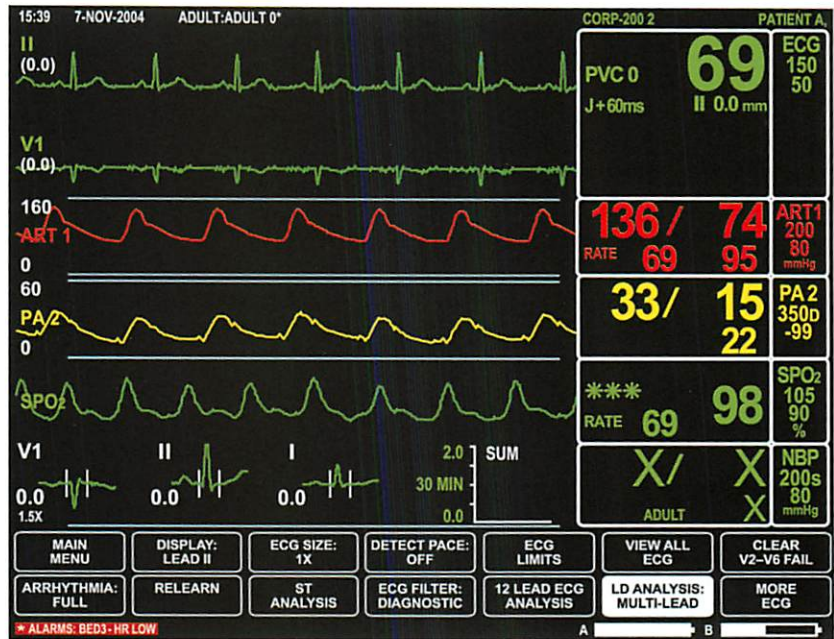
- A change in the ECG pattern could result in:
 - Incorrect arrhythmia calls.
 - Loss of ST measurement.
 - Inaccurate heart rate detection.
- To Relearn the ECG Waveform:
 - Select ECG.
 - Select RELEARN.
 - The ECG parameter window will replace the HR with an "X" and the message "Learning" will appear above the display lead.
 - Select MAIN MENU to exit.



■ Single Lead vs. Multi-Lead

This option examines ECG leads utilized for arrhythmia analysis.

- Multi-Lead Analysis examines ECG leads I, II, III and V to help eliminate false alarms and improve the ability of the system to:
 - Detect beats that occur isoelectric to a single chest lead.
 - Discriminate artifact that appears in one lead compared to other lead vectors.
 - Provides a “Smart Lead Fail” feature where the failed lead is identified and, if available, another lead is provided for display.
 - Continue arrhythmia processing after a lead change.



- Single Lead Analysis uses only the top displayed lead to process heart rate and arrhythmia information.
- Single Lead Analysis can be beneficial when troubleshooting heart rate and arrhythmia alarms.

NOTE: When switching from single to multi-lead analysis or vice-versa, “RELEARN” will occur.

- To Change to Single Lead Analysis:
 - Select ECG.
 - Select LD ANALYSIS: MULTI-LEAD.
 - Move the cursor in front of Single Lead and press to select.
 - Select MAIN MENU to exit.

■ IntelliRate

This option utilizes information contained in multiple physiologic signals (e.g., ECG, arterial blood pressure, and pulse oximetry) to improve the accuracy of the heart rate calculation.

After assessing the information extracted from each of the physiologic signals, the IntelliRate algorithm applies rule-based logic to determine which heart rate source has the highest likelihood of being accurate.

By reporting the most accurate rate, the trended heart rate is more accurate, and occurrences of false heart rate limit violation alarms are greatly reduced.

ECG Menu

MAIN MENU	DISPLAY: LEAD II	ECG SIZE: 1X	DETECT PACE: OFF	ECG LIMITS	VIEW ALL ECG	CLEAR V2-V6 FAIL
ARRHYTHMIA: FULL	RELEARN	ST ANALYSIS	ECG FILTER: MONITORING	12 LEAD ECG ANALYSIS	LD ANALYSIS: MULTI-LEAD	MORE ECG

More ECG Menu

MAIN MENU	QRS VOLUME: OFF	QRS WIDTH: NORMAL	INTELLIRATE: ON			
PREVIOUS MENU	BEAT PAUSE INTERVAL: 3 SECS					SPEED: 25



Examples of ECG Parameter Windows with the source of the IntelliRate coming from SPO2 and ART

NOTE: If the heart rate source is ECG, IntelliRate assumes the ECG heart rate and does not apply to the source..

- Beat Pause Interval**
 This feature allows the clinician to select the maximum pause between consecutive heart beats before an alarm sounds.
 - Selections available are from one to five seconds in one-half second intervals.

ECG Menu

MAIN MENU	DISPLAY: LEAD II	ECG SIZE: 1X	DETECT PACE: OFF	ECG LIMITS	VIEW ALL ECG	CLEAR V2-V6 FAIL
ARRHYTHMIA: FULL	RELEARN	ST ANALYSIS	ECG FILTER: MONITORING	12 LEAD ECG ANALYSIS	LD ANALYSIS: MULTI-LEAD	MORE ECG

More ECG Menu

MAIN MENU	QRS VOLUME: OFF	QRS WIDTH: NORMAL	INTELLIRATE: ON			
PREVIOUS MENU	BEAT PAUSE INTERVAL: 3 SECS					SPEED: 25

■ Detect Pace

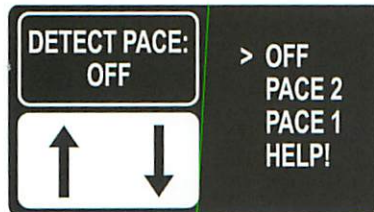
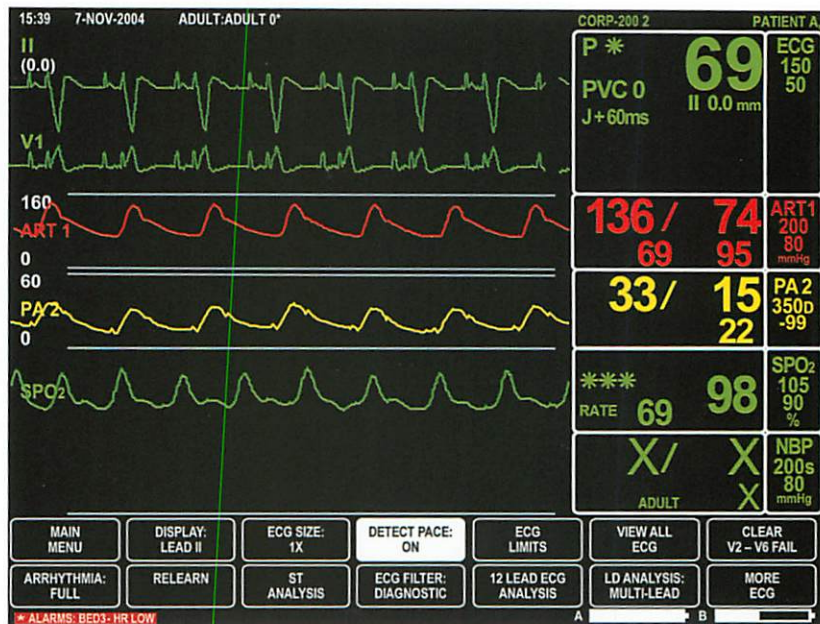
Turns pacemaker detection On/Off.

- Two different options of pacemaker modes are available. The clinician must judge which mode is best for each patient. Pace 2 is the recommended pacemaker detection mode. Pace 1 should be used if Pace 2 does not adequately detect pacemaker spikes.

- To Activate or Deactivate the Pacemaker Mode:

- Select ECG.
- Select DETECT PACE.
- Turn the Trim Knob in front of the desired pacemaker mode and press to select.
- Select MAIN MENU to exit.

NOTE: A "P" appears in the ECG parameter window when pace detection is enabled. An "*" will appear if a paced beat is detected.



MAIN MENU	SIZE: 1X	RATE: ON	RATE VOL: OFF	SPO ₂ LIMITS		PERSISTENT: OFF
						SPEED: 25

■ The Dash monitor incorporates several different technology options for interpreting SpO₂ values:

- Masimo SET
- Nellcor OxiMax
- GE Ohmeda

To determine the option enabled on the monitor, look on the right side of the monitor, next to the patient connectors.

■ All SpO₂ technologies include the following menu options

- Size: Adjusts the size of the displayed SpO₂ waveform. The default size is 1X.

To Change the Size:

- Select SpO₂.
- Select SIZE.
- Turn the Trim Knob to highlight the desired size and press to select.
- Select MAIN MENU to exit.

- Rate: A pulse rate is derived from the SpO₂ signal and is displayed in the parameter window.
 - This can be turned On or Off.
- Rate Volume: The rate volume turns on a tone that sounds each time an SpO₂ pulse is detected. This is a variable pitch tone which changes as the patient's saturation level changes. A drop in saturation results in a change in pitch of the tone.

NOTE: Turning the SpO₂ rate volume on automatically turns the QRS volume off and vice-versa.

NOTE: When two SpO₂ sites are being monitored, the rate volume can only be turned on for one site at a time.

- SpO₂ Limits: Allows SpO₂ percent and rate alarm limits to be adjusted.

To Change SpO₂ Limits:

- Select SpO₂.
- Select SpO₂ LIMITS.
- Select the desired SpO₂ limit.
- Turn the Trim Knob to the desired SpO₂ limit and press to select.
- Select MAIN MENU to exit.
- Persistent SpO₂ allows the SpO₂ parameter box to remain on the display after the SpO₂ cable has been disconnected. The parameter box displays PROBE OFF PATIENT and an alarm sounds at both the monitor and central station. This option may be turned on or off in the SpO₂ menu if enabled in the defaults.
- Speed: This represents the sweep speed of the waveforms.

■ Patient Preparation for SpO₂ Monitoring

- Choose the sensor that is best suited for your patient's needs: ear, finger, disposable, reusable, etc.
- Clean the surface of the sensor before and after each use except when using disposable sensors.
- Following the instructions provided with the sensor, correctly position and attach the sensor to your patient.
- When a Masimo sensor is repositioned at any time, disconnect the cable from the sensor before repositioning.
- Reconnect the sensor to the cable after proper patient preparation and placement.

■ It is Important to be Aware of the Following when Monitoring SpO₂

- A poor SpO₂ signal may result if the sensor detector is exposed to strong ambient light.
- When securing the sensor, ensure nothing is blocking the sensor light detector.
- Prolonged monitoring may require changing the sensor site periodically. Move the sensor if there is any sign of skin irritation or impaired circulation.
- Change the sensor site at least **EVERY FOUR HOURS** to prevent skin breakdown.
- Do not use SpO₂ sensors during MRI scanning. Induced current could potentially cause burns.

■ Neonates and Infants

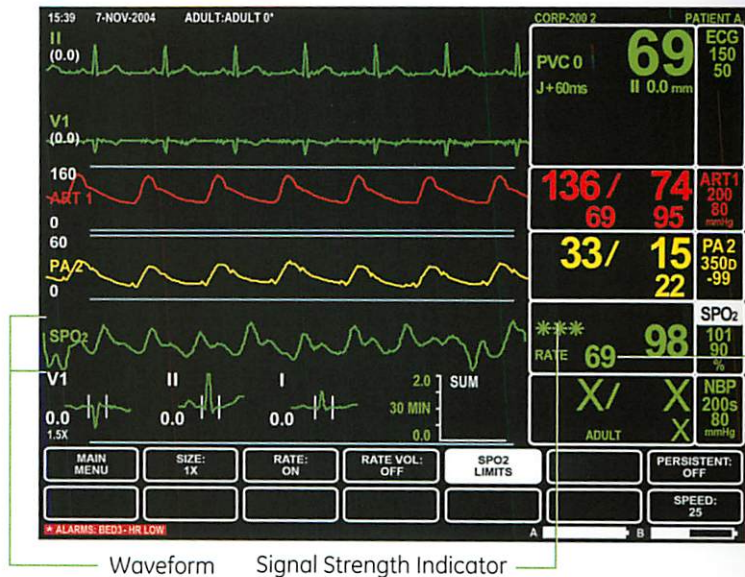
- When using pulse oximetry on neonates and infants, always observe the following precautions:
 - The peripheral pulse rate (PPR), as determined by the SpO₂ function, must be within 10% of the heart rate.
 - The SpO₂ signal strength in indicator must have two or three asterisks displayed.
 - You may need to change the sensor site at least **EVERY TWO HOURS** to prevent skin breakdown.

There are three indications from the monitor that verify the quality of the data being displayed

- Signal Strength Indicators:
 - Consists of 0, 1, 2, or 3 asterisks, 3 being the strongest.
 - Proper environmental conditions and sensor attachment will help ensure a strong signal.

NOTE: When monitoring SpO₂ using Nellcor® OxiSmart technology and the SAT-Seconds feature is active, the signal strength asterisks may not be displayed. If they are not displayed, signal strength may be determined by the amplitude of the SpO₂ waveform.

- Quality of the SpO₂ Waveform:
 - Noise or artifact may be due to poor sensor placement or patient movement.
 - Frequent, erratic changes in the value or waveform may indicate a poor signal.



NOTE: When using Masimo SET® technology, the waveform cannot be utilized as a quality indicator due to the fact that the motion artifact is filtered.

- The Stability of the SpO₂ Values:
 - Compare the pulse rate in the SpO₂ parameter window with a manual pulse, or the ECG heart rate in the ECG parameter window.

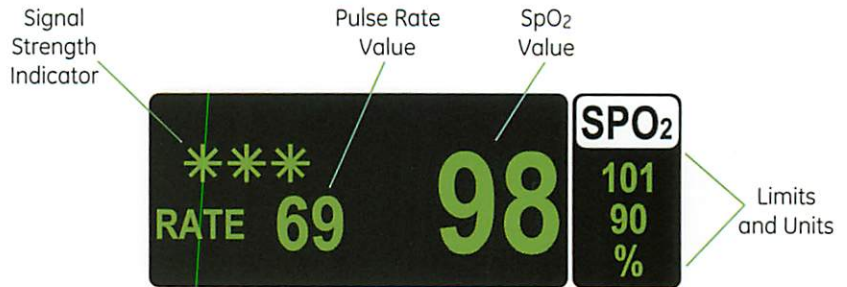
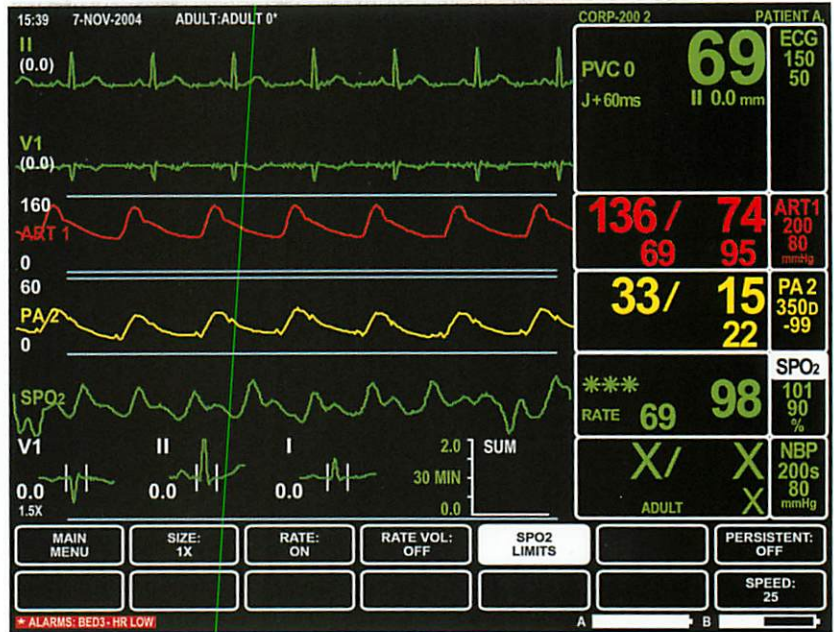
NOTE: It is critical to observe all three indicators at the same time.



Example of a Good Quality SpO₂ Waveform

SpO₂

- SpO₂ monitoring is a non-invasive technique used to measure the amount of oxygenated hemoglobin and pulse rate by measuring absorption of selected wavelengths of light.
- To activate SpO₂ monitoring, securely connect the SpO₂ cable into the appropriate blue port on the Dash monitor. The SpO₂ parameter window will automatically appear once the SpO₂ sensor is connected to the cable and plugged into the monitor.
- To discontinue SpO₂ monitoring, remove the cable from the monitor or disconnect the SpO₂ sensor from the cable. The SpO₂ window will be removed from the display if PERSISTENT has not been enabled.



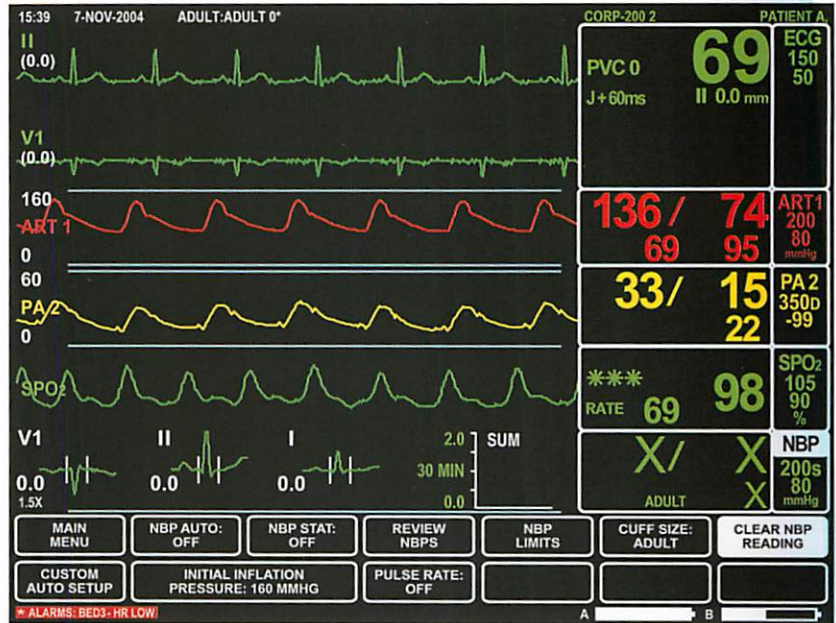
■ Clear NBP Reading

This option removes the current NBP reading from the parameter window and vital signs history. An "X" will replace the numeric values in the parameter window.

- To Clear NBP Reading in the Parameter Window:
 - Select NBP.
 - Select CLEAR NBP READING.
 - Xs will be placed in the parameter window.
 - Select MAIN MENU to exit.

NOTE: Clearing the NBP reading also removes the value from the vital signs history.

NOTE: The NBP values change to Xs if no NBP monitor has taken place for two hours in the Adult ICU mode, 15 minutes in Operating Room mode and 12 hours in Neonatal ICU mode.



■ Cuff Size

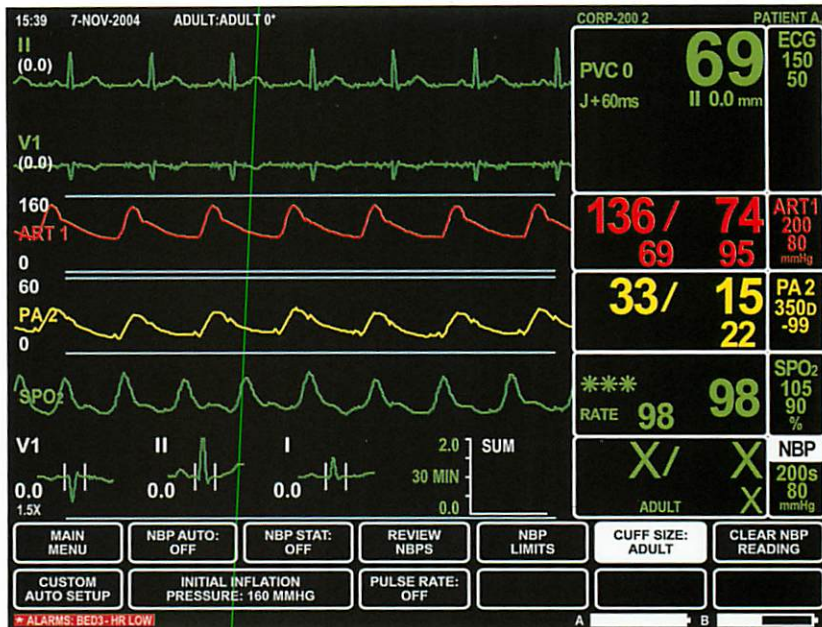
The Cuff Size option determines the initial inflation pressure. This option sets the monitor for the appropriate cuff inflation. Three options are available:

- Adult: 160 mmHg.
- Pediatric: 140 mmHg.
- Neonatal: 125 mmHg.

With additional blood pressure measurements the cuff inflation pressure is 30 mmHg for Adults and 25 mmHg for Pediatric/ Neonatal over the last systolic blood pressures.

- To Change the Cuff Size:
 - Select NBP.
 - Select CUFF SIZE.
 - Move the cursor in front of the desired cuff size and press to select.
 - Select MAIN MENU to exit.

NOTE: The Cuff Size is automatically set if the patient's age is entered in the Admit Menu.



■ Initial Inflation Pressure

This option allows the user to select the target inflation pressure for the first NBP measurement.

- Choices vary by cuff size.

NOTE: CLEAR NBP READINGS must be selected after changing this setting in order for target inflation to take effect.

■ Review NBP

The monitor can store up to 96 NBP readings for review.

- To Review NBP Readings:
 - Select NBP.
 - Select REVIEW NBP.
 - An information window is displayed.
 - Select VIEW NEWER/VIEW OLDER from the menu options to obtain all data.
 - Press the GRAPH/PRINT key on the monitor to print displayed vital signs.
 - Select MAIN MENU to exit.

NOTE: Dash 5000 – You can easily access NBP readings by choosing the trend key on the front of the monitor.



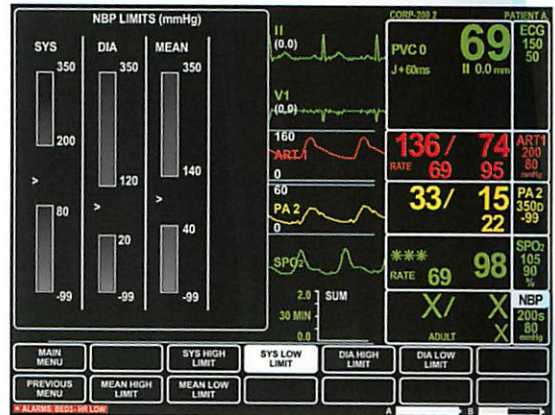
Trend Key

■ NBP Limits

Allows NBP alarm limits to be adjusted.

- To Change NBP Limits:
 - Select NBP.
 - Select NBP LIMITS.
 - Select the desired NBP limit.
 - Turn the Trim Knob to the desired limit and press to select.
 - Select MAIN MENU to exit.

NOTE: The above steps apply to changes made to systolic, diastolic and mean NBP limits.



- Custom Auto Setup
You can select up to four individual series with a specific time interval between measurements and the number of measurements to perform.

- To Program Custom Auto NBP:

- Select NBP AUTO.
- A popup menu appears.
- Select CUSTOM.
- Turn the Trim Knob to change the series interval and repetitions if desired.
- Select START CUSTOM AUTO at the end and the menu will automatically return to the main screen.

NOTE: You can also go directly to your CUSTOM AUTO SETUP menu in the NBP menu.

NOTE: Dash 5000 — The NBP Auto key will take you directly to the CUSTOM AUTO SETUP menu.



NBP Auto Key

MAIN MENU	NBP AUTO: OFF	CUSTOM 4 HRS 2 HRS 1 HR 30 MINS	> 20 MINS 15 MINS 10 MINS 5 MINS 4 MINS	3 MINS 2.5 MINS 2 MINS 1 MIN OFF	CUFF SIZE: ADULT	CLEAR NBP READING
CUSTOM AUTO SETUP	↑ ↓					

SETUP CUSTOM AUTO

> RETURN

1ST BP SERIES REPEAT	Q 5 MINS X4
2ND BP SERIES REPEAT	Q 15 MINS X4
3RD BP SERIES REPEAT	Q 30 MINS X2
4TH BP SERIES REPEAT	Q 1 HR X1

START CUSTOM AUTO

↑ ↓

CUSTOM AUTO SETUP

RETURN

REVIEW NBPS

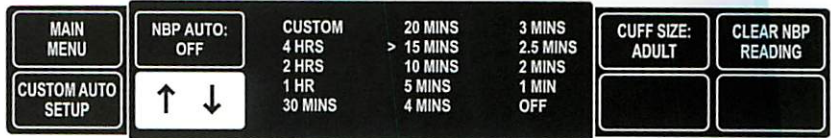
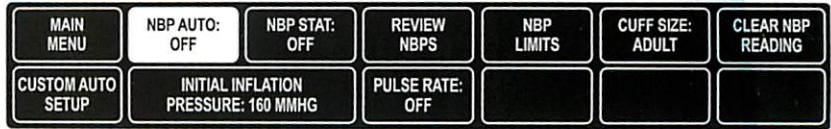
PULSE RATE: OFF

MAIN MENU	NBP AUTO: OFF	NBP STAT: OFF	REVIEW NBPS	NBP LIMITS	CUFF SIZE: ADULT	CLEAR NBP READING
CUSTOM AUTO SETUP	INITIAL INFLATION PRESSURE: 160 MMHG		PULSE RATE: OFF			

- NBP Go/Stop**
 The NBP quick function key on the monitor starts or stops a blood pressure measurement.



NBP Go/Stop Key



- NBP Auto**
 This option allows the monitor to be programmed to take NBP readings automatically at specific time intervals or create your own custom series of automatic measurements.

- To Program NBP for the Auto Mode:
 - Select NBP.
 - Select NBP AUTO.
 - A popup menu appears.
 - Choose the appropriate time interval or choose CUSTOM.
 - Select MAIN MENU to exit.

NOTE: The NBP measurement for the auto option is set in the monitor defaults and can be timed in two different ways:

- Regular Timing:
NBP measurement is taken at a specific time interval regardless of the actual clock times.
- Clock Sync Timing:
NBP measurement is synchronized to specific clock times.

NOTE: Turning the Auto mode Off, then On, restarts the timing cycle.

NBP

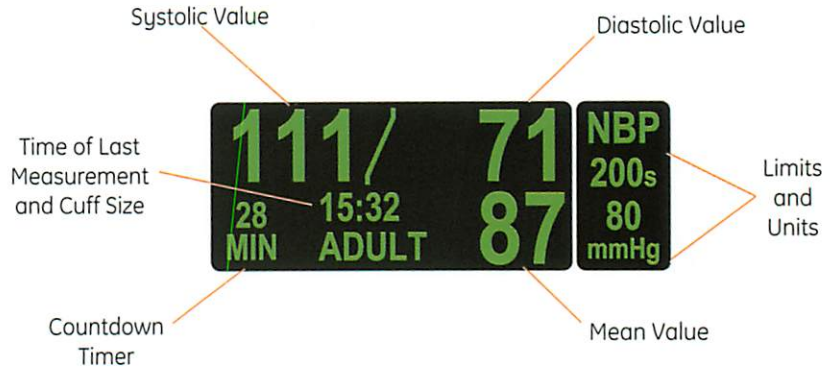
■ Non-Invasive Blood Pressure (NBP)

Non-invasive blood pressure is measured using the oscillometric method. The cuff is inflated to occlude the artery and then released in increments. The monitor determines the point of maximum pulsation, which is the mean arterial blood pressure. The systolic and diastolic pressures are then determined.

NOTE: Countdown Timer: AUTO is displayed instead of the minutes if a time interval greater than 60 minutes is selected.

■ Pulse Rate Value

This can be turned On or Off to display pulse rate values in the parameter window. The monitor must be set in the individual three waveforms display mode. The pulse rate value does not display in any other display mode.



MAIN MENU	NBP AUTO: OFF	NBP STAT: OFF	REVIEW NBPS	NBP LIMITS	CUFF SIZE: ADULT	CLEAR NBP READING
CUSTOM AUTO SETUP	INITIAL INFLATION PRESSURE: 160 MMHG	PULSE RATE: OFF				

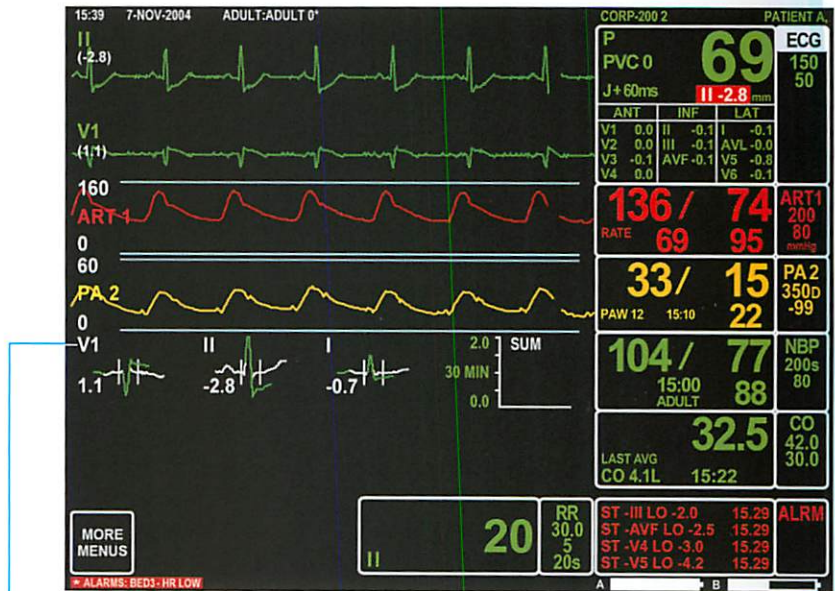


■ ST Display

Changes the leads for the trends and complexes display.

- To Change the Displayed ST Leads:
 - Select ECG.
 - Select ST ANALYSIS.
 - Select ST DISPLAY.
 - Turn the Trim Knob to deselect one of the three selections before selecting another.
 - Select MAIN MENU to exit.

NOTE: A maximum of three choices can be selected for the ST Display.



ST Display

■ Identify V Lead

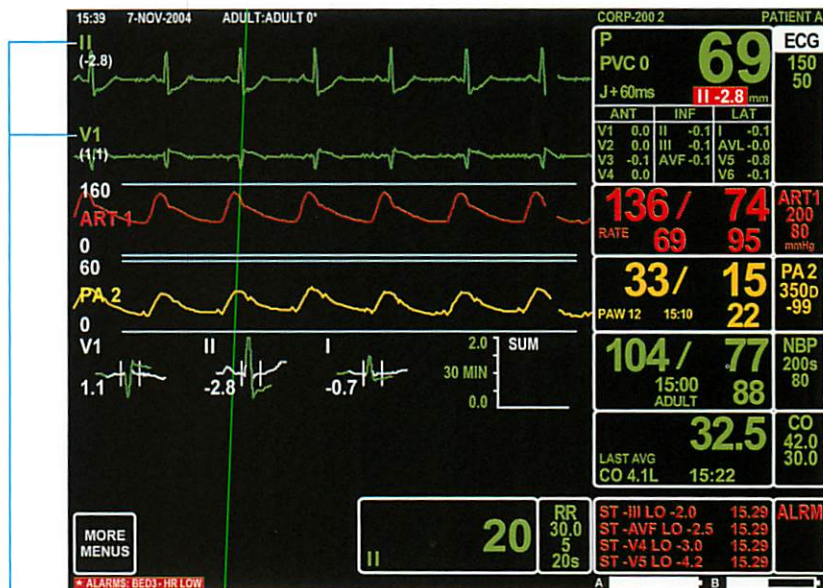
Identifies the V Lead being used for ECG and ST Analysis.

- To Change the V Lead:
 - Select ECG.
 - Select ST ANALYSIS.
 - Select IDENTIFY V LEAD.
 - Move the cursor in front of the desired V Lead and press to select.
 - Select MAIN MENU to exit.

NOTE: With a 5-leadwire cable, the V Lead is used in ST Analysis and arrhythmia analysis.

Changing this label changes the label on the V-lead trend and complex.

NOTE: With a 10-leadwire cable, the V Lead is used for arrhythmia analysis only. Changing this label DOES NOT change the label on the ST display. Use the ST display menu to change the label.



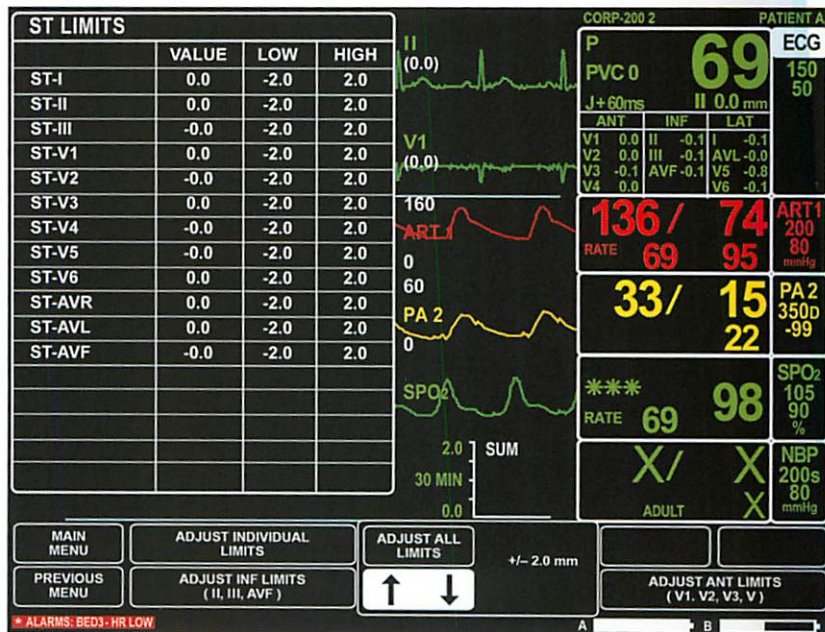
Identify Leads

ST Limits

Displays a menu and information window to set and adjust ST deviation limits.

- To Adjust All ST Limits:
 - Select ECG.
 - Select ST ANALYSIS.
 - Select ADJUST ALL LIMITS.
 - Turn the Trim Knob to the + / - desired limit and press to select.
 - All limits are automatically adjusted in the information window.
 - The monitor adjusts the low and high limits around the current value of the lead(s).
 - Select MAIN MENU to exit.

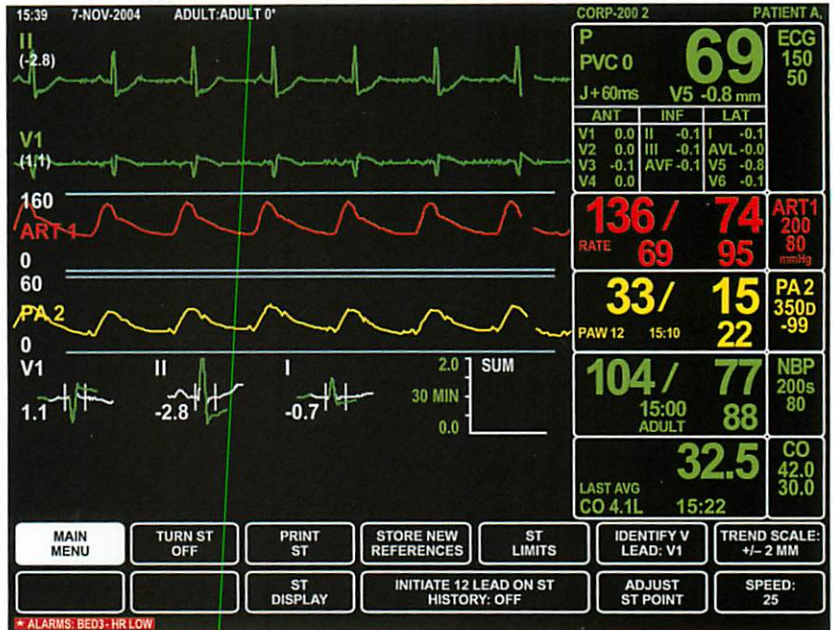
NOTE: Other ST Limits options include adjusting them individually or in INF, LAT or ANT groups.



- Turn ST ON/OFF
Turns ST analysis off and returns to the main menu.

- To Turn ST Analysis Program Off:
 - Select ECG.
 - Select ST ANALYSIS.
 - Select TURN ST OFF.
 - Display automatically returns to the Main Menu.
- To Turn ST Analysis Program On:
 - Select ECG.
 - Select ST ANALYSIS.
 - ST complexes and numerics automatically appear on the display.
 - Select MAIN MENU to exit.

- Store New References
Displays a new set of reference complexes on the screen to use as a visual reference.



- To store new references:
 - Select ECG.
 - Select ST ANALYSIS.
 - Select STORE NEW REFERENCES.
 - Select YES from the popup menu.
The reference complexes shown on the display will now reflect the current complexes.
 - Select MAIN MENU to exit.

NOTE: Selecting STORE NEW REFERENCE does not affect actual ST processing, it is for visual reference only. Also stores the new reference complexes in Alarm History.

ST Analysis

ST Menu Options

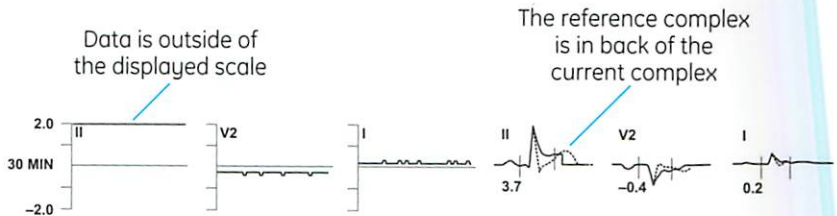
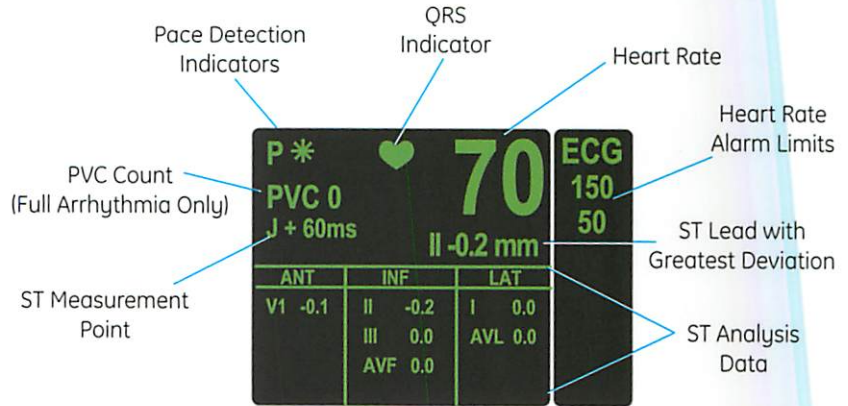
- ST information with trends and complexes may appear in a waveform position.
- ST by lead data may appear in the ECG Parameter window.
- The lead with the most deviation from the isoelectric line appears in the ECG Parameter window. The ST value is updated regularly and changes to the alarming lead when limits are exceeded.

NOTE: ST options may vary depending on monitor default configuration.

NOTE: The accuracy of the ST Analysis is dependent on the placement of the electrodes.

ST Trends and Complexes

- The monitor has an ST display which consists of three, 30-minute ST trends and three ECG complexes.



- A reference complex for each of the selected leads can be displayed for visual reference purposes when ST is on.

- The current complex is superimposed (green) over the reference complex (gray).

- When monitoring ECG, entering the sex and age of the patient will provide information needed for using the 12SL Algorithm with Gender-Specific Analysis (or the ACI-TIPI algorithm).

- The 12SL Algorithm with Gender-Specific Analysis improves the detection of acute myocardial infarctions (AMI) for adult women under the age of 60.
- If the date of birth is not entered, the system will set the date of birth to the current month and day, but the year will be set to 1948.
- ACI-TIPI analysis cannot be performed on patients less than 16 years of age.

NOTE: If ACI-TIPI is enabled, other fields may be required; i.e., Technician ID, Optional Field, Order Number.

MANUAL ADMIT INFORMATION

Last Name: Patient
First Name: A
Patient ID: 74028
Sex: Male
Birth Date:
Age:
Height:
Weight:
Race:
Secondary ID:
Ref. Physician

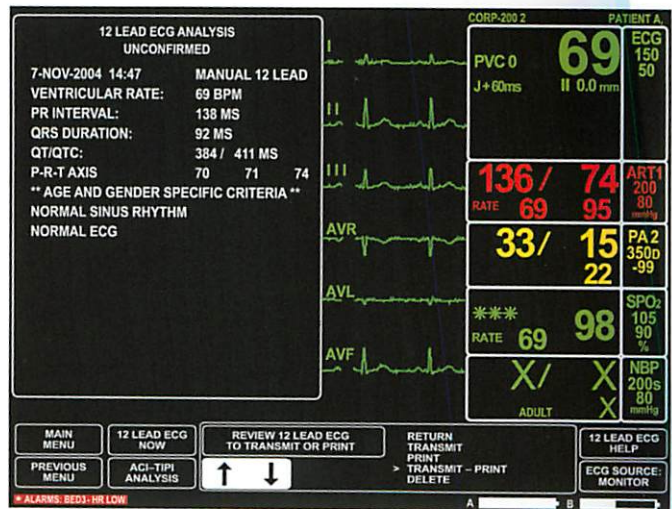
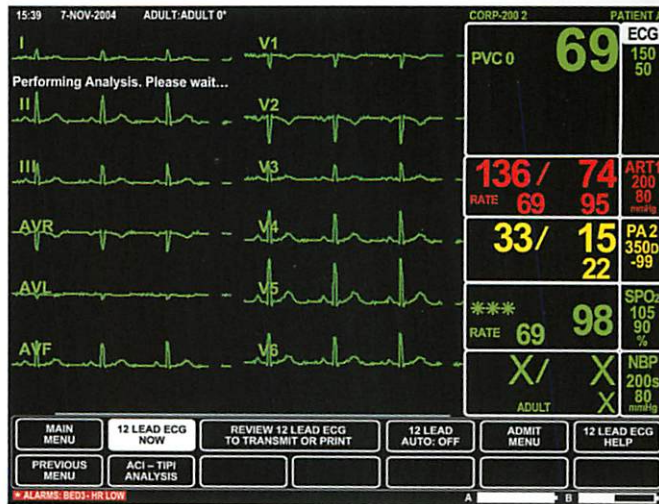
■ To Enter Patient Demographics

- Select ADMIT MENU.
- Select CHANGE ADMIT INFO.
- Enter Information:
 - First Name
 - Last Name
 - Patient ID: Facility Specific, (i.e., Medical Record Number, Social Security Number, etc.)
 - Sex
 - Birth Date
 - Age: Correct age impacts the analysis.

- Height
- Weight
- Location ID: Identifies origin of 12-Lead to MUSE® for transmission. (Set in defaults. For rover modes, set in admit menu).
- Site Number: Identifies hospital to MUSE for transmission. (Set in defaults).

NOTE: Accurate demographics must be entered to ensure proper analysis.

- Select 12-LEAD ECG NOW. Message appears: "PERFORMING ANALYSIS. Please wait..." After 30 seconds, an unconfirmed 12-Lead ECG Analysis window will appear.
- Select One of the following Transmission and/or printing options:
 - Return: Exit to 12-Lead menu.
 - Transmit: Send 12-lead for storage to MUSE. No printed copy on unit.
 - Print: Print copy to laser printer on unit. No 12-Lead stored at MUSE.
 - Transmit-Print: Send 12-Lead for storage to MUSE and print copy to laser printer.
 - Delete: Erase the analysis without storing or printing.
- 12-Lead is completed. The last 12-Lead analysis window is available for review under REVIEW 12 LEAD ECG TO TRANSMIT OR PRINT.

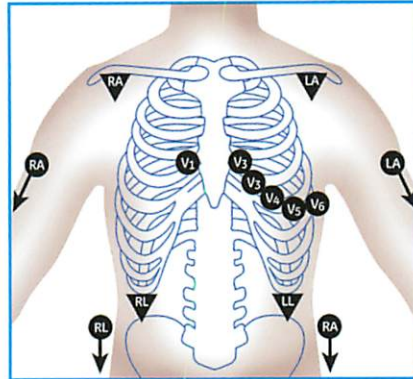


12-Lead ECG Analysis

■ To Obtain a 12-Lead on a Patient

- Place patient in a supine position.
- Correctly identify and apply all 10 electrodes.
- Select the ECG Parameter Window.
- Select 12-LEAD ECG ANALYSIS.

NOTE: For the most accurate serial comparison, use the same electrode configuration used on previous analysis.



Lead	Electrode Location
V1	Fourth intercostal space at the right sternal border, right chest.
V2	Fourth intercostal space at the left sternal margin border, left chest.
V3	Midway between locations V2 and V4, left chest.
V4	Mid-clavicular line in the fifth intercostal space, left chest.
V5	Anterior axillary on the same horizontal level as V4 level, left chest.
V6	Mid-axillary line on the same horizontal level as V4 and V5, left chest.
LA	Resting ECG: Left deltoid or left wrist.
RA	Resting ECG: Right deltoid or right wrist.
LL	Resting ECG: Left thigh or left ankle.
RL	Resting ECG: Right thigh or right ankle.

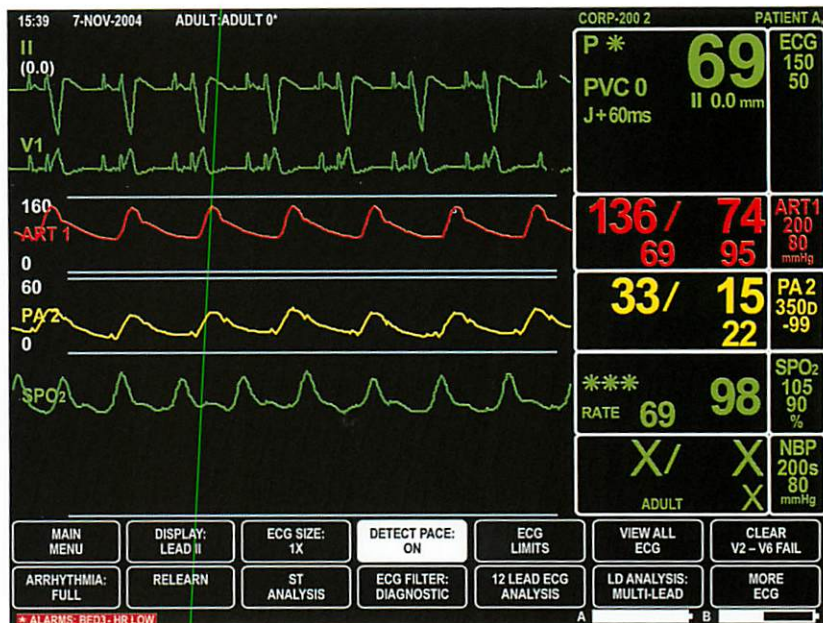
■ Guidelines for Successful Pacemaker Monitoring

- Adequate pacemaker detection is directly dependant on the quality of the ECG waveform. Proper skin preparation and electrode placement are essential.
- Ensure that the pace detection mode is activated.
- All detected pacemaker spikes will appear upright and uniform on the display screen.
- If the monitor is not adequately detecting pacemaker spikes — as evidenced by heart rate double counting, pacemaker spikes not detected, alarms for low heart rate or asystole — it is recommended that you do the following:
 - Change the display lead (top trace) on the monitor to view an alternate lead.
 - Poor detection of pacemaker spikes are basically caused by misalignment between the direction of the pace energy and direction in which the electrode is “looking”. It may be necessary to re-prep the skin and reposition the electrodes to make these two directions parallel and improve detection.
- After changing electrode placement, always RELEARN the ECG waveform. If adjusting the electrode placement does not resolve the detection issue, change the pace detection mode to Pace 1 and RELEARN.
- Always check your ECG amplitude first, before changing to Pace 1. At least a 0.5 mV amplitude QRS complex is needed for detection. For best results, an amplitude of 1.0 mV is recommended.

■ Pace 2 Mode

Analyzes waveforms with the added capability of minimizing the chance of counting severe residual pacemaker energy as a QRS complex. Pace 2 may not adequately detect all QRS morphologies. Arrhythmia calls such as Asystole or Pause may be made with heart rate identified as less than actual.

NOTE: Pacemaker patients should be kept under close observation.



■ Pace 1 Mode

Analyzes the presence of pacer spikes, assesses the waveform for residual pacemaker energy and determines the presence of an R-wave following the pacemaker spike.

If an event occurs during the first few milliseconds following the spike, it will be counted as a paced spike.

Patient Status Alarms

Indicator	CRISIS	WARNING	ADVISORY	MESSAGE
Alarm Tone	Three beeps	Two beeps	One beep	No
Alarm Light	Red	Yellow	No	No
On-Screen Message	Yes	Yes	Yes	Yes
Automatic Print	Yes	Yes	No	No
Alarm History	Yes	Yes	Yes	No
Alarm Broadcast	Yes	Yes	Yes	No
Remote Alarm Terminal	Yes	Yes	Yes	No

NOTE: You can change Patient Status Alarm levels and limits. Each level applies to Parameter Alarms and Arrhythmia Alarms. The only difference between them is that the Parameter Alarms do not store in Alarm History.

System Status Alarms

Indicator	WARNING	ADVISORY	MESSAGE
Alarm Tone	Repeating foghorn	Single foghorn	No
Alarm Light	Yellow	No	No
On-Screen Message	Yes	Yes	Yes
Alarm Broadcast	Yes	No	No
Remote Alarm Terminal	Yes	No	No

NOTE: You cannot change System Status Alarm levels and limits.

WARNING: After an interruption of the electric power supply, verify the alarm processing is active and verify that no arrhythmia occurred.

Alarms

■ Alarm Structure

The monitor's alarm structure is divided into two classifications:

- **Patient Status Alarms:**
Triggered by a patient condition that exceeds a parameter limit or by an arrhythmia condition.
- **System Status Alarms:**
Triggered by mechanical or electrical problems. They are of lesser priority than Patient Status Alarms.

■ Patient Status Alarms

There are four levels of Patient Status Alarms:

- **CRISIS:**
Life-threatening events. CRISIS alarms sound until silenced by the user.
- **WARNING:**
Serious, but not life-threatening events. WARNING alarms sound until the condition is resolved.
- **ADVISORY:**
Events that require monitoring, but are not serious or life-threatening. ADVISORY alarms sound until the condition is resolved.
- **MESSAGE:**
Additional information only.

■ System Status Alarms

There are three levels of System Status Alarms:

- **WARNING:**
Serious mechanical or electrical problems. A repeating foghorn alarm sounds until the condition is resolved.
- **ADVISORY:**
Mechanical or electrical problems. A single foghorn alarm will sound.
- **MESSAGE:**
Additional information only.

Calculated Parameters

Parameter	Label	Units	Formula
Body Surface Area	BSA	m ²	$HT^{0.725} \cdot WT^{0.425} \cdot 0.007185$
Cardiac Index	CI	L/min/m ²	CO/BSA
Stroke Volume	SV	mL/beat	CO/HR • 1000
Systemic Vascular Resistance	SVR	dyn • sec • cm ⁻⁵	$[(MAP-CVP) \cdot 79.92] / CO$
Systemic Vascular Resistance Index	SVRI	dyn • sec • cm ⁻⁵ • m ²	SVR • BSA
Pulmonary Vascular Resistance	PVR	dyn • sec • cm ⁻⁵	$[(PAM-PAW) \cdot 79.92] / CO$
Pulmonary Vascular Resistance Index	PVRI	dyn • sec • cm ⁻⁵ • m ²	PVR • BSA
Left Ventricular Stroke Work Index	LVSWI	g • m/m ⁻⁵	$[SV \cdot (MAP-PAW) \cdot 0.0136] / BSA^*$
Right Ventricular Stroke Work Index	RVSWI	g • m/m ⁻⁵	$[SV \cdot (PAM-CVP) \cdot 0.0136] / BSA^*$

* If using pulmonary artery diastolic (PAD) pressure or left atrial (LA pressure), PAW will be substituted with PAD or LA.

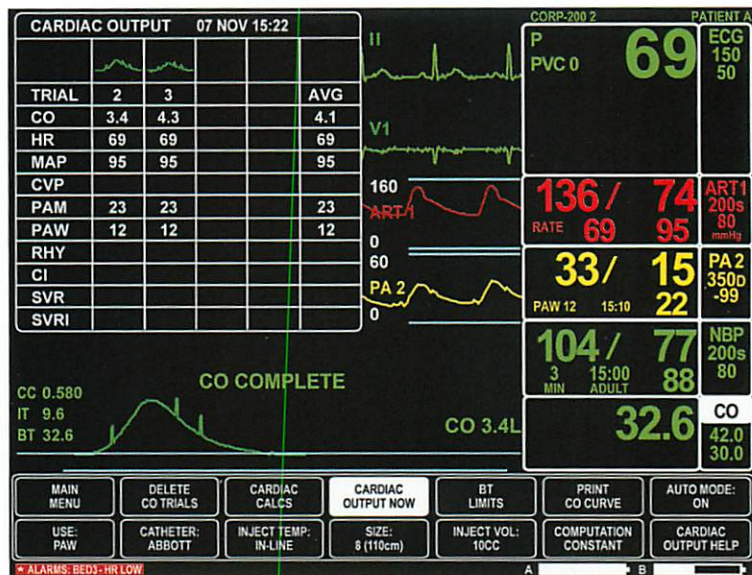
■ A Manual Cardiac Output may be preferred for patients with extreme blood temperature fluctuations.

- To Obtain a Cardiac Output (CO) Using the Manual Mode:

- Select CARDIAC OUTPUT NOW from the Cardiac Output menu.
- Watch for the INJECT NOW message and inject desired fluid volume.

NOTE: With this option, it is particularly important to inject immediately upon seeing the INJECT NOW message. If too much time elapses, the monitor will cycle itself and the message PUSH CO NOW OR TURN AUTO ON is displayed.

- A COMPUTING CO message is displayed and the washout curve begins to move across the display.
- The message CO COMPLETE is displayed with the CO value.



NOTE: Up to four trials are displayed in the trial window. The fifth trial automatically deletes the first. All trials are averaged and the data is stored in the cardiac calcs.

- Select CARDIAC CALCS.
- Select CHANGE VALUE to exit or add unmonitored parameter values.
- Move the cursor to RETURN and press to select.
- Select SAVE CALC.
- Select REVIEW CALCS.
- Select MAIN MENU to exit.

	RETURN	
MONITORED:	CO	4.1
	HR	69
	MAP	95
	CVP	9
	PAM	23
	PAW	12 @15:10
	WEIGHT	68.0 KG
	HEIGHT	167.6 CM
CALCULATED:	BSA	1.77
	CI	2.3
	SV	59.4
	SVR	1676
	SVRI	2966
	PVR	214
	PVRI	379
	LVSWI	37.9
	RVSWI	6.4

Cardiac Output

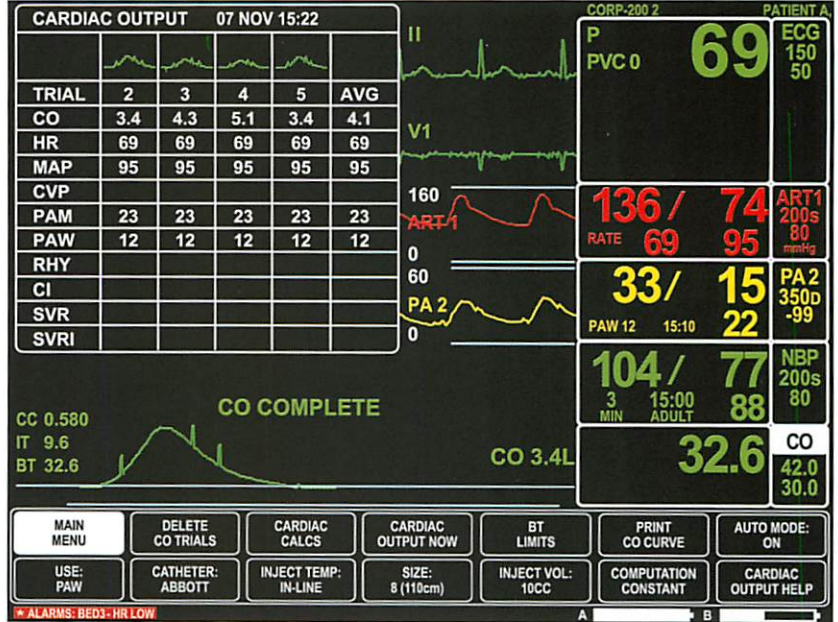
- When the INJECT WHEN READY is displayed, proceed with injection.
- Seconds after injecting, COMPUTING CO is displayed.
- CO COMPLETE is displayed with the CO value upon completion and the data is placed in the trial window.

NOTE: Up to four trials are displayed in the trial window, the fifth trial automatically deletes the first. All trials are averaged and the data is stored in the cardiac calcs.

- Select DELETE CO TRIALS.
- Move the cursor in front of the trial that is to be deleted and press to highlight.
- Move the cursor to RETURN and press to select.

NOTE: Trials are deleted permanently.

- Select CARDIAC CALCS.
- Select CHANGE VALUE to edit or add unmonitored parameter values.
- Move the cursor to RETURN and press to select.
- Select SAVE CALCS.
- Select REVIEW CALCS.
- Select MAIN MENU to exit.



CARDIAC CALCULATIONS 07 NOV 15:22

> RETURN

MONITORED:	CO	4.1
	HR	69
	MAP	95
	CVP	9
	PAM	23
	PAW	12 @15:10
	WEIGHT	68.0 KG
	HEIGHT	167.6 CM
CALCULATED:	BSA	1.77
	CI	2.3
	SV	59.4
	SVR	1676
	SVRI	2966
	PVR	214
	PVRI	379
	LVSWI	37.9
	RVSWI	6.4



NOTE: The last average CO value, along with a time stamp, will be displayed in the parameter window.

Cardiac Output

- The Cardiac Output Program measures cardiac output by use of a thermodilution catheter.
- To activate monitoring, securely connect the cardiac output patient cable into the Temp/CO connector port on the side of the Dash monitor. The CO parameter window will automatically appear once the cable is plugged into the monitor. The parameter window displays the patient's blood temperature.
- To discontinue CO monitoring, remove the cable from the monitor. The parameter window will be removed from the display.

MAIN MENU	DELETE CO TRIALS	CARDIAC CALCS	CARDIAC OUTPUT NOW	BT LIMITS	PRINT CO CURVE	AUTO MODE: ON
USE: PAW	CATHETER: BAXTER	INJECT TEMP: IN-LINE	SIZE: 7.5	INJECT VOL: 10CC	COMPUTATION: CONSTANT	CARDIAC OUTPUT HELP

- To Obtain a Cardiac Output (CO) Using the Auto Mode:
 - Select CARDIAC OUTPUT or CO.
 - Verify Menu options:
 - Use PAW, PAD, or LA for cardiac calculations.
 - Catheter type.
 - Injection Temp.
 - Size of catheter.
 - Injectate volume.
 - Computation Constant.

NOTE: If a Baxter, Abbott, Ohmeda or Arrow catheter is being used, the software will automatically enter a Computation Constant. If OTHER is selected as the catheter type, the monitor will prompt the user to enter the Computation Constant manually based on the manufacturer's recommendations. If the catheter type is changed, the user is prompted to verify all other options.

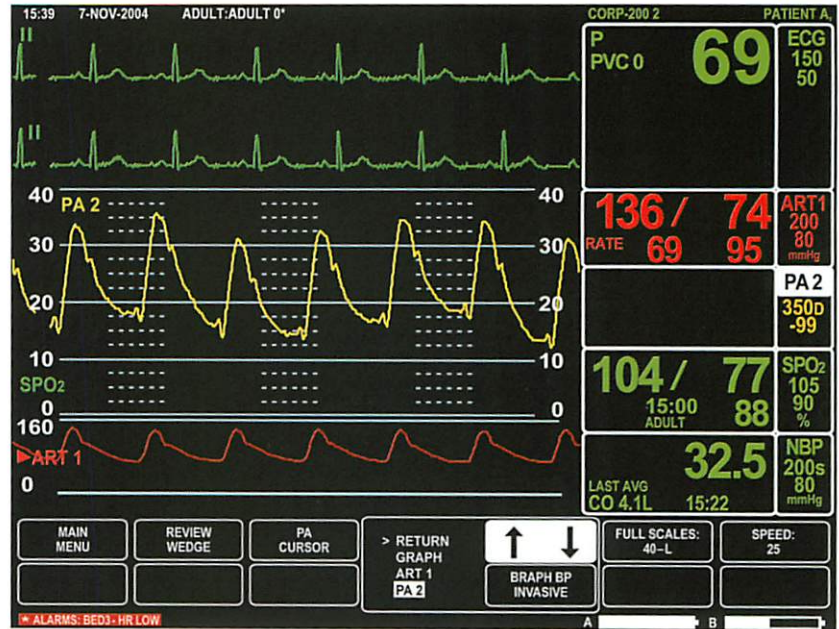
NOTE: The Computation Constant will read 0.000 when the cable is first connected and prior to the first injection.

NOTE: When the Computation Constant is manually entered, the other menu options (type, temp and size) are not needed. These menu options may be changed but will have no effect on the software.

■ Graph BP Invasive

This allows you to select the available invasive waveforms for graphing. Waveforms will be graphed on one scale using the full grid space. This feature is found in the PA Insert/Wedge menu and the Monitor Setup window.

- To Graph Waveforms (without ECG lead):
 - Select MORE MENUS.
 - Select MONITOR SETUP.
 - Select GRAPH SETUP.
 - Select GRAPH BP INVASIVE.
 - Highlight desired waveforms to be graphed.
 - Highlight GRAPH.
 - Select MAIN MENU to exit.
 - Press the GRAPH GO/STOP button on the monitor to stop the graph.



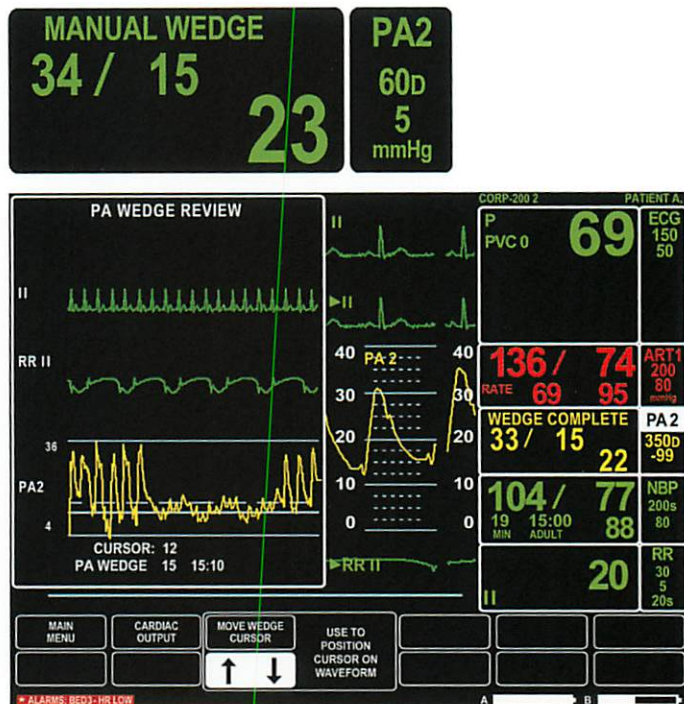
Graph BP Waveforms

NOTE: Skip the first three steps above if you are in the PA Insert/Wedge menu.

- The Manual Mode overrides the Auto Mode and requires additional steps at the monitor to complete the measurement.

Under certain patient conditions (valvular disease or respiratory variation in PA reading), the monitor is unable to detect a change in the waveform.

- To Complete a Manual PA Wedge:
 - Select PA.
 - Select PA INSERT/WEDGE.
 - Verify that the MODE:MANUAL is displayed.
 - The message MANUAL WEDGE appears in the PA parameter window.
 - Inflate the balloon.
 - Watch PA waveform for wedging.
 - Deflate the balloon.
 - Select REVIEW WEDGE.
 - The PA Wedge Review Information window is displayed.



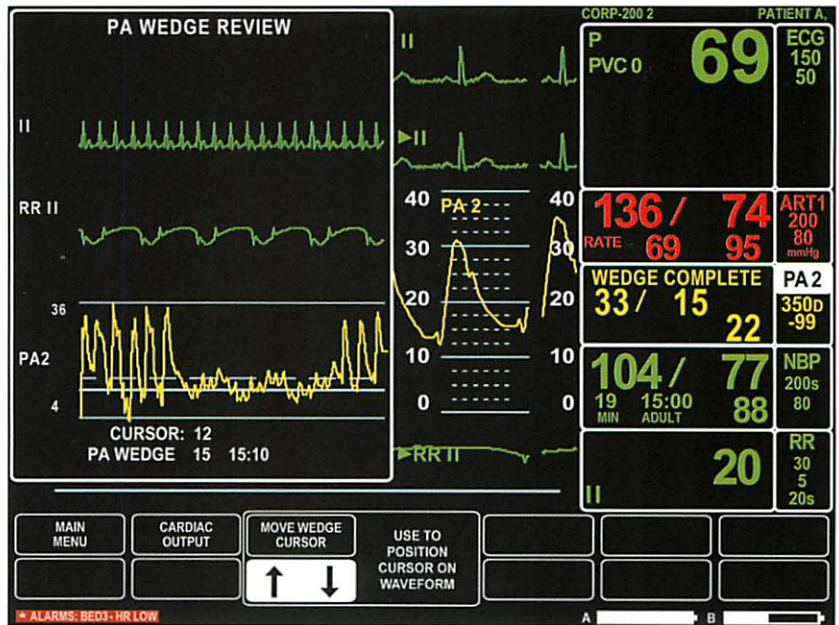
- Select MOVE WEDGE CURSOR.
- Turn the Trim Knob to move the cursor to the desired position and press to select.
- Press the GRAPH GO/STOP button on the monitor to print window.
- Select Main Menu to exit.

NOTE: The monitor must detect a 30% change in the waveform to measure a Wedge. If the waveform does not change accordingly, the Wedge Processing message will not appear and you must use the manual mode for Wedge measurements.

NOTE: The last PAW with a time stamp will be displayed in the PA window.

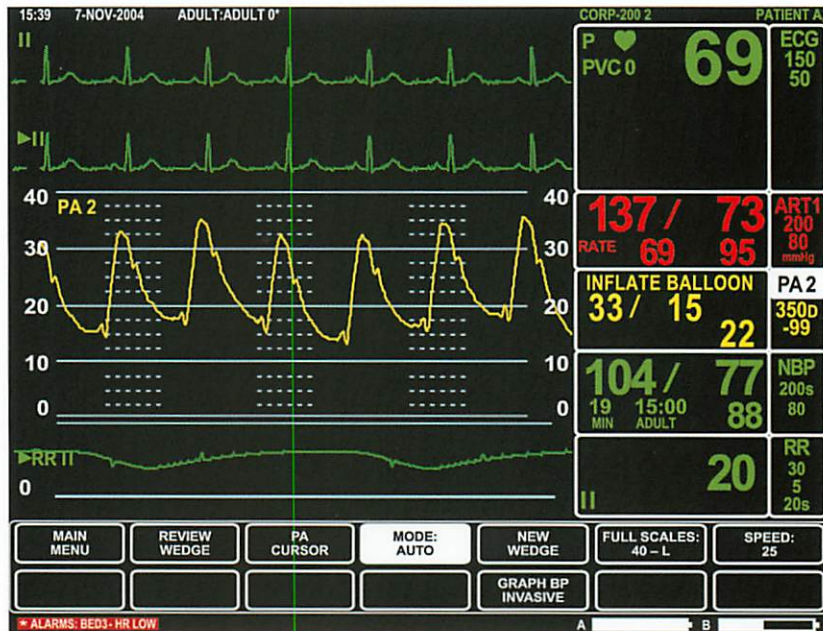
- PA Wedge Review Information window is automatically displayed.
- To change the PA value, select MOVE WEDGE CURSOR.
- Turn the Trim Knob to move the cursor to the desired position and press to select.
- Press the GRAPH GO/STOP button on the monitor to print window.
- Select MAIN MENU to exit.

NOTE: The last PAW with a time stamp will be displayed in the PA parameter window.



PA Wedge Review

- To Complete an Auto PA Wedge:
 - Select PA.
 - Select PA INSERT/WEDGE.
 - Select MODE:MANUAL (this changes the mode to Auto).
 - An INFLATE BALLOON message appears in the PA parameter window.
 - Inflate the balloon according to your unit's policy and procedures.
 - The message WEDGE PROCESSING displays.
 - Deflate the balloon after 3 to 4 respiratory cycles (no more than ten seconds).



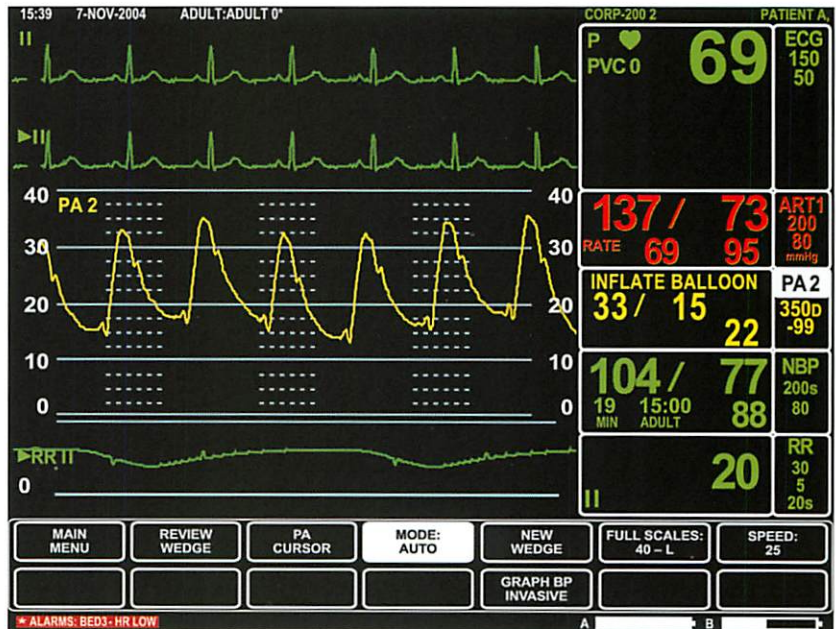
PA Insert/Wedge

PA

PA Insert/Wedge is a feature found in the PA Invasive Pressures Menu. There are two modes for doing a PA Wedge measurement: Auto and Manual.

When PA INSERT/WEDGE is selected, the display changes to the Full Grid mode and the primary ECG waveform is duplicated in the second waveform slot. All BP waveforms, except the PA waveform, are removed from the Full Grid region.

- The Auto Mode allows a PA Wedge measurement to be performed without having to touch the monitor after starting the program. The Manual Mode defaults when the PA Insert/Wedge menu option is selected.



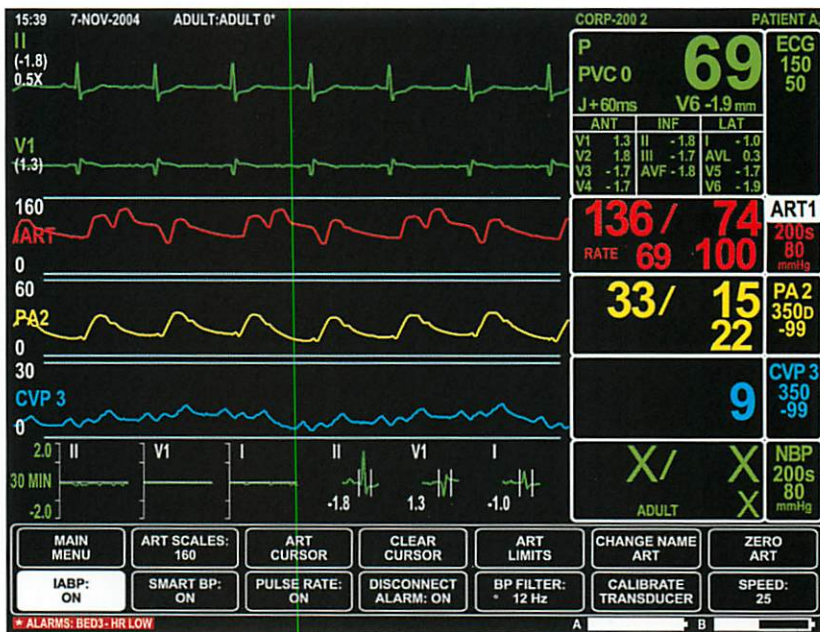
PA Insert/Wedge

NOTE: The monitor must detect a 30% change in the waveform to measure a Wedge. If the waveform does not change accordingly, the

Wedge Processing message will not appear and you must use the manual mode for Wedge measurements.

■ Invasive Pressures — IABP

- The IABP program compensates for the irregularities in the pressure waveform caused by the use of an intra-aortic balloon pump.
- To ensure that the trigger signal is compatible with all modes of the IABP, the signal source used to trigger an intra-aortic balloon pump should be the pump itself.
- If the trigger is from the monitor, be certain that the manufacturer is compatible with the GE Healthcare analog output signal.
- If the trigger is off of the R-Wave, review the patient's ECG leads and place the one with the greatest amplitude in the display (top) lead position.
- If blood pressure is used to trigger the balloon, the first red pressure port labeled ART will be used.
- Cable the balloon pump to the monitor through the Defib Sync connector on the back of the monitor.



• The Parameter Window Displays:

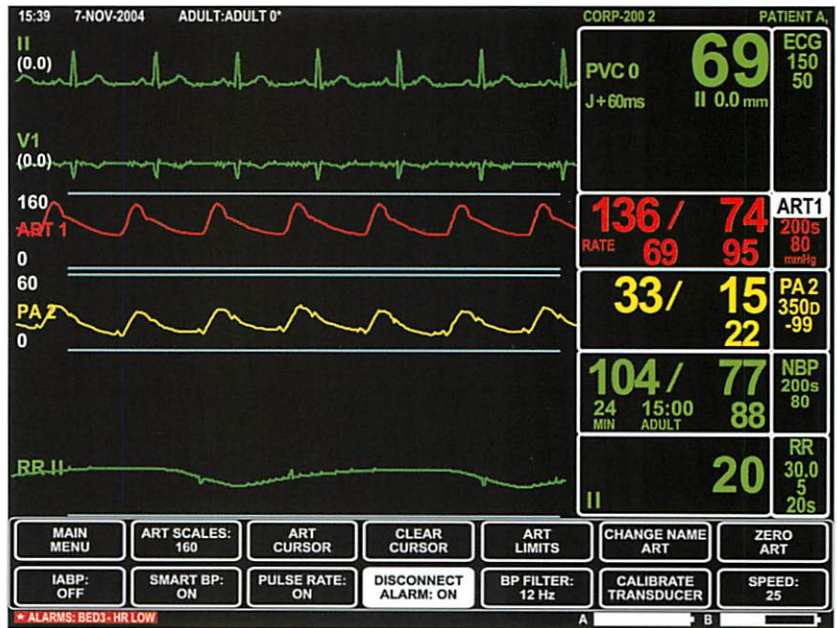
- Systolic Value = Highest pressure in one cardiac cycle.
- Diastolic Value = Lowest pressure in one cardiac cycle.
- Mean Value = Average pressure in one cardiac cycle.

NOTE: The values displayed will differ depending on the timing of the pump.

- To Turn the IABP Program On:
 - Select ART 1.
 - Select IABP.
 - On/Off status is noted in the menu option.
 - Select MAIN MENU to exit.

■ Disconnect Alarm

- A feature found in the ART and FEM pressure menus.
- If the mean pressure falls below 25 mmHg and the disconnect alarm is on, a Warning Alarm sounds and the message DISCONNECTED is displayed in the parameter window.
- Check the patient immediately in the event the catheter has dislodged.

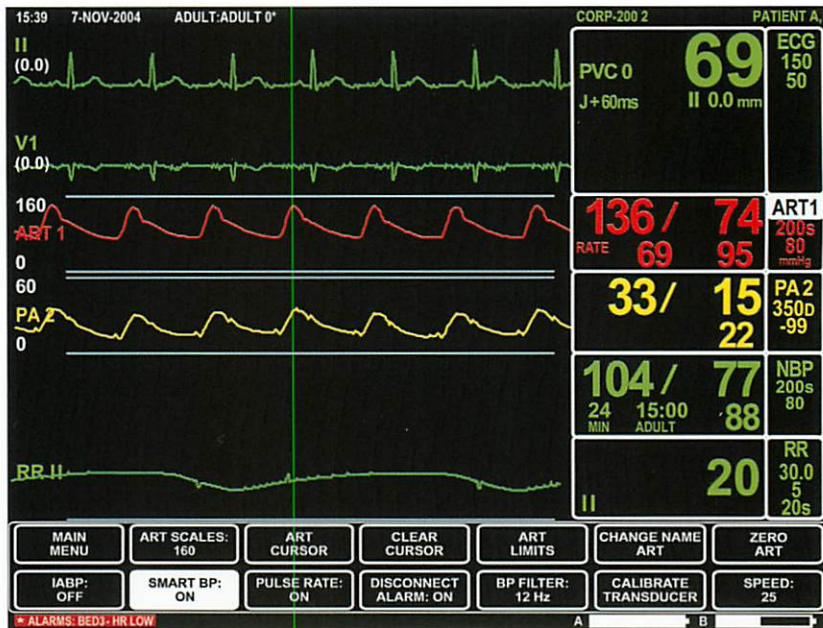


Disconnect Alarm

■ Invasive Pressures — Smart BP

- Smart BP is a feature found in the ART and FEM pressure menus that reduces nuisance alarms associated with zeroing the transducer, fast flushing and drawing blood.
- To Turn Smart BP On or Off:
 - Select ART or FEM parameter window.
 - Select SMART BP and press to select.
 - On/Off status is noted in the menu option.
 - Select MAIN MENU to exit.

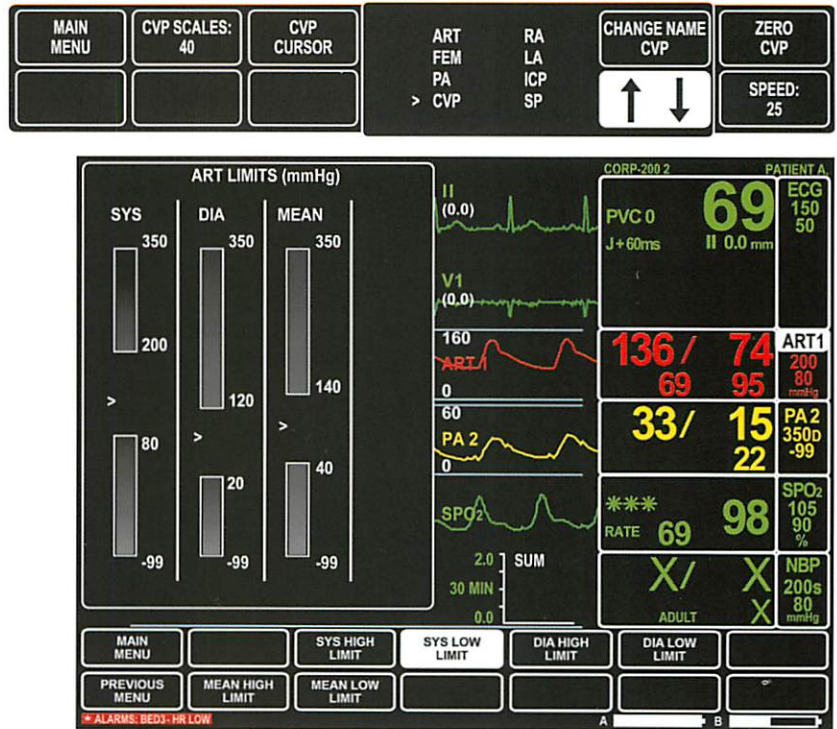
NOTE: The user is allowed 14 seconds for zeroing and two minutes for drawing blood before alarms are activated.



Smart BP

■ Invasive Pressures — Change Names

- Having the invasive pressure port named properly is important for proper waveform processing and scaling.
- To Change the Name:
 - Select the desired pressure parameter window.
 - Select CHANGE NAME.
 - A popup menu opens, indicating the available options.
 - Turn the cursor in front of the desired name and press to select.
 - Select MAIN MENU to exit.



Changing Pressure Limits

■ Invasive Pressures — Limits

- To Change Invasive Line Pressure Limits:
 - Select the appropriate parameter window.
 - Select LIMITS.

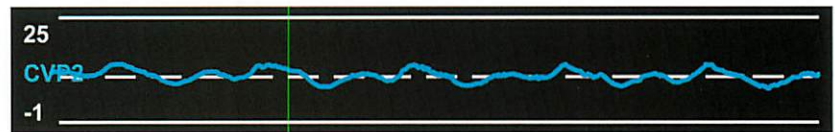
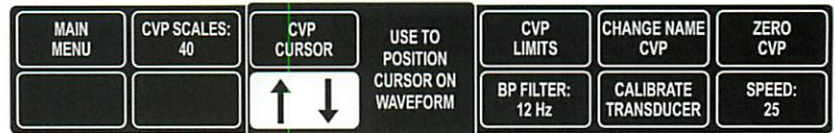
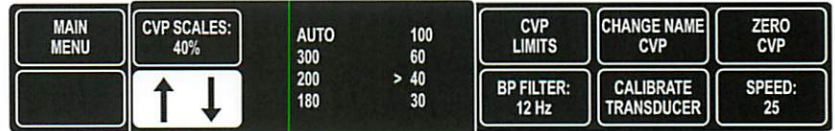
- Select the appropriate limit (systolic, diastolic or mean).
- Turn the Trim Knob to the desired limit and press to select.
- Select MAIN MENU to exit.

■ Invasive Pressures — Scales

- To Change the Scale of the Pressure Waveform:
 - Select the desired pressure parameter window.
 - Select SCALES.
 - A popup menu opens indicating the available options.
 - Move the cursor in front of the desired scale and press to select.
 - Select MAIN MENU to exit.

NOTE: Selecting AUTO will calculate a scale based on the patient's current pressure.

NOTE: AUTO is an option only if the pressure has been zeroed. Auto-scaled waveforms graph differently than displayed.



■ Invasive Pressures — Cursor

- The cursor option places a moveable, dashed, horizontal line across the pressure waveform to give accurate values at selected points on the pressure waveform. Numeric data is displayed to the right of the cursor.
- To Remove the Cursor from the Waveform:
 - Select CLEAR CURSOR.
 - This is a direct action menu option.
 - Select MAIN MENU to exit.

Pressure Menu Options

■ Invasive Pressures — Zeroing

In order to obtain accurate pressure measurements, it is important to zero the transducers.

Transducers can be zeroed all at once or individually.

- To Zero Pressure Transducers:
 - Open the transducers to air.
 - Press the ZERO ALL key on the monitor.
 - Verify the zero reference is established.
 - Close the transducer to air. Once the transducer is closed, the pressure numerics will be displayed.

NOTE: Transducers can be zeroed individually under the appropriate parameter window menu option labeled ZERO.



Zero All Key

MAIN MENU	CVP SCALES: 40	CVP CURSOR	CLEAR CURSOR	CVP LIMITS	CHANGE NAME CVP	ZERO CVP
				BP FILTER: 12 Hz	CALIBRATE TRANSDUCER	SPEED: 25

The only difference is the site name. For example, CVP cursor, PA cursor, ART limits, PA limits, etc.

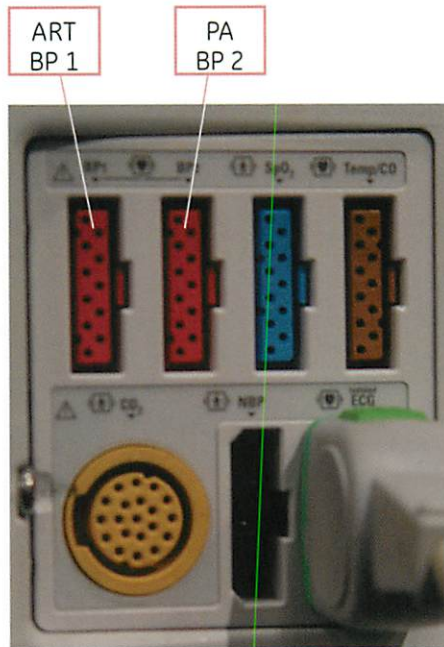
Invasive Pressures

- The invasive pressure labels are displayed on the monitor with a number (1 – 4). These numbers identify the location in the Dash monitor.

A maximum of six waveforms and eight parameters can be displayed on the monitor when using individual scale mode.

■ Invasive Pressure — Insertion.

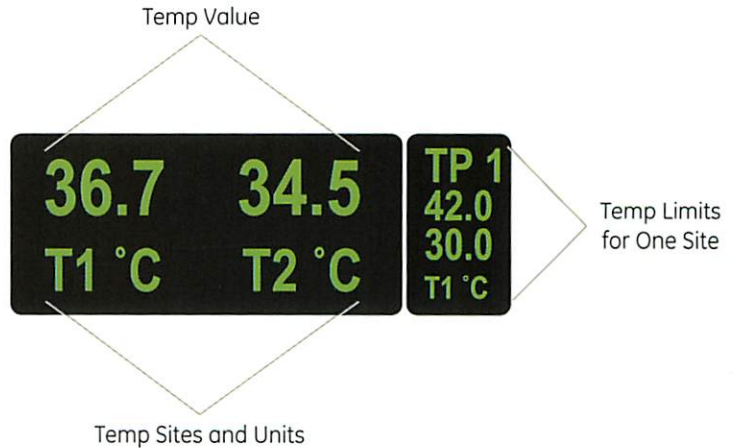
- To activate invasive pressure monitoring, securely connect the transducer cable into the appropriate red port on the side of the Dash monitor.
 - The invasive parameter window will automatically appear once the cable is plugged into the Dash monitor.



- To discontinue invasive pressure monitoring, remove the cable from the monitor. The parameter window will be removed from the display.
 - Preset names are assigned to each pressure port:
 - BP 1: Arterial Line
 - BP 2: PA Line
- NOTE: Up to two additional Invasive Pressures can be monitored when using bifurcated cable plugged into the invasive ports. If plugged into BP1, it is labeled BP1/BP3. If it is plugged into BP2, it is labeled BP2/BP4.

Temperature

- Temperature monitoring can be done using multiple sites with internal or external temperature sensors. The temperature sites are identified in the parameter window as T1 and T2. Only numeric information is displayed in the temperature parameter window.



- Temperature menu options include:
 - T1: This turns monitoring ON or OFF at temperature site 1.
 - T2: This turns monitoring ON or OFF at temperature site 2.
 - Units: Switches the units of measure between Celsius and Fahrenheit.
- To Change the Temperature Limits:
 - Select TEMPERATURE.
 - Select T1 or T2.
 - Turn the Trim Knob to the desired temperature limit and press to select.
 - Select MAIN MENU to exit.

■ Sensitivity

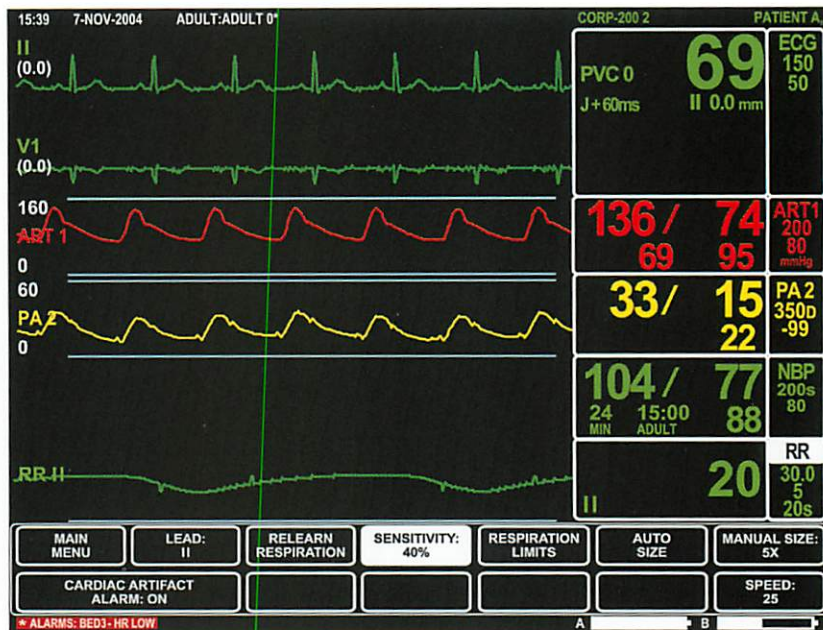
The monitor automatically sets the detection sensitivity at 40% of the average amplitude.

The sensitivity may need to be changed due to varying amplitudes or artifact. The lower the percentage, the greater the detection sensitivity.

- To Change the Sensitivity:
 - Select RESPIRATIONS.
 - Select SENSITIVITY.
 - Turn the Trim Knob to the desired percent and press to select.
 - Select MAIN MENU to exit.

NOTE: The RELEARN option will return the sensitivity to 40%.

NOTE: As you change the sensitivity percentage, the markers will move on the waveform. The adjustment occurs immediately



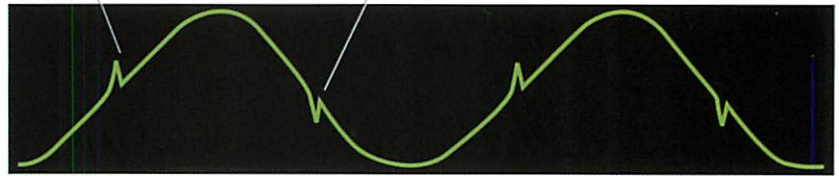
■ Relearn Respiration

This option may be necessary if the patient's breathing pattern has changed or the monitor is not calculating the respiratory rate correctly. This process takes eight breaths to complete.

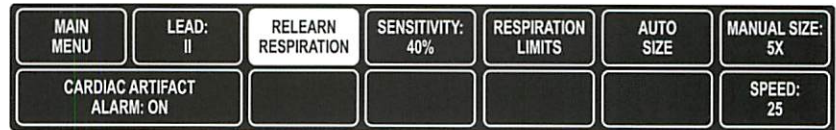
- To Relearn the Respiration:
 - Select RESPIRATION.
 - Select RELEARN RESPIRATION.
 - A learning message will appear in the respirations parameter window.
 - Select MAIN MENU to exit.

Inspiration Marker

Expiration Marker



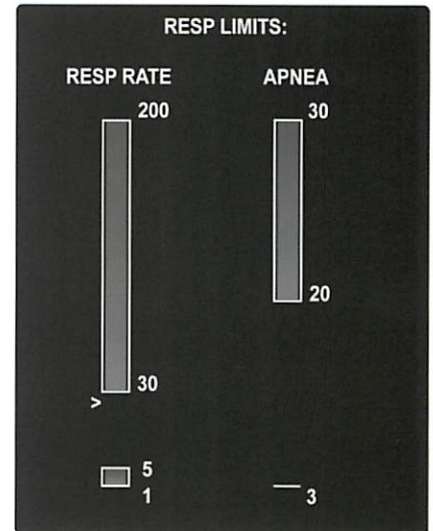
Example of a Good Respiratory Waveform



Relearn Respiration

■ Respiration Limits

- To Change the Respiration Limits:
 - Select RESPIRATIONS.
 - Select RESPIRATION LIMITS.
 - Select the desired respiratory rate limit or apnea limit.
 - Turn the Trim Knob to the desired respiratory rate and press to select.
 - Select MAIN MENU to exit.



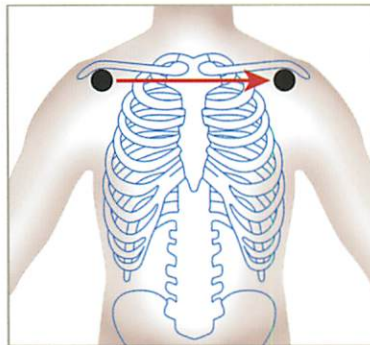
Respiratory Limits Information Window

Respiratory Rate

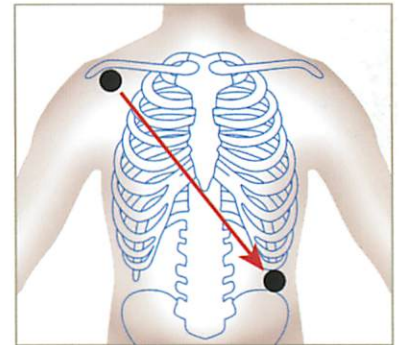
■ Respirations are detected by measuring thoracic impedance. Respirations can be monitored in Lead I for chest breathers or Lead II for abdominal breathers.

- To Change the Respiratory Lead:
 - Select RESPIRATION.
 - Select LEAD.
 - This option switches between Lead I and Lead II.
 - Select MAIN MENU to exit.

NOTE: Changing the leads automatically starts the relearning process.



Upper Chest Breathers — Lead I



Abdominal Breathers — Lead II

MAIN MENU	LEAD: II	RELEARN RESPIRATION	SENSITIVITY: 40%	RESPIRATION LIMITS	AUTO SIZE	MANUAL SIZE: 5X
CARDIAC ARTIFACT ALARM: ON						SPEED: 25

■ SpO₂ — GE Ohmeda Technology

The following guidelines apply:

- Adult Measurements:
 - Averaged over a six-second time period.
- Neonate Measurements:
 - Averaged over a 12-second time period. The longer averaging time decreases false alarms from patient motion artifact.

NOTE: Ohmeda OxyTip+ sensors and Nellcor R-Cal technology compatible sensors are supported.

MAIN MENU	SIZE: 1X	RATE: ON	RATE VOL: OFF	SPO ₂ LIMITS		PERSISTENT: OFF
						SPEED: 25

SpO₂ Menu — GE Ohmeda



■ SpO₂ — Nellcor OxiMAX Technology

The following guidelines apply:

- **Response:** The time period for acquiring measurement average is adjustable.
 - Normal: Report changes within four to six seconds.
 - Fast: Report changes in less than four seconds.
- **Sat-Seconds:** Controls the amount of time that SpO₂ saturation may be outside the set limit before an alarm sounds. This helps decrease the likelihood of false alarms caused by motion artifact.

NOTE: When the Sat-Seconds feature is active, the signal strength asterisks may not be displayed. To help determine signal strength, use the amplitude of the SpO₂ waveform.

MAIN MENU	SIZE: 1X	RATE: ON	RATE VOL: OFF	SPO2 LIMITS	SAT SECONDS: OFF	PERSISTENT: OFF
					RESPONSE: NORMAL	SPEED: 25

SpO₂ Menu — Nellcor OxiMAX

Sat-Seconds
"Pie Chart"



- **Sat-seconds Display:**
 - When an SpO₂ saturation value exceeds an alarm limit, a "pie chart" in the parameter window begins to "fill" in a clockwise direction. As the seconds pass and the value is compared against the alarm limits, the Sat-Seconds setting in the chart fills proportionally.

When the pie chart is completely filled, indicating the Sat-Seconds limit has been reached, an alarm sounds. When the SpO₂ value is within the set limits, the Sat-Seconds pie chart "empties" in a counter-clockwise direction.

NOTE: When three or more limit violations occur within 60 seconds, an alarm sounds even if the sat-seconds limit has not been reached.

- SpO₂ — Masimo SET allows the sensitivity and averaging times to be adjusted:

- Sensitivity options include:

- Normal, for routine patient monitoring purposes.
- Maximum for improved low perfusion performance and for faster tracking of SpO₂ changes.

- Averaging Menu Options:

- Determines how many seconds the collected SpO₂ information is averaged.
- Options for averaging times are: 2, 4, 8, 10, 12, 14, or 16 seconds.

MAIN MENU	SIZE: 1X	RATE: ON	RATE VOL: OFF	SPO2 LIMITS		PERSISTENT: OFF
	SENSITIVITY: NORMAL	AVERAGING: 8 SECS				SPEED: 25

SpO₂ Menu — Masimo SET



- The signal strength indicator denotes perfusion quality.

- Zero asterisks means no signal.
- Three asterisks indicates high perfusion level.

NOTE: With motion, the SpO₂ waveform is often distorted. With Masimo SET technology, the SpO₂ waveform is not an indication of signal quality or validity.

- Rejuvenating the adhesive properties of the disposable saturation sensor:

- Rejuvenate the sensor at least once per shift and PRN.
- Rub the adhesive sides of the sensor with an alcohol preparation pad.
- After the sensor has dried for at least one minute, replace it on the site.

NOTE: It is recommended that the adhesive tapes be changed with every site change. Adhesive tape can not be rejuvenated.

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3000 North Grandview
Waukesha, WI 53188
U.S.A.

www.gehealthcare.com



imagination at work

View Other Patients

■ Allows patient data to be viewed from another patient's bedside.

• To View Another Patient:

- Select MORE MENUS.
- Select VIEW OTHER PATIENTS.

- Select a bed to view.
- The display will be divided into two with the Viewed Patient on the left, (the message VIEWED PATIENT will be displayed on the bottom) and the current monitored bed on the right.

• To Remove the Viewed Patient:

- Select MORE MENUS.
- Select VIEW OTHER PATIENTS.
- Select a bed to view.
- Note that the cursor is in front of the Viewed Patient and press to select.
- The Viewed Patient will be removed and only the current monitored bed will be displayed.

Note: The message VIEWED PATIENT will be displayed on the bottom.

• AVOA

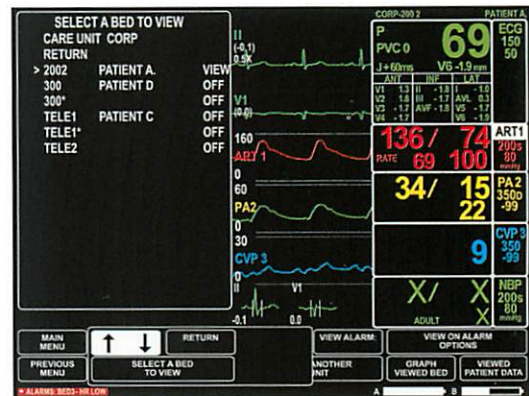
When the Auto View On Alarm (AVOA) feature is activated, selected beds in alarm will automatically pop up.

A split screen on the host monitor, shows real-time information along with a popup menu related to the alarm bed.

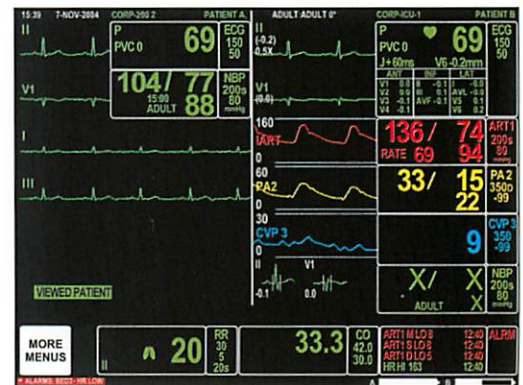
The user can graph the alarm, silence the alarm, pull up vital signs or graphic trends from the popup menu.

• To Set Up AVOA XM at the Host Monitor:

- Select MORE MENU.
- Select VIEW OTHER PATIENTS.
- Select VIEW ON ALARM OPTIONS.



Select a Bed to View Display



Viewed Patient Display

■ Display Mode

This option controls the view of the display.

- Individual 3 Waveform: When monitoring up to three waveform parameters, the three individual waveform display options may be selected. This will double the size of displayed parameters and automatically align waveforms with their respective parameter windows. A maximum of six parameters and three waveforms can be viewed in this mode.

NOTE: A pulse rate value can be displayed in the NBP parameter window when Individual 3 Waveform mode is initialized.

- To Change from Six Individual Waveforms to Three:
 - Select MORE MENUS.
 - Select MONITOR SETUP.
 - Select DISPLAY.
 - From popup menu, select INDIVIDUAL 3 WAVEFORMS.



NOTE: If additional waveform parameters are added, the display must be changed back to INDIVIDUAL 6 WAVEFORM in order to view all waveforms on the display.

- Individual 6 Display: A maximum of six waveforms and eight parameter windows can be displayed with each waveform having an independent scale.

- Full Display: A maximum of five waveforms can be displayed. The first two are individual scale, the next two are common scale, and the final is individual scale.
- Full Grid Display: This option allows for the display to be on a full or common scale with graticules displayed on the screen.

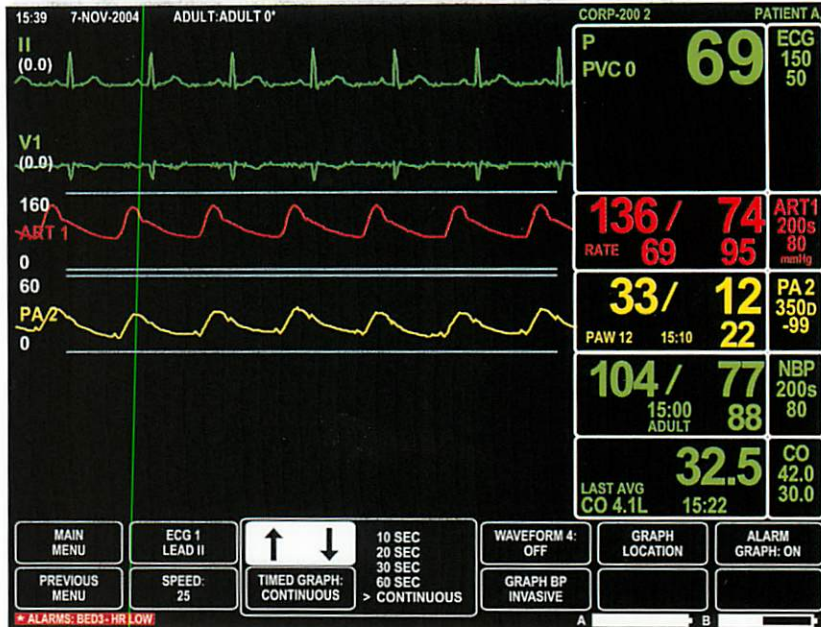
■ Timed Graph/Print

- To Change a Timed Graph/Print:

- Select MORE MENUS.
- Select MONITOR SETUP.
- Select GRAPH/PRINT SETUP.
- Select TIMED GRAPH/PRINT.
- Highlight desired waveforms to be graphed.
- Highlight GRAPH/PRINT.
- Turn Trim Knob to move the cursor to select the desired time and press to select.
- Select MAIN MENU to exit.

NOTE: By selecting a specific graph/print time, the GRAPH/PRINT will stop at the selected interval.

By selecting CONTINUOUS GRAPH/PRINT, the user must stop Graph/Print.

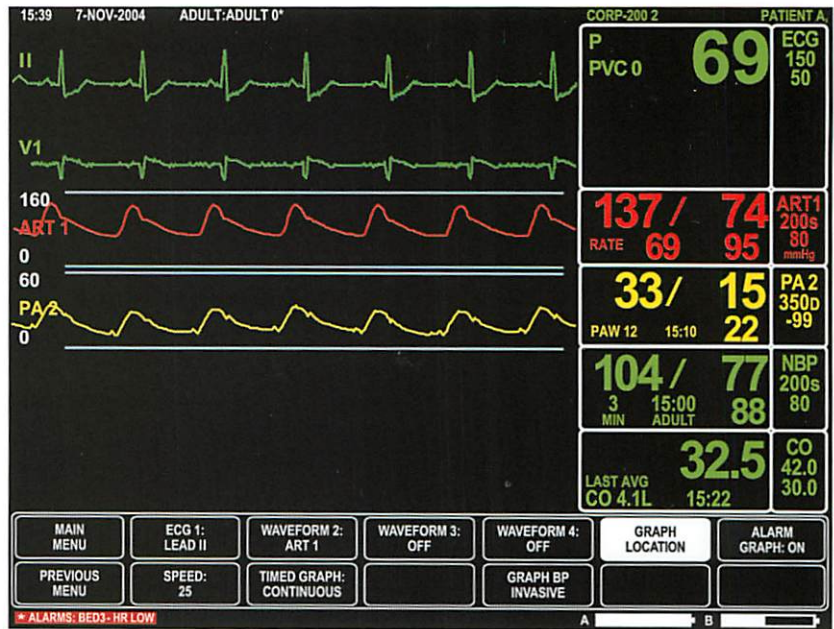


Monitor Setup

■ BP Waveform

- To Graph/Print Waveforms (without ECG lead):
 - Select MORE MENUS.
 - Select MONITOR SETUP.
 - Select GRAPH/PRINT SETUP.
 - Select GRAPH/PRINT BP INVASIVE.
 - Highlight desired waveforms to be graphed/printed.
 - Highlight GRAPH/PRINT.
 - Select MAIN MENU to exit.
 - Press the GRAPH/PRINT GO/STOP button on the monitor to stop the graph.

NOTE: This option is also available in the PA Insert/Wedge menu.



■ Graph/Print Location

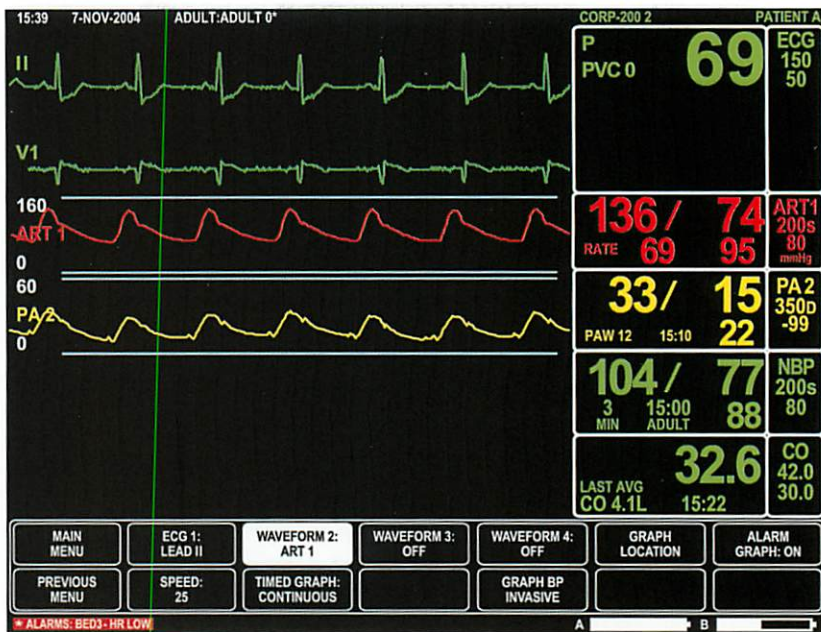
- To Change the Graph/Print Locations:
 - Select MORE MENUS.
 - Select MONITOR SETUP.
 - Select GRAPH/PRINT SETUP.
 - Select GRAPH/PRINT LOCATION.
- Select MANUAL, ALARM or PRINT WINDOW LOCATION.
An information window is displayed with a list of available writers.
- Turn Trim Knob to move the cursor to select the specific writer and press to select.
- Select MAIN MENU to exit.

Graph/Print Setup

All Printing Options

■ Graph/Print Go/Stop

- To Print a Waveform Strip:
 - Press the GRAPH/PRINT GO/STOP button on the front of the monitor.
- To print an information window:
 - Press the GRAPH/PRINT GO/STOP button on the front of the monitor.



■ Changing Graphing/ Printing Waveform Leads

- To Change the Leads that are being Graphed/ Printed:
 - Select MORE MENUS.
 - Select MONITOR SETUP.
 - Select GRAPH/PRINT SETUP.

- Select waveform 2, 3, or 4 to change graphing/ printing waveforms.
- Turn Trim Knob to move the cursor in front of the desired waveform and press to select.
- Select MAIN MENU to exit.

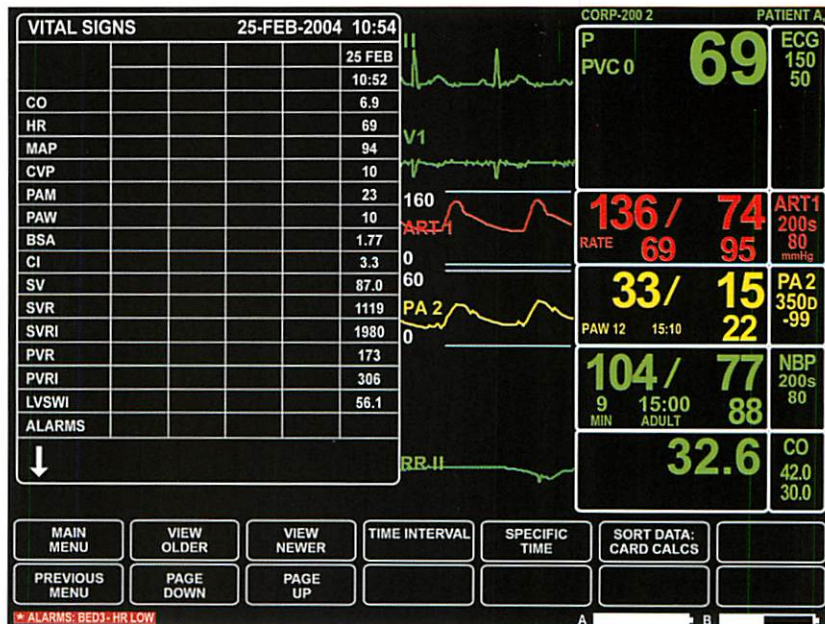
NOTE: In the Dash 5000 menus, all the words "graph" are replaced with "print".

■ Cardiac Calculations

The 20 most current Cardiac Calculations are stored.

- To Review Stored Cardiac Calculations:
 - Select MORE MENUS.
 - Select PATIENT DATA.
 - Select CARDIAC CALCS.
 - Review Cardiac Calculations.
 - Press the GRAPH GO/STOP button on the monitor to print the displayed calculations.
 - Select MAIN MENU to exit.

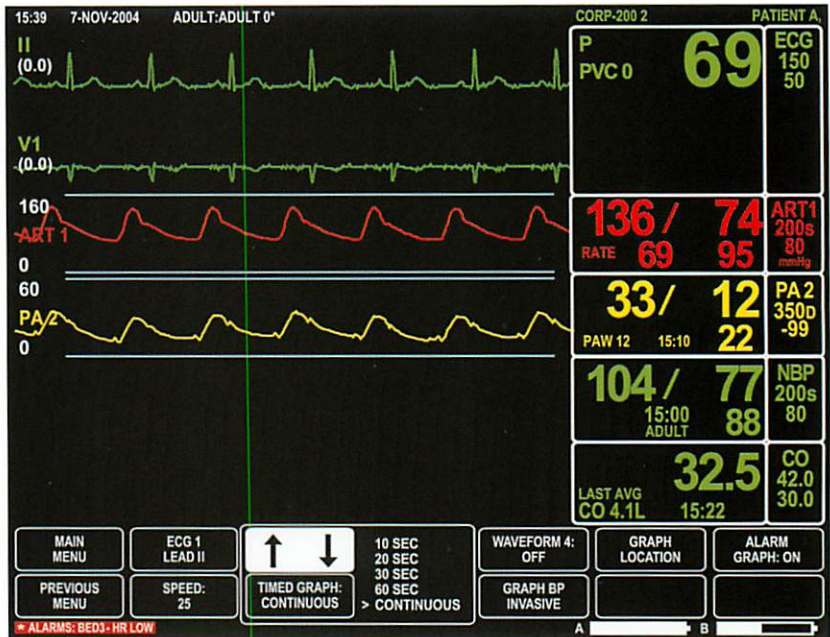
NOTE: This is the Vital Signs information window, but the data is sorted so Cardiac Calculations (CO) appears first in the list.



■ Titration Table

A Titration Table can be accessed after completing a dose calculation.

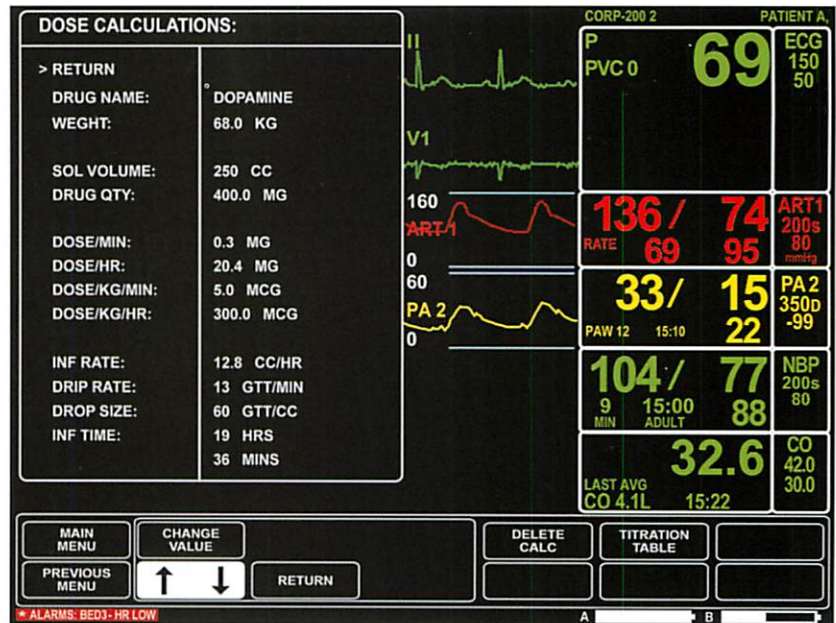
- To Obtain Drug Titration Table:
 - Complete drug dose calculation.
 - Select Titration Table and an information window will appear.
 - The calculated dose appears in the center of the table. To change the table range, repeat the drug dose calculation procedure and enter a different dose to be calculated.
 - Press the GRAPH GO/STOP button on the monitor to print the displayed titration table.
 - Select MAIN MENU to exit.



■ Dose Calculations

Provides a method of determining drug dosages. Different monitor modes utilize different drug libraries. The Adult Monitoring Mode offers 21 different drugs and four unspecified drugs, while the Neonatal Monitoring Mode offers 14 different drugs and four unspecified drugs.

- To Obtain Dose Calculations:
 - Select MORE MENUS.
 - Select PATIENT DATA.
 - Select DOSE CALCS.
 - Select the CHANGE VALUES option.
 - Move the cursor to DRUG NAME and press to select.
 - Scroll to the desired drug and press to select.
 - Repeat the above procedure to enter the following values:
 - Weight
 - Solution volume
 - Drug quantity



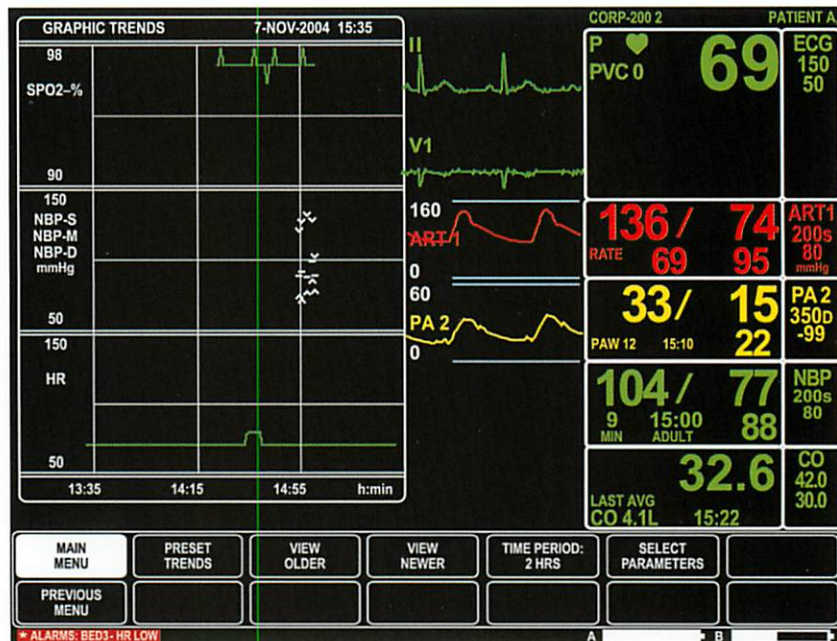
NOTE: When using the option of Drug A, B, C, D (unspecified drugs), be sure to select the proper drug administration units for the medication

- Select the appropriate drug units for the medication.
- Scroll to the desired dose and press to select.
- The infusion rate will be automatically calculated and displayed.
- Press the GRAPH GO/STOP button on the monitor to print the displayed calculation.
- Move the cursor in front of RETURN and press to select.
- Select SAVE CALC to store dose calculation in the monitor (optional).
- Select MAIN MENU to exit.

■ Graphic Trends

Allows graphic representation of data over a specified period of time.

- To Retrieve Graphical Trended Information:
 - Select MORE MENUS.
 - Select PATIENT DATA.
 - Select GRAPHIC TRENDS.
 - An information window is displayed with the graphic trends that were last selected.
 - Select MAIN MENU to return.



■ Menu Options

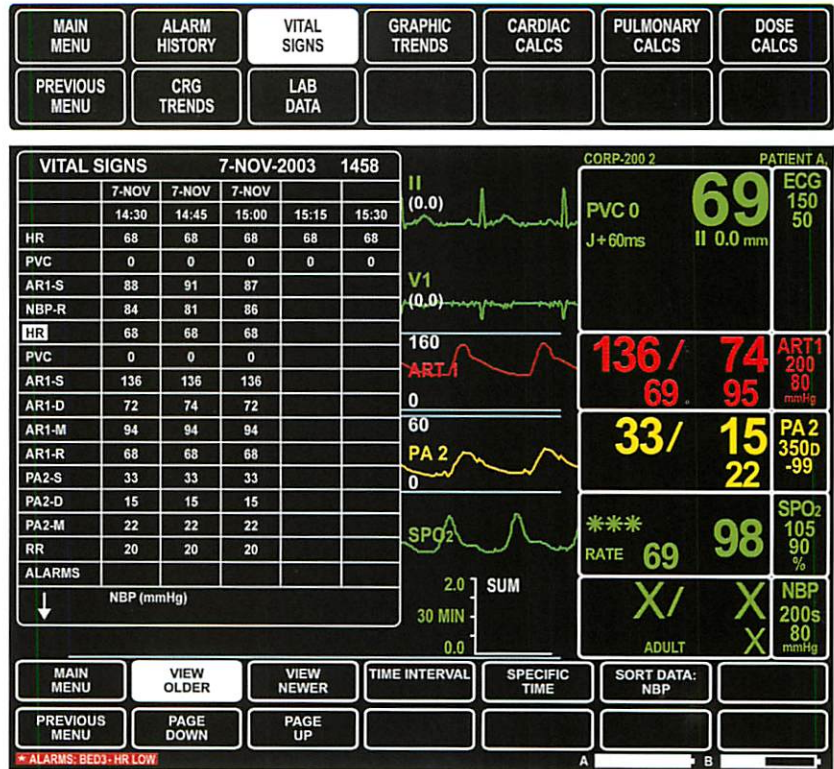
- Preset Trends:
 - Select one of the preset parameter groups to trend.
- View Older/View Newer:
 - Moves the trends window backward or forward in time.
- Time Period:
 - Allows you to select a time period for viewing the displayed trends.
- Select Parameters:
 - Allows you to choose up to three parameters to trend.

■ Vital Signs

Provides 24 hours of stored parameter data, including the last 20 cardiac calculations and 10 pulmonary calculations.

• To Retrieve Vital Sign Information:

- Select MORE MENUS.
- Select PATIENT DATA.
- Select VITAL SIGNS.
- An information window is displayed.
- Menu options include:
 - View Older/Newer
 - Time Interval: Select the time interval for the patient data display.
 - Specific Time: Select a specific time period of collected data to view.
 - Sort Data: Allows you to sort collected patient data in a specific order.
 - Page Up/Page Down
- Press GRAPH GO/STOP on the monitor to print displayed vital signs.
- Select MAIN MENU to return.



• Dash 5000

The Trends key can be customized so you can view a specific trend type:



- Vitals All: Displays Vital Signs window when pressed.

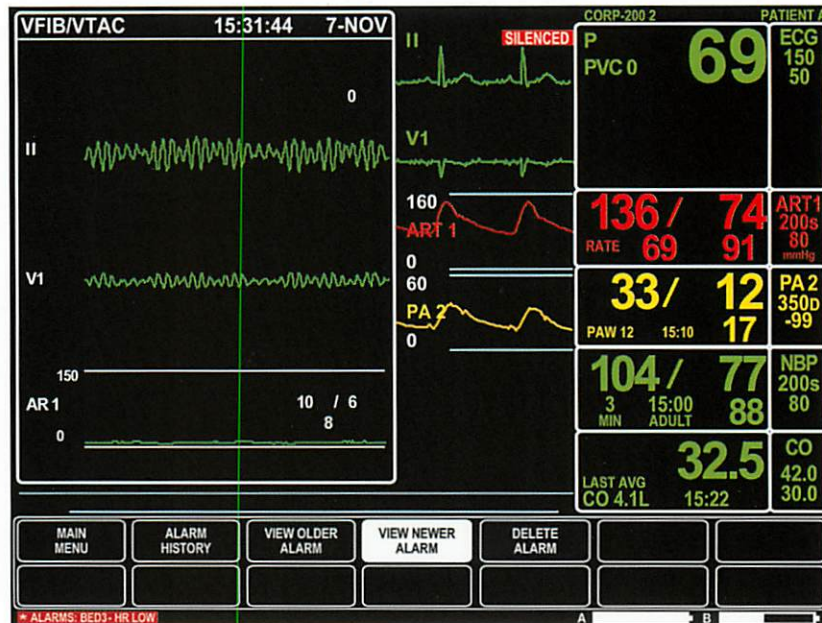
- Vitals NBP: Displays Vital Signs window sorted by NBP first.
- Graphic: Displays Graphic Trends window when pressed.
- CRG: Displays CRG Trends window when pressed.

Patient Data

■ Alarm History

Allows storage of up to 36 arrhythmia waveforms and 10 ST events (including reference) that are set in a Crisis, Warning, or Advisory alarm level.

- To Retrieve Alarm History Information:
 - Select MORE MENU.
 - Select PATIENT DATA.
 - Select ALARM HISTORY.
 - An information window is displayed.
 - Move the cursor in front of the desired event to be viewed.
 - Press the Trim Knob to view a 10-second condensed window of the arrhythmia.
 - Press GRAPH GO/STOP on the monitor to print the displayed arrhythmia.
 - Select MAIN MENU to return.



NOTE: Ten seconds of three ECG leads or two ECG leads and the ART waveform are displayed in a compressed format.

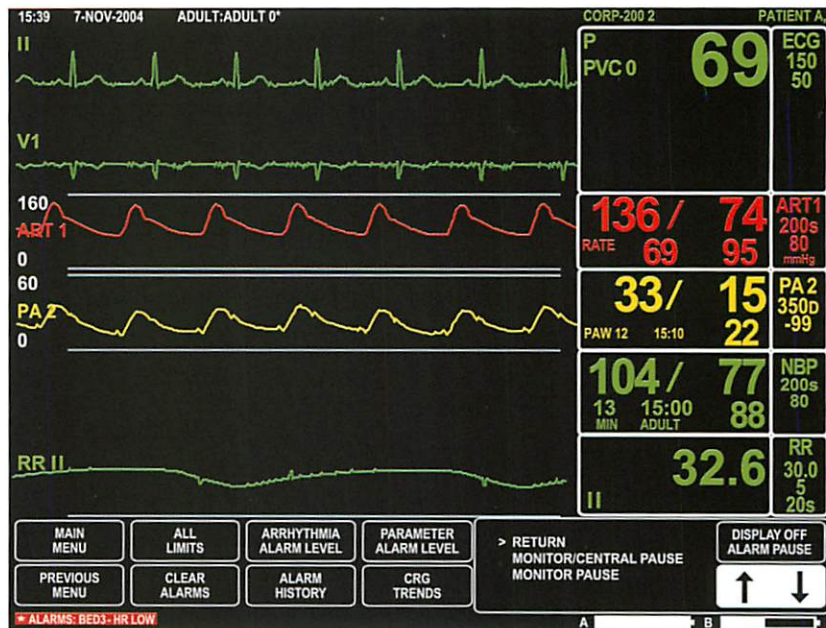
NOTE: Alarm History information can also be reviewed under Alarm Control.

Alarm Control

- **Display Off/Alarm Pause:**
This option allows the user to disconnect the patient from the monitor for an extended period of time.
There are several alarm pause choices available:
 - **Monitor/Central Pause:**
This option turns off the bedside monitor and pauses the alarms at both the bedside and the central station for an indefinite period of time.
 - **Monitor Pause:**
This option turns off the bedside monitor, but allows alarm notification to remain active at the central station.

NOTE: Pressing the Power Button will turn the Dash display off and stop communication with the Central Station. Depending on your configuration, a NO COMM alarm may sound.

NOTE: Dash 5000 – The standby hard key is a quick way to pause alarms at the bedside and central.
Dash 3000/4000 – The menu option GO TO STANDBY found under MORE MENUS, is a quick way to pause alarms at the bedside and central.



- To Activate the Display Off/Alarm Pause Feature:
 - Select MORE MENUS.
 - Select ALARM CONTROL.
 - Select DISPLAY OFF/ALARM PAUSE.
 - Move the cursor in front of the desired alarm pause choice and press to select.
- The display screen is now paused.
- Press the Power button on the monitor to reactivate the display and alarms.

- **Alarm Volume:**
The Alarm Volume can be adjusted at the bedside.

NOTE: The Alarm Volume at the bedside monitor does not affect the Alarm Volume at the central station.

NOTE: A minimum Alarm Volume can be set up in the monitor defaults.

- **Clear Alarms:**
Allows for any alarm information displayed in the alarm parameter window to be cleared from the display.
 - Information from the alarm parameter window is removed.

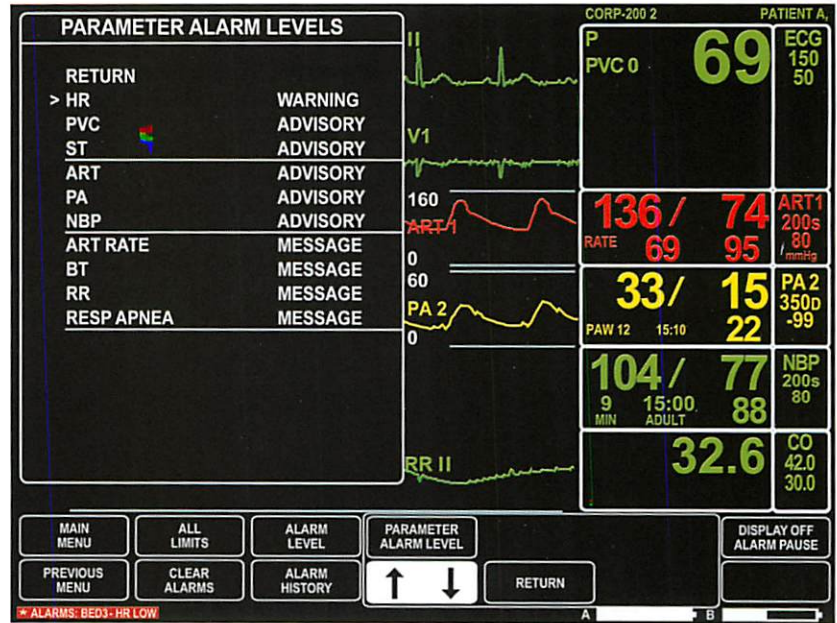
NOTE: Arrhythmia alarms are not deleted and can be found in the Alarm History.

- **Alarm History:**
This information is found under the Alarm Control menu as well as the Patient Data menu.



Alarm Control

- Parameter Alarm Level: This option allows the parameter alarm levels to be viewed or reassigned to other levels if desired.
- To Adjust Parameter Alarm Levels:
 - Select MORE MENUS.
 - Select ALARM CONTROL.
 - Select PARAMETER ALARM LEVEL.
 - An information window is displayed.
 - Move the cursor in front of the Parameter to be changed and press to highlight.
 - Turn the Trim Knob to the desired level (Crisis, Warning, Advisory or Message), and press to select.
 - Move the cursor in front of RETURN and press to select, and close the window.
 - Select MAIN MENU to exit.



NOTE: Any changes made with the Parameter Alarm Level menu options are temporary and return to the default settings upon patient discharge.

- Arrhythmia Alarm Level:

This option allows the arrhythmia alarm levels to be viewed and changed.

- To Adjust Arrhythmia Alarm Levels:

- Select MORE MENUS.
- Select ALARM CONTROL.
- Select ARRHYTHMIA ALARM LEVEL.
- An information window is displayed.
- Turn the Trim Knob to the desired alarm level (Crisis, Warning, Advisory or Message), and press to select.
- Move the cursor in front of RETURN and press to select, and close the window.
- Select MAIN MENU to exit.



NOTE: Any changes made with the Arrhythmia Alarm Level menu options are temporary and return to the default settings upon patient discharge.

NOTE: Asystole and VFib/VTach cannot be moved from a Crisis alarm level in the Adult ICU and Neonatal modes.

Alarm Control Menu

- All Limits:

- This information window shows all the high and low alarm limits for all parameters that are currently being monitored.
- You can adjust the parameter limits here, but it is much easier to adjust them in the individual parameter windows.

NOTE: Any changes made with the Parameter Alarm Level menu options are temporary and return to the default settings upon patient discharge.



CORP-200 2
PATIENT A,

ALL LIMITS			
> RETURN	UNITS	LOW	HIGH
HR	BPM	50	150
PVC	# /min		6
NBP-S	mmHg	80	200
NBP-D	mmHg	20	120
NBP-M	mmHg	40	140
AR1-S	mmHg	80	200
AR1-D	mmHg	20	120
AR1-M	mmHg	40	140
AR1-R	BPM	50	150
PA2-S	mmHg	-99	350
PA2-D	mmHg	-99	350
PA2-M	mmHg	-99	350
RR	# /min	5	30
RR-APNEA	sec		20

PVC 0 J+60ms	69	ECG 150 50
	II 0.0 mm	
136 / 74	69 95	ART1 200 80 mmHg
33 / 15	22	PA 2 350D -99
PAW 12 15:10		
104 / 77	88	NBP 200s 80
13 MIN 15:00 ADULT		
	20	RR 30.0 5 20s

MAIN MENU	ALL LIMITS
PREVIOUS MENU	<div style="display: flex; justify-content: center; gap: 5px;"> ↑ ↓ ← → </div>

ALARM VOL: 20%	ALARM HELP	DISPLAY OFF ALARM PAUSE
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ALARMS: BED3:HR LOW A B

- Alarm Pause breakthrough
The Alarm Pause breakthrough feature allows any crisis alarm to “break through” or interrupt an alarm pause with an audible alarm. When a crisis alarm breaks through, the alarms will sound and the event will print, but no storage of that event will be found in the Alarm History. This option is set up in the monitor defaults.

