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## V1400 Monitor Series Quick Reference Guide

### **Powering ON/OFF:**

- To power-on the unit, check that the switch on the back is in the ON position. Hold down the ON/OFF button on the lower left of the front of the unit.
- To power-down the unit, press and hold the ON/OFF button until the screen turns black and a "System Off" or "Save Data" message appears on the screen. Scroll using the knob on the front of the unit to choose "System Off" and press the center of the knob.

### **Alarms:**

#### Information Alarm:

- The information alarm rings to notify you of any announcements or if there has been an error measurement.
- The information alarm resembles a chime bell and rings at an interval of 15 seconds to alert the user.
- The information alarm rings for the following situations:
  - a. Overpressure or a failure in the NIBP measurement
  - b. Lead fault or lead off during ECG measurement
  - c. The SpO<sub>2</sub> sensor is not connected to the patient or the monitor
  - d. A fault during temperature measurement
  - e. A fault during IBP measurement
  - f. A pacemaker defect
- When the information alarm rings, it can be cancelled by operating the Exit switch or the Menu switch.

#### How to Change Alarms:

- To change the alarm setting, press the Menu button once and select ALARM.
- Turn the Menu button to select the parameter. To change from High to Low alarm range, press the Menu button.
- To set the priority level of the alarm, choose LOWEST, MIDDLE or HIGHEST and press the Menu button. Press EXIT when finished.

-ALARM INTERVALS DISPLAY IN RED ON THE SCREEN

## **ECG:**

### Attaching ECG Leads:

- Attach the white lead to the right elbow, the black lead to the left elbow and the red lead to the left knee, ensuring there is no tension on the leads.
- Using alcohol, in addition to conduction gel, is recommended. Alcohol alone will quickly dry up, leading to inaccurate readings
- Adjustments can be made to the tracing by accessing the ECG menu.
  - Touch the HR (seen in the upper right of the monitor screen) to make changes to Gain (size) and Lead (view from wire to wire).  
The default setting for the filter is Animal (2).
- Allowing the leads to touch metal or each other can cause interference of the tracing seen on the screen.
- Replace the lead cable/wires if any wires are exposed (Item #V-A-ECG-001)

## **SpO<sub>2</sub>:**

Sensor accuracy may be compromised in poorly perfused patients. Accuracy of the SpO<sub>2</sub> sensor may be compromised in patients with abnormalities in the peripheral nervous system, including hypothermia, hypovolemia, hyperdynamia of vessels or reduction in heart rate. Accuracy may be compromised with patients having an abnormal increase in oxyhemoglobin or methemoglobin.

- It is recommended to change Sensitivity in the Pulse Ox menu upon receiving the unit or when using the unit on small patients.
  - To do this, touch "SpO<sub>2</sub>" in the right column.
  - Under SENSITIVITY, choose "Maximum".
- It is recommended to change waveform size in the Pulse Ox menu upon receiving the unit or when using on smaller patients.
  - To do this, touch "SpO<sub>2</sub>" in the right column.
  - Under GAIN, increase to X4.
- Pulse oximeter readings are best obtained on non-pigmented, thick tissue beds. Recommended areas include the base of the tongue, cheek, in-between toes, vulva, prepuce and folded-over ear tissue.
- Tissue compression is commonly seen due to probe placement. This is normally accompanied by drops in SpO<sub>2</sub> reads. If this is seen, simply move the probe to a new tissue bed.
- Using the proper pulse oximeter clip (grey) can help decrease over-compression of the tissues.
  - Use the small clip for patients up to 15 pounds.
  - Use the medium clip for patients 15-40 pounds.
  - Use the large clip for patients over 40 pounds.
- If soiled, clean sensor with diluted alcohol on a gauze square.  
Always replace any cables that have exposed wires.

Alarm limits can also be accessed here and a minimum limit of 96% should be set. Numbers under 96% should be investigated for accuracy

**NIBP:**

- Readings are best taken on a front limb, closest to the heart.  
Patient movement or kinking of the hose or cuff will lead to inaccurate readings.

**Important Calibration Note:**

The NIBP module has an auto-calibration feature which is designed to sense the ambient atmospheric air pressure every 0.5 seconds whenever the patient monitor is turned on.

*(Attention: Any excessive or unnecessary pressure on the NIBP hose and NIBP cuff during power-up may influence the measurement value. In the case of an inaccurate auto-calibration at power-up, the unit will need to be powered off and back on to reset the auto calibration correctly.)*

- Cuffs should be no more than 40% the circumference of the limb.  
Too large or too small cuffs will lead to inaccurate readings
- Alarm limits can be set by touching the Blood Pressure Module on the bottom of the screen
- The following are minimums for organ tissue perfusion. Measures need to be made to increase blood pressure when your readings reach the below numbers
  - **Systolic - 80mmHg**
  - **Diastolic - 40mmHg**
  - **Mean - 60mmHg**
- Make sure cuff is snug on the patient.
  - If it slides down or if module is timing out and not giving a reading, go down a cuff size.
  - If cuff pops off patient when inflated, go up a cuff size.
- **Do not put tape on worn Velcro;** order new cuffs.  
VetWrap can be used until a new cuff can be ordered  
(THIS IS NOT A PERMANENT SOLUTION)

To start the automatic (AUTO) NIBP measurement, press the Menu button once and select **NIBP > INTERVAL**.

Then, select the desired automatic measuring time interval.

Select AUTO ON in the NIBP menu to start the NIBP measurement.

Track NIBP Trend Data by Using the NIBP Trend Screen.

Select **NIBP > TREND > SCREEN > ON** in the menu. The NIBP Trend Screen will display.

Select **NIBP > TREND > INITIAL > EXECUTE** on the menu.

## CO<sub>2</sub>:

CO<sub>2</sub> Calibration should be executed at the following times:

- New patient
- When turning on/off the patient monitor
- When connecting or disconnecting EtCO<sub>2</sub> module and sensor
- When a ZERO REQUIRED message appears during measurement

EtCO<sub>2</sub> calibration cannot be performed while in measurement mode.

Before performing calibration, remove the sample line from the patient and verify that a NO BREATHS DETECTED message has appeared before proceeding.

To set EtCO<sub>2</sub> zeroing, press the Menu switch one time on the main screen and select **EtCO<sub>2</sub> > CALIBRATE**.

To operate calibration, select ZERO on the CALIBRATE Menu.

(A ZERO IN PROGRESS message will be displayed which means ZERO CALIBRATION is in progress)

## Sidestream:

- Connect the CO<sub>2</sub> module connector to the V1410 / V1412 CO<sub>2</sub> connector and connect the sample line to the sampling port on the patient breathing wye piece.
- Push the CO<sub>2</sub> module connector into the CO<sub>2</sub> port until you hear a click.
- Respiration data can be achieved via ECG connections or EtCO<sub>2</sub> measurements. When the EtCO<sub>2</sub> sensor is connected to the monitor, the measurement is prioritized to pull the respiration data from the EtCO<sub>2</sub> sensor
- EtCO<sub>2</sub> and FiCO<sub>2</sub> will be displayed on the V1410 / V1412 screen 15 seconds after a successful detection of exhaled breath.
- To activate the EtCO<sub>2</sub> trace, select **Menu > EtCO<sub>2</sub> > TRACE > ON**.
- Alarm limits can be changed by clicking the blue CO<sub>2</sub> tab

**Mainstream:**

We have two different size airway adapters: Pediatric (purple) for trach tubes under 4 and adult (clear) for trach tubes over 4.

- Connect the CO<sub>2</sub> module connector with the V1410 / V1412 CO<sub>2</sub> connector, and connect the sensor to the Y-hose which is connected to the patient.
- Push the CO<sub>2</sub> module connector into the CO<sub>2</sub> port until you hear a click.
- Respiration data can be achieved via ECG connections or EtCO<sub>2</sub> measurements. When the EtCO<sub>2</sub> sensor is connected to the monitor, the measurement is prioritized to pull the respiration data from the EtCO<sub>2</sub> sensor.
- EtCO<sub>2</sub> and FiCO<sub>2</sub> will be displayed on the V1410 / V1412 screen 15 seconds after a successful detection of exhaled breath.
- To activate the EtCO<sub>2</sub> trace, select **Menu > EtCO<sub>2</sub> > TRACE > ON.**
- Alarm limits can be changed by clicking the blue CO<sub>2</sub> tab

**Saving Patient Data:**

1. Place SD card in slot on computer prior to turning on
2. After procedure, depress screen button to change screen to trend screen (3rd or 4th Screen)
3. Press Menu Button
4. Toggle to "TREND". Press menu button to select
5. Toggle to "SAVE". Press menu button to select
6. Toggle to "EXECUTE". Press menu button to select

Data is now saved on the SD Card

**OPENING DATA ON COMPUTER AND SAVING:**

1. Open V20(00) viewer on computer (T\_MDI)
2. In the menu bar, left click VIEW to open window
3. Select TREND VIEW
4. On the screen, right click and select TREND FILE OPEN
5. Find SD card info and select it
6. Select the appropriate file
7. Depress the END key on the computer keyboard to retrieve data
8. In the menu bar, select FILE
9. Select PRINT REVIEW
10. Choose TEXT TREND or GRAPHIC TREND
  - For Text Trend, scroll to the last pages using the PAGE DOWN key. This will show you all the data from the beginning of the case to the end in table or data form
  - Graphic Trend will bring up a graph of parameters and a tabular list of the last 5-10 minutes
11. Select PRINT in the menu bar
12. Select PDF in the name drop-down menu
13. Choose a name for the file and save



**Storing accessories:**

- We always recommend keeping accessories attached to the monitor. If parameters are not being used, they can be disabled in the individual modules by turning the tracing OFF.
- Loosely wrap all accessories when storing. Tightly wrapping them can lead to internal cable kinking and failure.

**General care and cleaning:**

- Clean the temperature probe with warm soap and water. Use of alcohol will cause the probe to become brittle and break
- Accessories can be cleaned with dilute alcohol on cotton or gauze. Take care when cleaning SpO<sub>2</sub> and CO<sub>2</sub> sensors to prevent damage, overuse of alcohol can damage the sensitive sensors. Submerging the Sidestream CO<sub>2</sub> line in water will ruin the hemofilter.

**Optional Accessories:**

- Esophageal ECG Probe with and without Temp
- SpO<sub>2</sub> Reflectance Sensor
- Rolling Stand with basket
- Wall Mounts (various)

\*SEE MANUAL FOR MORE ADVANCED SETTINGS AND GRAPHS