V Series

Quick Reference Guide

mindray

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

Table of Contents

Table of Contents (cont'd)

Table of Contents (cont'd)

Quick Functions Keys (Configurable)

Up to 6 keys may be used in **Quick Functions** tab

Alarm Limits	Alarm Responses	Alarm Watch
Arrhythmia	C.O. Run	Demographics
Drug Calculator	Events	ECG Menu
Full Disclosure	Graphic Trends	Hemodynamics
Lead/Size	List Trends	NIBP Stat
PA Insertion	Parameters	PAWP
Print 12 Lead	Privacy Mode	Quick Trends
Relearn Arrhythmia	Relearn ST	Remote View
Standby	Start NIBP	ST Review
Transfer/ Discharge	View All ECG	Zero All NIBP

Strip	Capture Event	History	Audio Pause	Alarm Acknowledge	Normal Screen

Buttons (2.5 Software)

Strip	Initiates a single strip or a continuous strip print request
Capture Event	Saves an event to the event database
History	Accesses the Trends, Events, and Full Disclosure dialogs
Audio Pause/Off	Silences all current and future alarms for the configured time period. If the configured period is set to **Permanent**, the button reads **Audio Off.**
Alarm Acknowledge/Reset	Silences the current alarms for the configured time period. If the configured period is set to **Permanent**, the button reads **Alarm Reset.**
Normal Screen	Closes all dialogs and returns to the Main Screen

Strip	Capture Event	History	Silence All	Silence	Normal Screen

Buttons (2.4 Software)

Strip	Initiates a single strip or a continuous strip print request
Capture Event	Saves an event to the event database
History	Accesses the Trends, Events, and Full Disclosure dialogs
Silence All	Silences all current and future alarms for the configured time period
Silence	Silences the current alarms for the configured time period
Normal Screen	Closes all dialogs and returns to the Main Screen

Quick Functions Tab (Configurable)

Start/Stop NIBP	Starts/Stops a NIBP measurement in progress – If there is no measurement in progress, the button reads **Start NIBP** If there is a measurement progress, the button reads **Stop NIBP**
NIBP Stat	Starts an immediate NIBP measurement
Zero All IBP	Sets the current pressure for all invasive pressure channels to zero
View All ECG	Displays all the ECG waveforms available based on the lead set currently in use
Lead/Size	Accesses the Lead/Size dialog used to change the ECG waveform height or wave gain
Standby	Places the monitor in the standby mode

Print Tab

Continuous/Abort	Begins/ends strips from printing to the thermal printer
Print 12 Lead	Prints a 12 Lead Report to the default printer
Print Setup	Accesses the Print Setup dialog where the clinician can configure which waveforms to print and where to print them
Print Queue	Accesses the Print Queue dialog

Setup Tab

Patient Info	Accesses the Patient Info dialog
Audio Levels	Accesses the Audio Levels dialog
Display	Accesses the Display Setup dialog
Parameters	Accesses the Parameter dialog
System	Accesses the System Setup dialog

Tools Tab

Calculators	Accesses the Calculators dialog
Alarm Watch	Accesses the Alarm Watch dialog
Remote View	Accesses the Remote View dialog
System Information	Accesses the System Information dialog
VAccess	Accesses the VAccess dialog*

Procedures Tab

Note: These buttons are only available when using the Adult or Pediatric patient size

C.O. Run	Accesses the Cardiac Output Runs dialog
PAWP	Accesses the PAWP dialog
PA Insertion	Accesses the PA Insertion dialog.
Hemo Calculations	Accesses the Hemodynamic Calculations dialog
12 Lead	Accesses the 12 Lead dialog*

Alarms Tab

Limits	Accesses the Alarm Limits dialog
Responses	Accesses the Responses dialog
Arrhythmia	Accesses the Arrhythmia Alarm dialog
Alarm Setup	Accesses the Alarm Setup dialog

*Only if enabled

PATIENT INFO

Enter Demographics

The Patient Info menu allows the clinician to enter and modify patient demographics.

To enter demographics on V12 or V21 bedside monitor:

a. Select **Demographics*** (**Quick Function** tab)
    or select **Patient Info** (**Setup** tab) to enter **Demographics** tab

b. Select applicable button to open field and enter patient information using on screen keyboard

c. Select **Accept** to accept information on patient name and ID

d. Select **Enter** to accept information on height, weight, DOB, and age

e. Select **Accept** to save settings and return to the main screen

Panorama® Central Station Interface: Entering demographic information on the Panorama Central Station or WorkStation automatically enters it on the V12 or V21 bedside monitor. Entering demographic information on the V12 or V21 bedside monitor automatically enters it on the Panorama Central Station, ViewStation, and WorkStation. **Entering Demographics is not required for patient information to be displayed or stored.**

Adjust Patient Size

The Patient Info menu allows the clinician to adjust patient size. To adjust patient size on the V12 or V21 bedside monitor:

a. Select **Demographics*** (**Quick Function** tab)
    or select **Patient Info** (**Setup** tab) to enter **Demographics** tab

b. Select **Patient Size**

c. Select Adult, Pediatric, or Neonate

d. Select **Accept** to save settings and return to the main screen

Note: Adjusting patient size restores the default (preconfigured) settings but does not clear patient information or data. Patient size is retained upon discharge.

Panorama® Central Station: Patient size cannot be changed from the Panorama Central Station.

*Configurable

Discharge A Patient

The Discharge function clears all patient information and restores default (preconfigured) settings.

To Discharge a patient from the V12 or V21 bedside monitor:

a. Select **Discharge*** (**Quick Function** tab)
   or select **Patient Info** (**Setup** tab) and select **Transfer/Discharge** tab

b. Select **Discharge**

c. Select **Yes** to confirm

Note: After the patient is discharged, default (preconfigured) settings are restored and Discharged is displayed on the V12 or V21 bedside monitor.

Panorama® Central Station Interface: Discharging a patient on the V12 or V21 bedside monitor automatically discharges the patient on the Panorama Central Station, WorkStation, and ViewStation. Discharging the patient on the Panorama Central Station discharges the patient on the WorkStation, ViewStation, and V12 or V21 bedside monitor (optional).

STANDBY

Enter Standby

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

To place a patient into Standby on the V12 or V21 bedside monitor:

a. Select **Standby*** (**Quick Function** tab)

Or

a. Select **Patient Info** (**Setup** tab) and select **Standby**

Resume Monitoring

Touch anywhere on the screen to remove a patient from Standby and resume monitoring on the V12 or V21 bedside monitor

*Configurable

Panorama® Central Station Interface: Placing a patient in standby on the V12 or V21 bedside monitor automatically places the Panorama Central Station, WorkStation, and ViewStation in standby. Selecting **Bedside and Panorama Standby** on the Panorama Central Station or WorkStation automatically places the bedside monitor and ViewStation in standby. Touch anywhere on the screen on the V12 or V21 bedside monitor to remove a patient from standby as a patient cannot be removed from Standby on the Panorama Central Station.

PRIVACY MODE

To suspend alarm notification and turn off the display on the V12 or V21 bedside monitor when admitted to the Panorama Central Station:

   a. Select **Privacy Mode*** (**Quick Function** tab)

Or

   a. Select **Display** (**Setup** tab) and select **Privacy Mode**

To remove a patient from Privacy Mode and resume monitoring on the V12 or V21 bedside monitor touch anywhere on the screen.

Note: If communication is interrupted between the V12 or V21 bedside monitor and the Panorama Central Station, Privacy Mode is **automatically** disabled.

Note: A patient cannot be removed from Privacy Mode from the Panorama Central Station. The patient must be removed from Privacy Mode on the V12 or V21 bedside monitor.

PRINT

Real-Time Waveforms

To print a strip on a patient on the V12 or V21 bedside monitor:

   a. Select **Strip** in the Navigational Area

   b. Select **Waveform** (modular recorder enabled)

*Configurable

Adjust Print Location

To adjust the print location for a patient on the V12 or V21 bedside monitor:

a. Select **Print Setup** (**Print** tab)

b. Select **Destination** tab

c. Select

   1) **Real Time** to set the **Strip** location

   2) **Print on Alarm** to set the automatic alarm printing location (Refer to Alarm Responses tab)

   3) **Others** to set the historical and other reports' location

d. Select

   1) **Thermal** to print to the modular recorder

   2) **Laser** to print to a predetermined laser printer

   3) **Laser, Thermal** to simultaneously print to the modular recorder and a predetermined laser printer

e. Select **Accept** to save settings and return to the main screen

Adjust Waveforms Printing

To adjust printed waveforms on a patient on the V12 or V21 bedside monitor:

a. Select **Print Setup** (**Print** tab)

b. Select **Setup**

c. Select **Configuration Waveform**

   1) Select waveform and select **Add** to add waveform to the selected list

Or

   2) Select waveform from the selected list and select **Remove** to remove the waveform from the selected List

d. Select **Accept** to save settings and return to the **Setup tab**

e. Select **Accept** to return to the main screen

ECG

Adjust ECG Lead

The V12 or V21 bedside monitor allows the clinician to adjust the leads being viewed on the main screen.

To adjust an ECG Lead on the V12 or V21 bedside monitor:

    a. Select ECG waveform to enter **ECG Setup** tab

    b. Select **ECG Leads**

    c. Scroll and select lead from drop down menu

    d. Select **Accept** to save settings and return to the main screen

Panorama® Central Station Interface: Adjusting ECG leads on the V12 or V21 bedside monitor, Panorama® Central Station, WorkStation, and ViewStation are independent.

Enable Pacemaker Detection

The V12 or V21 bedside monitor allows the clinician to enable pacemaker enhancement.

To enable the pacemaker enhancement on the V12 or V21 bedside monitor:

    a. Select ECG waveform to enter **ECG Setup** tab

Or

    a. Select **Parameters** (**Setup** tab) and select **ECG** to enter **ECG Setup** tab

    b. Select **Pacer** tab

    c. Select **Pacer Enhancement** and select **On**

    d. Select **Accept** to save settings and select **Done** (as needed) to return to the main screen

Panorama® Central Station Interface: Pacemaker enhancement on the V12 or V21 bedside monitor, Panorama Central Station, WorkStation, and ViewStation are independent.

Adjust Arrhythmia and Beat Classification Leads (Version 2.5 or greater)

The V12 or V21 bedside monitor allows the clinician to select the primary and secondary leads used for arrhythmia analysis as well as a third lead for beat classification. To adjust these leads on the V12 or V21 bedside monitor:

   a. Select ECG waveform to enter **ECG Setup** tab

Or

   a. Select **Parameters** (**Setup** tab) and select ECG to enter **ECG Setup** tab

   b. Select **Advanced Arrhy Setup** tab

   c. Select **Primary Analysis Lead**

   d. Scroll and select lead from drop down menu

   e. Select **Secondary Analysis Lead**

   f. Scroll and select lead from drop down menu

   g. Select **Beat Classification Lead**

   h. Scroll and select lead from drop down menu

   i. Select **Accept** to save settings and select **Done** (as needed) to return to the main screen

Adjust QRS Threshold (Version 2.5 or greater)

The V12 or V21 bedside monitor allows the clinician to manually adjust the QRS threshold on (detection) to avoid noise spikes or P-waves as valid beats. To adjust the QRS threshold on the Primary and Secondary Analysis leads on the V12 or V21 bedside monitor:

   a. Select HR tile to enter **HR Alarms** tab

   b. Select **Setup** tab

   c. Select **QRS threshold** to enter **Minimum QRS Threshold** dialog

   d. Adjust threshold line using ⬆ or ⬇

   e. Select **Accept Threshold**

   f. Select **Done** to save settings and select **Accept** to return to the main screen

Initiate ECG Relearn

To initiate arrhythmia and ST learning manually on the V12 or V21 bedside monitor:

   a. Select ECG waveform to enter **ECG Setup** tab

Or

   a. Select **Parameters** (**Setup** tab) and select **ECG** to enter **ECG Setup** tab

   b. Select **Relearn Both** to update arrhythmia and ST templates

   c. Select **Accept** to save settings and select **Done** (as needed) to return to the main screen

Initiate QT Monitoring (Version 2.5 or greater)

   a. Select ECG waveform to enter **ECG Setup** tab

Or

   a. Select **Parameters** (**Setup** tab) and select **ECG** to enter **ECG Setup** tab

   b. Select **Advanced Arrhy Setup** tab

   c. Select **QT Monitoring** and select **On**

   d. Select **Accept** to save settings and select **Done** (as needed) to return to the main screen

Enable QTC Limit (Version 2.5 or greater)

   a. Select ECG waveform to enter **ECG Setup** tab

Or

   a. Select **Parameters** (**Setup** tab) and select **ECG** to enter **ECG Setup** tab

   b. Select **Advanced Arrhy Setup** tab

   c. Select **QTC Limit**

   d. Select QTC High Range

   e. Select **Accept** to save settings and return to the **Advanced Arrhy Setup** tab

   f. Select **Accept** to save settings and select **Done** (as needed) to return to the main screen

Initiate ST Analysis

To initiate ST analysis on the V12 or V21 bedside monitor:

a. Select ST tile and select **Setup** tab

Or

a. Select **Parameters** (**Setup** tab) and Select **ST** to enter the **ST Setup** tab

b. Select **Analysis** and select **On**

c. Select **Accept** to save settings and select **Done** (as needed) to return to the main screen

12 Lead ECG

Enable 12 Lead ECG

The V12 or V21 bedside monitor allows the clinician to monitor 12 Leads of ECG and provide a 12 Lead Interpretive Report.

To enable 12 Lead ECG on V12 or V21 bedside monitor:

a. Prep patient's skin in accordance with hospital policy

b. Attach electrode to lead wire before placing on patient

c. Place electrodes on patient in accordance with hospital policy

d. Insert 12 Lead ECG Module into V-Patient Server (VPS)

e. Select ECG waveform to enter **ECG Setup** tab

f. Select **ECG Cable Type**

g. Scroll and select **12 Lead** from drop down menu

h. Select **Accept** to save settings and return to the main screen

View 12 Lead ECG

To view 12 Lead ECG on V12 or V21 bedside monitor:

a. Select **View All ECG*** (**Quick Function** tab)

Or

a. Select ECG waveform to enter **ECG Setup** tab and select **View All ECG**

b. Select **View All ECG** a 2nd time to remove viewing of 12 Lead ECG

*Configurable

Note: If viewing on V12 monitor selecting **View All ECG** a second time will display the next 6 leads and selecting **View All ECG** a third time will remove viewing of 12 Lead ECG

Print 12 Lead ECG

To print a 12 Lead ECG Interpretive Report on V12 or V21 bedside monitor:

   a. Select **Print** tab in Navigation Area

   b. Select **Print 12 Lead** to print to the configured location

Or

   a. Select **Procedures** tab in Navigation Area

   b. Select **12 Lead**

   c. Select **Print 12 Lead** to print to the configured location

   d. Select **Accept** to return to the main screen

NIBP

Initiate a Non-Invasive Blood Pressure Measurement (NIBP)

To initiate a NIBP measurement on a patient on the V12 or V21 bedside monitor

   a. Select on the VPS module

Or

   a. Select **Start NIBP*** (**Quick Function** tab)

Or

   a. Select NIBP tile to enter the **Alarms** tab and Select **Start NIBP**

   b. Select **Accept** to return to the main screen

*Configurable

Set A Non-Invasive Blood Pressure Measurement Interval

The V12 or V21 bedside monitor allows the clinician to set an interval for a NIBP measurement to be obtained automatically.

To set an automatic interval on the V12 or V21 bedside monitor:

    a. Select **NIBP Interval*** (**Quick Function** tab) repeatedly to the preferred interval

Or

    a. Select NIBP tile

    b. Select **Setup** tab

    c. Select **Interval**

    d. Scroll and select interval

    e. Select **Accept** to save settings and to return to the main screen

Note: When a NIBP interval is first selected, **Start NIBP** *must* be selected. If the NIBP interval is adjusted, **Start NIBP** is not required. **Start NIBP** must be re-selected if the NIBP interval is interrupted (i.e. Standby, NIBP Stop, etc).

During NIBP cuff inflation, to stop *all* NIBP measurements on a patient on the V12 or V21 bedside monitor:

    a. Select on the VPS module

Or

    a. Select **Stop NIBP*** (**Quick Function** tab)

Or

    a. Select NIBP tile

    b. Select **Stop NIBP**

    c. Select **Accept** to return to the main screen

Note: NIBP Start must be selected to resume interval.

*Configurable

INVASIVE BLOOD PRESSURES

The V12 or V21 bedside monitors allow a clinician to monitor up to 8 invasive blood pressures (IBP) simultaneously.

Adjust Invasive Blood Pressure Label

To adjust the label on an invasive blood pressure on the V12 or V21 bedside monitor:

    a. Insert IBP Module as needed

    b. Select the invasive blood pressure waveform to enter **IBP Waveform** and select **Setup** tab

Or

    b. Select **Parameters** (**Setup** tab) and select the Invasive Blood Pressure (ART, CVP, etc.) to enter the **Invasive Blood Pressure's Setup** tab

    c. Select **Label**

    d. Select label

    e. Select **Accept** to save settings and select **Done** (as needed) to return to the main screen

Note: If the label is assigned to another IBP port, even if the IBP is not being displayed or utilized, the label will not be included in the list selection.

Zero Invasive Blood Pressure

To zero one or more invasive blood pressure transducers on the V12 or V21 monitor:

    a. Insert IBP Module as needed

    b. Connect the invasive blood pressure cable to the invasive blood pressure transducer set

    c. Position transducer and open the invasive line in accordance with hospital policy

    d. Select (→0←) on the VPS module

Or

    d. Select **Zero All*** (**Quick Functions** tab)

Or

*Configurable

d. Select the invasive blood pressure waveform to enter **IBP Waveform** and select **Zero**

Note: Zero and flush the pressure line at regular intervals per standard hospital procedure.

Overlapping Invasive Blood Pressure Waveforms

The V12 or V21 bedside monitor allows overlapping of two invasive blood pressures on the main screen. To overlap two invasive blood pressures on the V12 or V21 bedside monitor:

a. Select in upper, right corner of main screen

b. Select preset's name from Display Preset list

c. Select **Temporary Edit**

d. Select 1st invasive blood pressure to overlap

e. Select **Overlap**

f. Select 2nd invasive blood pressure to overlap from drop down list

g. Select **Accept** to save settings and return to the **Display Setup** tab

h. Select **Accept** to return to the main screen

TEMPERATURE

The V12 or V21 bedside monitors allow a clinician to monitor up to three temperatures simultaneously.

Adjust Temperature Label

To adjust the temperature label on the V12 or V21 bedside monitor:

a. Select the temperature tile to enter **Alarms** tab

b. Select **Setup** tab

c. Select **T(1–3) Label**

d. Select label

e. Select **Accept** to return to the main screen

Or

a. Select **Parameters** (**Setup** tab) and select Temperature to enter the **Temperatures Setup** tab

b. Select **T(1–3) Label**

c. Select label

d. Select **Accept** to save settings and select **Done** (as needed) to return to the main screen

Adjust Temperature Units

To adjust the temperature's units on the V12 or V21 bedside monitor:

a. Select the temperature tile to enter **Alarms** tab

b. Select **Setup** tab

c. Select **Units**

d. Select °C or °F

e. Select **Accept** to return to the main screen

Or

a. Select **Parameters** (**Setup** tab) and select Temperature to enter the **Temperatures Setup** tab

b. Select **Units**

c. Select °C or °F

d. Select **Accept** to save settings and select **Done** (as needed) to return to the main screen

ALARMS

Adjust Alarm Limits

The Alarms tab allows the clinician to configure alarm limit and alarm responses on the V12 or V21 bedside monitor.

To adjust a patient's alarm limit on the V12 or V21 bedside monitor:

a. Select parameter's numeric tile to open parameter's **Alarms** tab

b. Select High or Low limit value

c. Adjust value using on screen keypad or select **Off** to disable the parameter's alarm limit(s)

d. Select **Enter**

e. Select **Accept** to save settings and return to the main screen

Or

   a. Select **Alarms** tab from Navigation Area

   b. Select **Limits**

   c. Select alarm limit group's tab (i.e. ECG/Resp, Oximetry, etc.)

   d. Select parameter

   e. Select High or Low limit value

   f. Adjust value using on screen keypad or select **Off** to disable the parameter's alarm limit(s)

   g. Select **Enter**

   h. Select **Accept** to save settings and return to the **Alarm Limits** tab

   i. Select **Accept** to return to the main screen

Panorama® Central Station interface: Changing alarm limits on the Panorama Central Station or WorkStation will automatically change alarm limits on the V12 or V21 bedside monitor. Changing alarm limits at the V12 or V21 bedside monitor will automatically change alarm limits on the Panorama Central Station and WorkStation.

Adjust Alarm Responses

To adjust a patient's alarm responses on the V12 or V21 bedside monitor:

   a. Select **Alarms** tab from Navigation Area

   b. Select **Responses**

   c. Select applicable alarm limit group's tab (i.e. ECG/Resp, Oximetry, etc.)

   d. Select parameter

   e. Select
- **Alarm Level** – to adjust the audio and visual alarm indicators. Level options include High (Red), Medium (Yellow), and Low (Blue)*
- **Print on Alarm** – to activate an automatic printing when the alarm occurs
- **Save to Event** – to save a 20 second event in the **Events** tab (**History** menu)
  (A ☑ in the box indicates selected)

   f. Select **Accept** to save settings and return to the main screen

Panorama® Central Station interface: Changing alarm responses at the Panorama Central Station or WorkStation will not change alarm responses on the V12 or V21 bedside monitor. Changing alarm responses at the V12 or V21 bedside monitor will not change alarm responses on the Panorama Central Station and WorkStation.

Adjust Arrhythmia Alarms

To adjust a patient's arrhythmia alarm on the V12 or V21 bedside monitor:

a. Select ECG waveform to enter **ECG Setup** tab

b. Select **Arrhythmia** tab

c. Select individual arrhythmia

d. Select

- **On/Off:** to enable or disable arrhythmia alarm notification (A ✅ in the box indicates selected)

- **High (Red), Medium (Yellow),** or **Low (Blue)** – to adjust the audio and visual alarm indicators

e. Select **Accept** to save settings and return to the main screen

Or

a. Select **Alarms** tab from Navigation Area

b. Select **Arrhythmia** to enter the **Arrhythmia** tab

c. Select individual arrhythmia

d. Select

- **On/Off:** to enable or disable arrhythmia alarm notification (A ✅ in the box indicates selected)

- **High (Red), Medium (Yellow),** or **Low (Blue)** – to adjust the audio and visual alarm indicators

e. Select **Accept** to save settings and return to the main screen

Adjust Arrhythmia Alarm Responses

To adjust a patient's alarm responses on the V12 or V21 bedside monitor:

a. Select **Alarms** tab from Navigation Area

b. Select **Arrhythmia** to enter the **Arrhythmia** tab

c. Select **Responses** tab

d. Select arrhythmia

e. Select

- **Audio On** – to enable the audio notification.

- **Print on Alarm** – to activate an automatic printing when the alarm occurs

- **Save to Event** – to save a 20 second event in the Events tab (**History** menu)
(A ✅ in the box indicates selected)

f. Select **Accept** to save settings and return to the main screen

Panorama® Central Station interface: Adjusting arrhythmia alarms at the Panorama Central Station or WorkStation *will not* change arrhythmia alarms on the V12 or V21 bedside monitor. Adjusting arrhythmia alarms at the V12 or V21 bedside monitor *will* affect the arrhythmia alarm on the Panorama Central Station, ViewStation, and WorkStation.

Disable Non-Lethal Arrhythmias

To disable all arrhythmia alarms *except lethal* arrhythmias on the V12 or V21 bedside monitor:

a. Select ECG waveform to enter **ECG Setup** tab

b. Select **Arrhythmia** tab

c. Select **Lethals Only On**

d. Select **Accept** to save settings and return to the main screen

Or

a. Select **Alarms** tab from Navigation Area

b. Select **Arrhythmia** to enter the **Arrhythmia** tab

c. Select **Lethals Only On**

d. Select **Accept** to save settings and return to the main screen

To adjust a patient's arrhythmia threshold setting on the V12 or V21 bedside monitor:

    a. Select ECG waveform to enter **ECG Setup** tab

    b. Select **Arrhy Setup** tab

    c. Select individual arrhythmia threshold

    d. Scroll and select value or enter value using on screen keypad

    e. Select **Accept** to save settings and return to the main screen

Or

    a. Select **Alarms** tab from Navigation Area

    b. Select **Arrhythmia** to enter the **Arrhythmia** tab

    c. Select **Setup**

    d. Select individual arrhythmia threshold

    e. Scroll and select value or enter value using on screen keypad

    f. Select **Accept** to save settings and return to the main screen

RESET ALARMS (Version 2.5 or greater)

Select **Alarm Acknowledge** in the Navigation Area on the V12 or V21 bedside monitor to silence all current alarms for a preconfigured time interval or until the alarm condition is resolved.

Panorama® Central Station interface: Selecting **Alarm Acknowledge** on the V12 or V21 bedside monitor will silence an alarm on the Panorama Central Station, WorkStation, and ViewStation for a *preconfigured amount of time*. Selecting **Mute** at the Panorama Central Station *will not silence* an alarm at the V12 or V21 bedside monitor.

PAUSE ALL ALARMS (Version 2.5 or greater)

Select **Audio Pause** in the Navigation area on the V12 or V21 bedside monitor to silence all current and future alarms for a preconfigured time interval.

Panorama® Central Station interface: Selecting **Audio Pause** on the V12 or V21 bedside monitor will pause active alarms on the Panorama Central Station, WorkStation, and ViewStation for a *preconfigured amount of time*. Selecting **Mute** at the Panorama Central Station *will not* pause alarms on the V12 or V21 bedside monitor.

SILENCE ALARMS (Version 2.4 or earlier)

Select **Silence** in the Navigation Area on the V12 or V21 bedside monitor to silence all current alarms for a preconfigured time interval or until the alarm condition is resolved.

Panorama® Central Station interface: Selecting **Silence** on the V12 or V21 bedside monitor will silence an alarm on the Panorama Central Station, WorkStation, and ViewStation for a *preconfigured amount of time*. Selecting **Mute** at the Panorama Central Station *will not silence* an alarm on the V12 or V21 bedside monitor.

SILENCE ALL ALARMS (Version 2.4 or earlier)

Select **Silence All** in Navigation Area on the V12 or V21 bedside monitor to silence all current and future alarms for a preconfigured time interval.

Panorama® Central Station interface: Selecting **Silence All** on the V12 or V21 bedside monitor will silence active alarms on the Panorama Central Station, WorkStation, and ViewStation for a *preconfigured amount of time*. Selecting **Mute** at the Panorama Central Station *will not* silence alarms on the V12 or V21 bedside monitor.

TRANSFER

The V12 or V21 bedside monitor has the ability to transfer patient data through the VPS (V-Patient Server).

To transfer patient data from one V12 or V21 bedside monitor to another V12 or V21 bedside monitor:

    a. Remove VPS from original V12 or V21 bedside monitor

    b. Insert VPS into new V12 or V21 bedside monitor

    c. Select from the **Patient ID Mismatch** menu

        1. **Monitor** to continue with the patient data and settings in the new monitor and delete all patient data and setting on the original VPS.

        2. **VPS** to transfer 12 hours of patient data and settings on the original VPS to the new monitor and delete all previous patient data on the new monitor.

3. **New Patient** to delete all patient data on the original VPS and all patient data on the new monitor. Default settings for the patient category are applied to the new patient. **All patient data on the VPS and on the new monitor will be deleted.**

Panorama® Central Station Interface: Transferring patient data from one V12 or V21 bedside monitor to another V12 or V21 bedside monitor *will not* transfer data within the Panorama Central Station. Transferring data within a Panorama Central Station or to a different Panorama Central Station *may* affect the V12 or V21 bedside monitor.

HEMODYNAMIC MONITORING

Initiate A Cardiac Output Measurement

Cardiac Output (C.O.) is the amount of blood ejected from the left ventricle each minute, expressed in liters per minute (l/min). Cardiac Index (CI) is the Cardiac Output divided by the patient's body surface area.

To initiate a Cardiac Output measurement on the V12 or V21 bedside monitor:

a. Insert C.O. Module

b. Connect the C.O. cable to the C.O. connector on the monitor interconnecting the C.O. Module, PA Catheter, and injectate.

c. Select C.O. tile to enter C.O. **Alarms** tab and select **C.O. Run**

Or

c. Select **Procedures** tab from the Navigation Area and select **C.O. Run**

d. Verify the computation constant or adjust the computation constant in the **Setup** tab

e. Enter height/weight in the **Setup** tab to obtain calculated Cardiac Index

f. Select **Accept** to return to **Cardiac Output** dialog

g. Inject solution when **"Inject When Ready"** message is displayed (Auto start is enabled in **Setup** tab)

Or

g. Select **Start C.O.** and inject solution within 4 seconds to perform a Cardiac Output measurement when **"Ready"** message is displayed (Auto Start is disabled in **Setup** tab)

    h. Wait 1 minute between injections to allow baseline stabilization

    i. Perform additional Cardiac Output measurements as needed

    j. Select measurement to include/exclude in the Cardiac Output average (A ✅ in the box indicates cardiac output measurement is selected. An ❌ in the box indicates the cardiac output measurement is rejected)

    k. Select **Print Runs** to print C.O. Run(s) to thermal printer modular recorder

    l. Select **Hemo Calculations** to access the Hemodynamic Calculations dialog

Or

    l. Select **Done** to return to the main screen

Initiate Pulmonary Artery Wedge Pressure (PAWP)

Pulmonary Artery Wedge Pressure (PAWP) is a pressure measurement derived from a PA catheter when the PA distal balloon is inflated and the catheter advances and occludes a distal pulmonary artery. PAWP pressure is a reflection of the pressure in the left ventricle at end-diastole.

To initiate a PAWP measurement on the V12 or V21 bedside monitor:

    a. Select **PA** waveform or numeric tile and select **PAWP**

Or

    a. Select **Procedures** tab from the Navigation Area and select **PAWP**

    b. Select **Setup** to adjust PA sweep speed, PA scale, or display Art line

    c. Select **Accept** to return to **PAWP** dialog

    d. Inflate balloon and watch PA waveform for wedge waveform

    e. Select **Measure** to freeze the waveform once a satisfactory wedge waveform is detected

    f. Adjust PAWP reference line to the desired position using ⬆ or ⬇

    g. Select **Accept PAWP** to enter the PAWP measurement and **Done** to return to the main screen

Or

    g. **Resume** to repeat measurement

Note: Follow manufacturer's suggested procedures and hospital policy for PAWP balloon inflation.

INITIATE HEMODYNAMIC CALCULATIONS

Hemodynamic calculations are a set of values that are used to determine the hemodynamic status of the patient.

To initiate hemodynamic calculations on the V12 or V21 bedside monitor:

a. Select **Hemo Calculations** from C.O. dialog

Or

a. Select **Procedures** tab from the Navigation Area and select **Hemo Calculations**.
   Note: HR, Art (Mean and Diastolic), PA (Mean), CVP, PAWP, and average C.O. measurements are automatically entered from current or accepted values along with height and weight if previously entered.

b. Select remaining parameter and manually enter (*indicates manual entry)

c. Select **Calculate** to complete calculation

d. Select **Print** to print the currently displayed Hemodynamic Calculations

e. Select **Done** to return to the main screen

SCREEN DISPLAY

The V12 and V21 allow the clinician to adjust the main display based on patient acuity.

Display Selection

To enter the display selection menu and adjust the main screen's layout on the V12 or V21 bedside monitor:

a. Select ▦ in upper, right corner of main screen

b. Select preset's name from Display Preset list

c. Select **Accept** to return to the main screen

Note: The presets' names are determined at installation.

Adjust Display Selection

To temporarily adjust the display selection on a patient on the V12 or V21 bedside monitor:

a. Select ▦ in upper, right corner of main screen

b. Select preset's name from Display Preset list

c. Select **Temporary Edit**

d. Select waveform area to adjust waveform

e. Select new waveform parameter from list or select **Off** to remove waveform

f. Select tile to adjust numeric parameter

g. Select new numeric parameter from list or select **Off** to remove numeric parameter

h. Select **Accept** to save settings and return to the **Display Setup** tab

i. Select **Accept** to return to the main screen

Note: The first waveform is always ECG lead and HR is always located in the first digital tile in the display selection.

Panorama® Central Station Interface: Digital and waveform display selections on the Panorama Central Station, WorkStation, and ViewStation are independent of the V12 or V21 bedside monitor.

HISTORY

List Trends

The List tab stores 3000 trend sets on a patient.

To display and adjust List trends on a patient on the V12 or V21 bedside monitor:

a. Select **History** in the Navigation Area

b. Select **List Trends** tab

c. Select **Display Group** to specify trend category or select **Custom Configuration** for user defined parameters to be displayed

d. Select **Accept** to save settings

e. Select **Display Interval** to specify the time interval list trends are to be displayed

f. Select **Accept** to save settings

g. Select **Done** to return to the main screen

To print List trends on a patient at the V12 or V21 bedside monitor:

a. Select **History** in the Navigation Area

b. Select **List Trends** tab

c. Select **Print** and confirm specified time period to print to the configured location

d. Select **Accept** to print to the configured location

e. Select **Done** to return to the main screen

Panorama® Central Station Interface: Trend storage, display interval, and printing length on V12 or V21 bedside monitor and Panorama Central Station are independent.

Alarm Events

The Events tab stores 1000 physiological and technical events on a patient based on the **Alarm** and **Arrhythmia Responses** tab.

To view and print an alarm event on a patient on the V12 or V21 bedside monitor:

a. Select **History** in the Navigation Area

b. Select **Events** tab

e. Scroll and select event

f. Select **View** and **Detail** to view the 20 second event

g. Select **Print** to print to the configured location

h. Select **Done** to return to the main screen

Note: The waveforms printed are determined by **Setup** in the **Event** or **Disclosure** tab on the V12 or V21 bedside monitor.

Panorama® Central Station Interface: Event storage and printing on the V12 or V21 bedside monitor and Panorama Central Station are independent.

Full Disclosure

The V12 or V21 has the ability to store configured waveforms and associated numeric information collected for 48 hours.

To view and print the patient's waveforms on the V12 or V21 bedside monitor:

a. Select **History** in the Navigation Area

b. Select **Full Disclosure** tab

c. Scroll and highlight waveform

d. Select **View** and **Detail** to expand waveform

e. Select **Print** to print to the configured location

f. Select **Done** to return to the main screen

Panorama® Central Station Interface: Full disclosure storage and printing on the V12 or V21 bedside monitor and Panorama Central Station are independent.

VOLUMES

The alarm volume and QRS volume can be adjusted on the V12 or V21 bedside monitors.

To adjust the alarm volume on the V12 or V21 bedside monitor:

a. Select **Setup** tab from Navigation area

b. Select **Audio Levels**

c. Select volume ranging from X*–10 (X=minimum, 10=max)
    using arrows on **Alarm Volume**

d. Select **Accept** to return to the main screen

*Note: The minimum volume range is predetermined during installation (Version 2.5 or greater)

BEAT TONE

To adjust the beat tone (QRS tone) volume on the V12 or V21 bedside monitor:

a. Select **Setup** tab from Navigation area

b. Select **Audio Levels**

c. Select volume ranging from 0–10 (0=Off, 10=Max)
    using arrows on **Beep Volume**

d. Select **Accept** to return to the main screen

Note: The QRS tone is derived from the HR source (ECG, SPO_2, or IBP). When monitoring SpO_2, there is a variable pitch tone which changes as the patient's saturation level changes. The pitch of the tone rises as the saturation level increases and falls as the saturation level decreases.

DATE AND TIME

To adjust the date and time on the V12 or V21 bedside monitor:

  a. Select **03/09/14 19:41** in the upper, right corner on the main screen

  b. Select **Year**, **Month** and/or **Day** to adjust the date

  c. Scroll and select the value or enter value using on screen keypad

  d. Select **Hour**, **Minute** and/or **AM/PM*** to adjust the time

  e. Scroll and select the value or enter value using on screen keypad

  f. Enter value using on screen keypad

  g. Select **Accept** to save settings and return to the main screen

Panorama® Central Station Interface: Adjusting the date and time on the Panorama Central Station will adjust the date and time at the V12 or V21 bedside monitor. *The date and time cannot be adjusted at the V12 or V21 bedside monitor when interfacing with the Panorama Central Station.*

PARAMETER COLORS

The V12 or V21 bedside monitor provides the ability to adjust the parameter's numeric and waveform (if applicable) color.

To adjust a parameter's color on the V12 or V21 bedside monitor:

  a. Select parameter's waveform or numeric tile

  b. Select parameter's **Setup** tab

  c. Select **Color**

  d. Scroll and select color

  e. Select **Accept** to save settings and return to the main screen

Panorama® Central Station Interface: Parameter color on the V12 or V21 bedside monitor, Panorama Central Station, ViewStation, and WorkStation are independent.

DEFAULT (PRESET) SETTINGS

The V12 or V21 bedside monitor's settings are automatically restored either when the patient size is adjusted or when Discharge is performed.

*Configurable

LOCK/UNLOCKING TOUCHSCREEN DISPLAY

The V12 or V21 bedside monitor provides the ability to lock the touch screen display temporarily for cleaning purposes. To temporarily lock the display on the V12 or V21 bedside monitor:

a. Select **Setup** tab in Navigation area

b. Select **Display** to enter **Display Options** tab

c. Select **Screen Lock**

d. A 10 second screen lock is displayed allowing for cleaning of the screen

e. Select **Accept** to return to the main screen