

2

Overview of Monitor Operation

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Turning On the Monitor

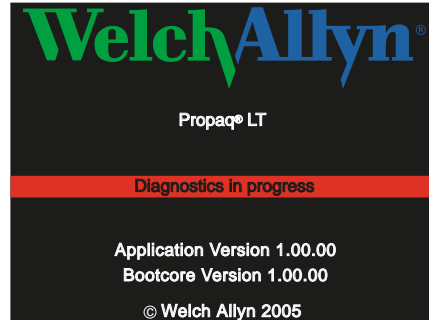
To Turn On the Monitor

Press and hold  until a tone sounds.

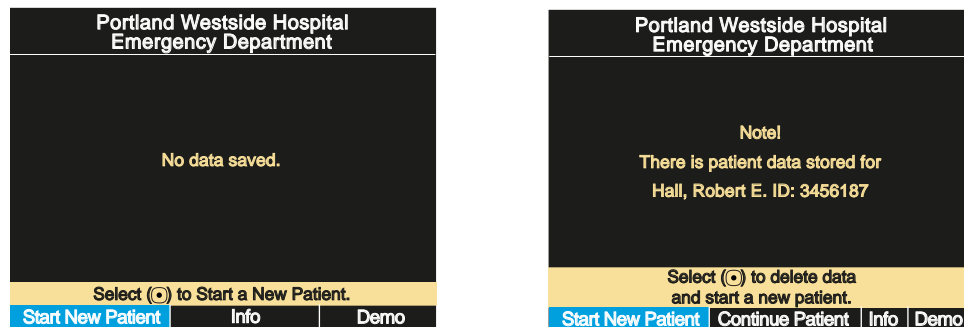
Note The monitor runs through an operational self-test each time it is powered up. Always verify that it follows this power-up sequence. If it does not, remove it from service and have it examined by a qualified service person.

1. A tone sounds as the green, yellow, and red lights turn on and off. This occurs twice.
2. The splash screen appears ([Figure 6](#)), identifying the product and displaying the message “Diagnostics in progress.” The green light turns on and off quickly while the low tone sounds, the yellow light turns on and off quickly while the medium tone sounds, and the red light turns on and off quickly while the loud tone sounds.

Note When step 2 completes as described, the monitor has verified that the visual and audible alarm indicators are working properly.

Figure 6. Splash Screen

3. The splash screen is replaced by a power-on screen (Figure 7):

Figure 7. Power-Up Screens

To start monitoring from this point, see “[Standalone Monitoring](#)” on page 49. To practice using the monitor, see “[Using Demo Mode](#)” on page 41.

Selecting a Language

To change the language of the monitor interface:











1. If the monitor power is on, press  to turn it **off**.
2. Press  to turn the monitor power **on**.
3. Immediately after pressing , and before any screen appears, simultaneously press the **up arrow** and **down arrow** buttons ( and ). Keep the buttons pressed until the language selection screen appears ([Figure 8](#)).

Figure 8. Language Selection Screen



4. Use the arrow buttons (, , , and ) to highlight the language you wish to use.
5. Press .

The monitor powers down and then powers up in the selected language.

Note If you select **French**, HR/PR alarm limits cannot be turned off unless you go through the service menus to change this setting. If you do change this setting, the change stays in effect through power cycles.

For information about using the service menus, refer to the *Propaq LT Monitor Service Manual* (810-1811-XX).

The monitor will always power up in this language until the setting is changed again. You can change the setting again only by one of the following:

- Performing this procedure again.
- Downloading a new configuration to the monitor. (See [“Configuring the Monitor”](#) on page 126).
- Acuity.

About the Charging/Communications Cradle

When the Charging/Communication Cradle (the **cradle**) is attached to AC (or to vehicle DC) power and the monitor is seated in the cradle ([Figure 9](#)), the cradle does the following:

- Recharges the monitor battery, whether patient monitoring is occurring or not.
- Powers the monitor, conserving the charge on the monitor battery.
- (If the cradle has the USB data transfer option) enables data transfer between a PC and a monitor. See [“About the USB Data Transfer Option”](#) on page 17.



WARNING Never download a configuration file to the monitor while you are monitoring a patient with the monitor in the cradle.

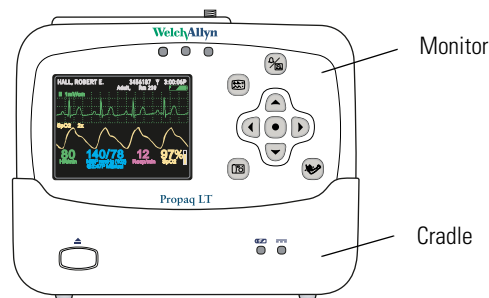
- Communication with the network (and Acuity) is interrupted if you download a configuration to the monitor or upload patient data from the monitor.
- Changing the monitor configuration shuts down the monitor and deletes all patient data from the monitor.

The cradle is intended to hold the monitor when the patient is in bed or is otherwise stationary. The cradle can sit on a flat surface near the patient, attach to the bed rail (using the bed-rail hook), or hang from an IV pole (using the optional IV Pole Mount accessory).

If the monitor is in the cradle and the AC power adapter is connected to the cradle, the monitor runs on AC power rather than battery power. This keeps the monitor battery at full charge so that it can then run under battery power when it is removed from the cradle to accompany the patient away from the bed.

The cradle can be connected to AC power at all times, whether the monitor is present or not.

Figure 9. Monitor and Cradle



About the USB Data Transfer Option

A cradle configured with the optional USB communication port and connected to a PC with the Propaq LT Configuration Utility and the Propaq LT AutoPrint Utility can be used for the following:

- Creating custom monitor configurations on the PC and downloading them to any number of monitors. (See “[Monitor Configuration](#)” on page 111.)
- Uploading patient data from the monitor to the PC for printing. (See “[Printing Patient Data](#)” on page 103.)

Setting Up the Cradle

1. Place the cradle on a table or shelf, hang it on a bed rail, or attach it (with the optional Pole Mount accessory) to an IV pole.



WARNING Place the cradle so that it cannot fall on the patient.



Caution Locate the cradle near the patient but not so close that it interferes with patient care.


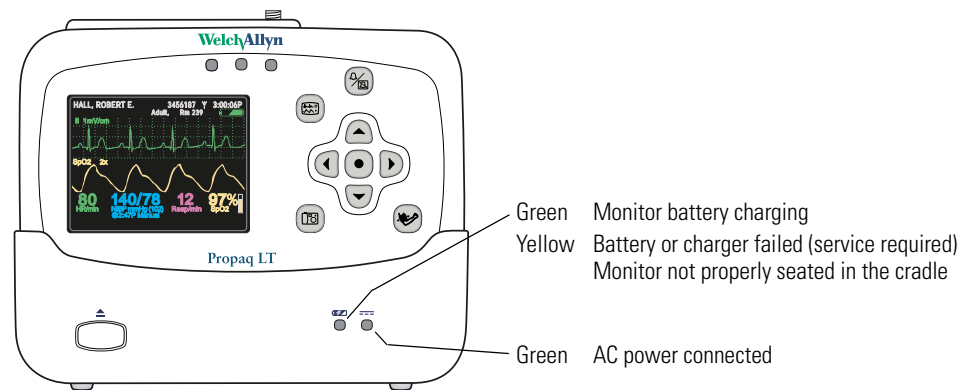

2. Connect the AC adapter to an AC power outlet and to the cradle. The indicator  (green) on the front of the cradle ([Figure 10](#)) indicates that the AC power adapter is connected.

Figure 10. Cradle Status Indicators



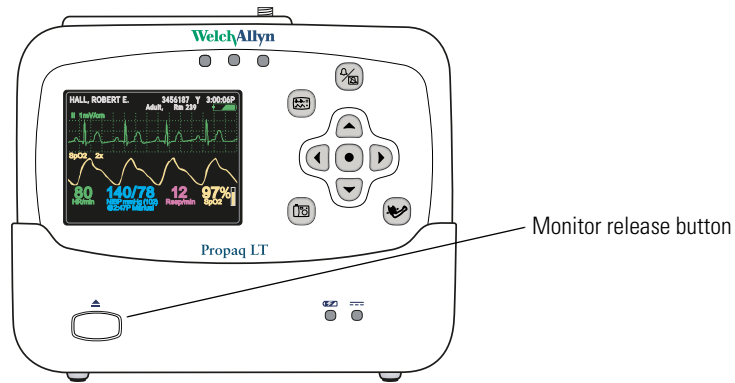
3. Insert the monitor into the cradle. When the monitor is properly seated, it clicks into place.  (green) on the cradle indicates that the monitor battery is charging. (See “[Recharging the Battery](#)” on page 159.)

Note The monitor can be inserted into the cradle when on or off. If monitor power is on, inserting the monitor in the cradle or removing the monitor from the cradle does not interrupt patient monitoring.

Removing the Monitor from the Cradle

To remove the monitor, depress the release button on the front of the cradle (Figure 11). With the button depressed, hold the cradle securely with one hand, grasp the monitor firmly with the other hand, and lift the monitor out.

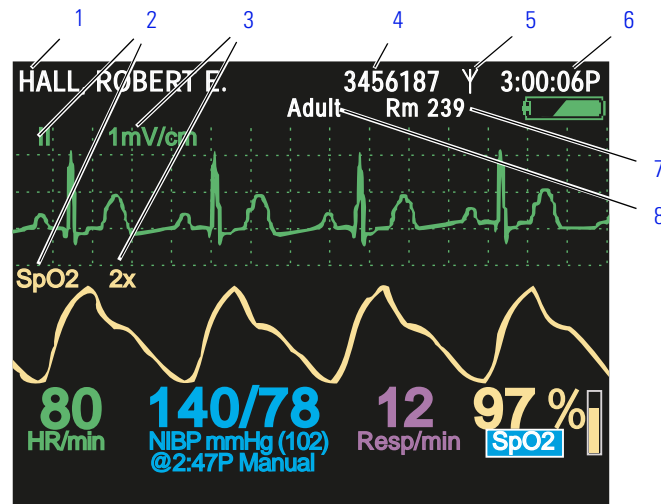
Figure 11. Monitor Release Button



Displaying Data

Patient vital signs appear on the 3.5-inch (diagonal measurement) monitor display (Figure 12) and optionally on the Large Color Display screen.

Figure 12. Components of the Vital-Signs Display (A)







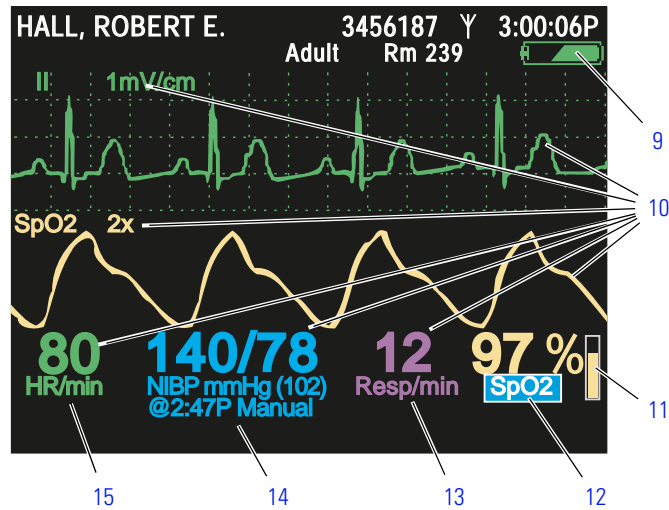
-
- | | |
|---|--|
| 1 | Patient name (if available) |
| 2 | Waveform source |
| 3 | Waveform display scale |
| 4 | Patient ID (if available) |
| 5 | Connection status icon |
| | (blank) Connectivity not enabled. |
| |  The monitor is communicating via USB cable with a PC. (Wireless monitor only, Acuity enabled.) |
| |  The monitor is communicating with the network and with Acuity. (Wireless monitor only, Acuity enabled.) |
| |  Flashing — the monitor is communicating with the network but not with Acuity. (Wireless monitor only, Acuity enabled.) |
| |  Steady — the monitor is not communicating with the network. (Wireless monitor only, Acuity enabled.) |
| 6 | Time of day |
| 7 | Patient room number |
| 8 | Patient mode (Adult, Pediatric, Neonate) |
-

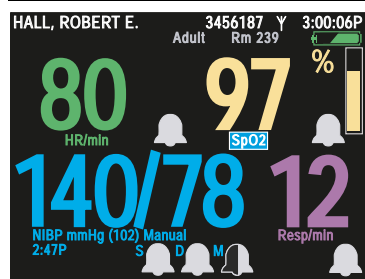
Figure 13. Components of the Vital-Signs Display (B)

-
- 9 Battery status (See [Table 3, "Status Indicators"](#) on page 3.)
- green partially to fully charged
 - yellow nearly discharged
 - red discharged; the monitor will shut down soon
- 10 Color-coded waveforms, ECG Lead identifiers, and vital-signs numerics
- Green ECG and HR/PR
 - Cyan NIBP
 - Purple Resp
 - Yellow SpO₂
- 11 SpO₂ pulse amplitude
- 12 SpO₂ numeric data
- 13 Respiration rate numeric data
- 14 NIBP numeric data
- 15 HR (heart rate) is displayed if ECG is active.
PR (pulse rate) is displayed if ECG is not active and SpO₂ or NIBP is active.
The monitor indicates an HR/PR measurement outside the measurable range as follows:
- out-of-range low
 - +++ out-of-range high
 - ??? undetermined
-

About Display Formats

The monitor can be configured to display any of these formats:

Table 6. Display Formats

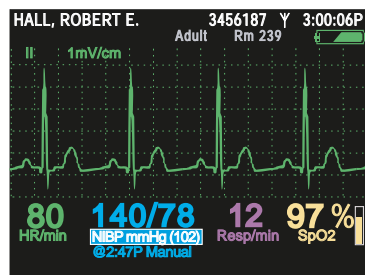


Large Numerics

Blood pressure, heart rate, respiration rate, and SpO₂ measurements displayed in large numerics.

Bell icons indicating...

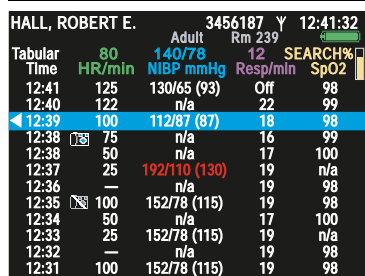
- Left half Lower alarm limit
- Right half Upper alarm limit
- White Alarms enabled
- Black Alarms disabled



Single Waveform

- 3 seconds of one ECG or SpO₂ signal or ...
- 12 seconds of the Resp signal.

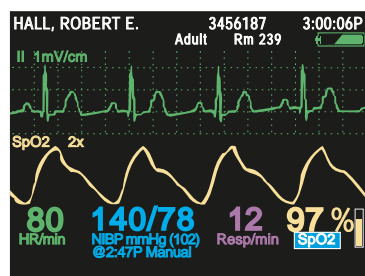
Vital signs displayed in medium-sized numerics.



Tabular Trends

Current vital signs displayed in small numerics.

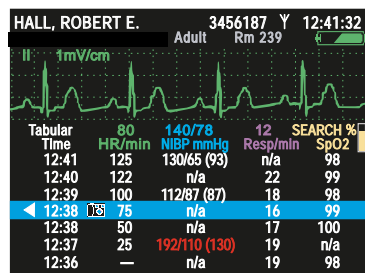
Historical vital signs displayed as a table.



Dual Waveform

- 6 seconds of an ECG or SpO₂ signal or 24 seconds of the Resp signal or...
- Any two of the following: 3 seconds of an ECG or SpO₂ signal and 12 seconds of the Resp signal.

Other vital signs displayed numerically.



Tabular Trends with Single Waveform

- 3 seconds of an ECG or SpO₂ signal or...
- 12 seconds of the Resp signal.

Other vital signs displayed numerically.

Historical vital signs displayed as a table.



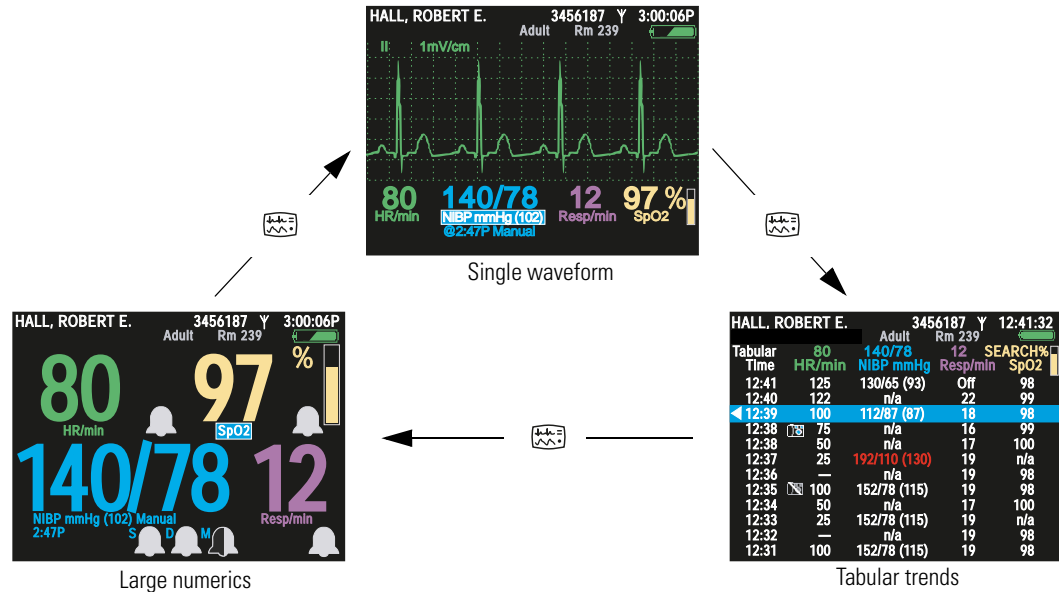
The monitor can be configured to cycle quickly through three of the five available display formats when you press . For example, if the configuration specifies three formats—**Large Numerics**, **Single Waveform**, and **Tabular Trends**—you can press  repeatedly to cycle through those formats (Figure 14).

Figure 14. Cycling Through the Configured Display Formats



Certain properties of each display type can also be configured. See “[Display Format](#)” on page 142.

To View a Tabular Display if No Tabular Trends Format is Specified

1. Access the **Setup** menu. (See “[To Access the Setup Menus](#)” on page 38.)
2. Highlight **Trends** and press .

Note All valid display configurations include at least one waveform format.

Timing Out the Display and the Back Light

To conserve battery run life, the monitor can be configured to turn off the display and the back light if no operator activity (that is, a button press) is detected for a specified number of minutes.

- When the display is off, no patient data is visible.
- When the back light is off, patient data is visible only under direct light.

Note If the display and the back light are turned off due to a time out, they turn on again immediately when an alarm or alert occurs or, if the buttons lock-out is not enabled, when you press any monitor button.

The monitor configuration determines whether the time-out feature is enabled or disabled, and defines the default time-out period if it is enabled. If the feature is enabled in the configuration, you can temporarily change the time-out period or disable the time out through the Setup -> Timings menu.

Locking Out the Display, Back Light, and Buttons

If lock-outs are enabled, you can lock out one or more of the following elements:

Buttons To prevent unauthorized use

Back Light To extend the battery run life

Display To prevent unauthorized viewing of patient information

The monitor configuration defines which of these, if any, can be locked out. For information on enabling or disabling lock-outs for these elements, see "[Monitor Configuration](#)" on page 111.

To Lock Out the Configured Elements

Hold down ▲, ▼, and ► simultaneously for 5 seconds.

To Unlock the Configured Elements

Hold down ▲, ▼, and ► simultaneously for 5 seconds.

Note Alarms and alerts immediately unlock any locked elements.

Large Color Display Interface

Using the Large Color Display Interface ('interface box') optional accessory, you can display patient vital signs from the monitor on a full-size screen. This screen is typically mounted on a wall within one or two meters of the patient's bed. It receives video signals from the cradle via a VGA cable.

Large Color Display Configuration Options

- If the interface box is mounted on the large screen (Figure 17 A), the screen must be within about 3 meters of the cradle.
- If the interface box is mounted on the cradle (Figure 17 B), the distance between the box and the screen is limited by the length of the VGA cable.
- If the interface box, the cradle, and the large screen are mounted together (Figure 17 C), the distance from them to the patient's bed is limited by the length of the SpO₂ sensor cable, the ECG cable, and the NIBP air hose (whichever is shortest).

Note These configurations are not interchangeable. Each requires a unique combination of screws, USB and power cables, and VGA cable.

Note If the interface box is attached to the cradle, the bed rail hook cannot be used.

Figure 15. Interface Box Mounted on the Large Screen (A)

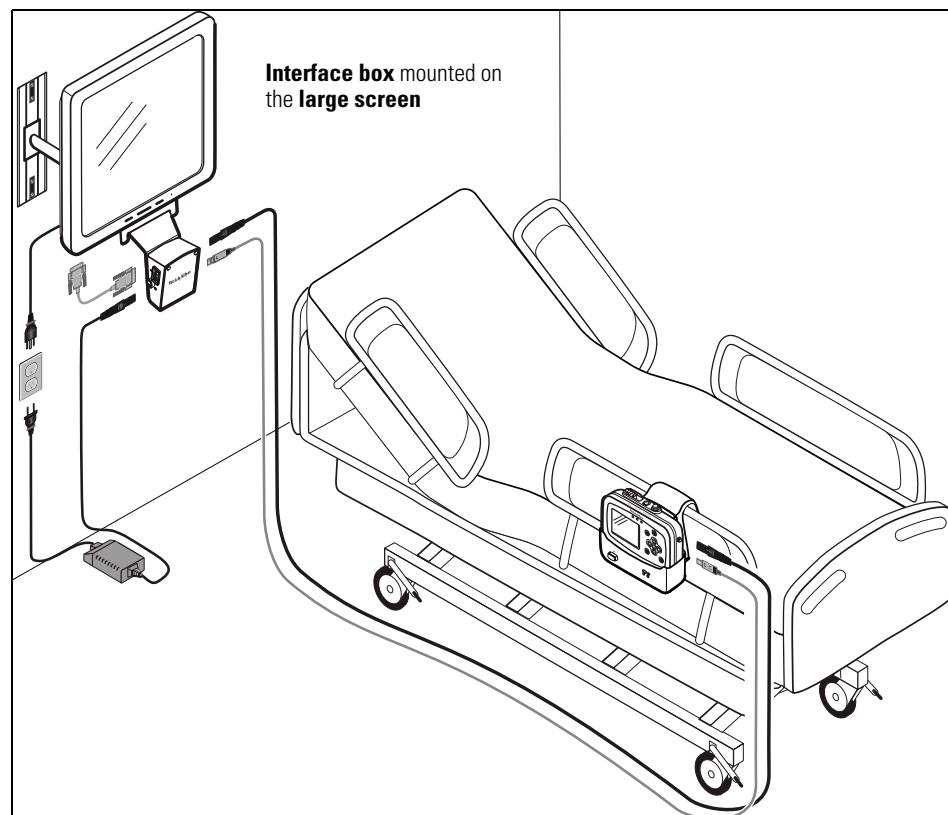


Figure 16. Interface Box Mounted on the Cradle (B)

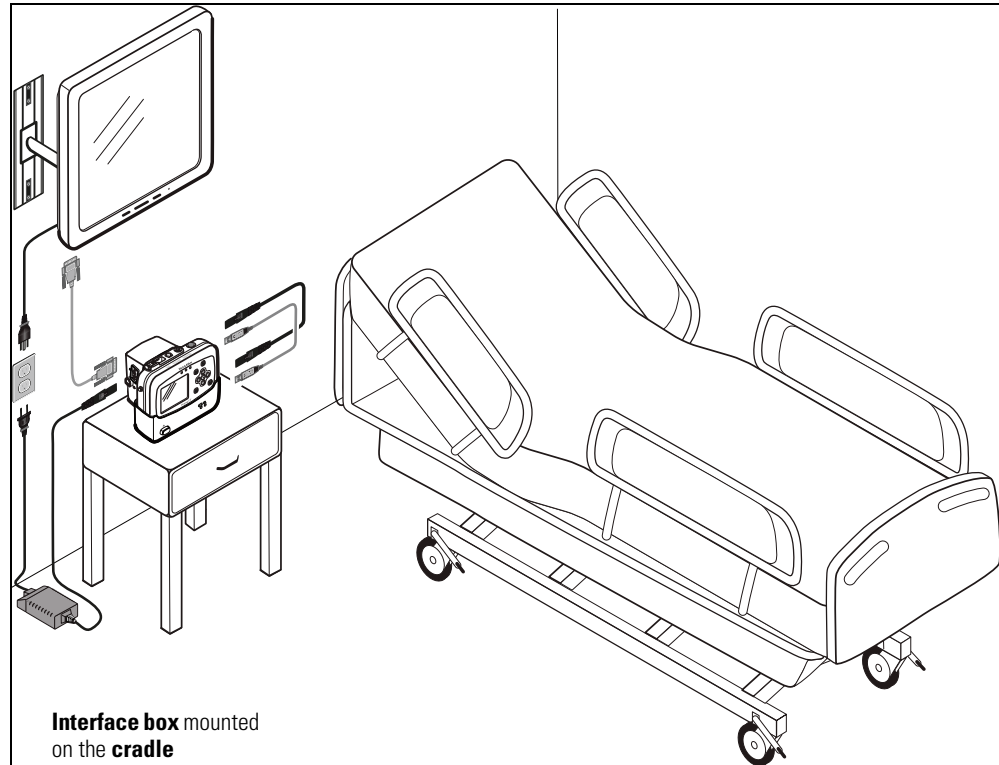
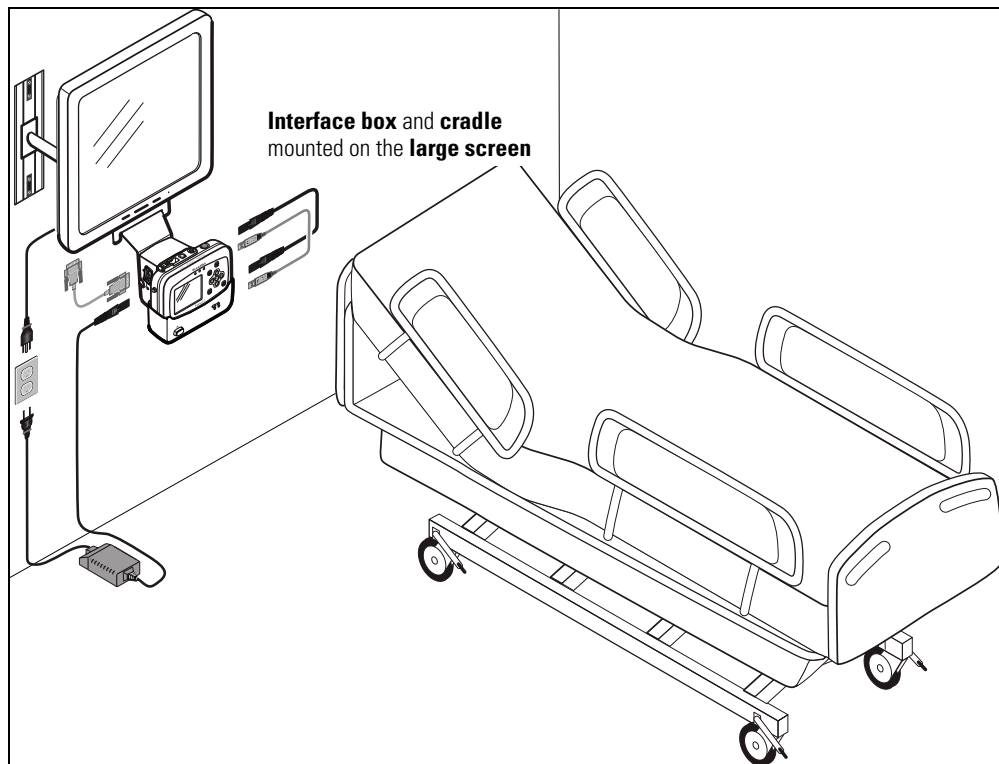


Figure 17. Interface Box and Cradle Mounted on the Large Screen (C)



Large Display Viewing Options

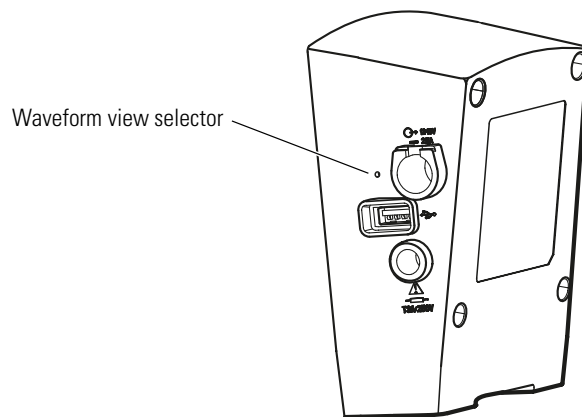
The large display shows vital signs numerics and either four or nine waveforms (Figure 18).

Figure 18. Large Color Display Viewing Options



To change between 4-waveform and 9-waveform views, insert a wire into the small hole in the interface box (Figure 19) near the USB connector.

Figure 19. Switching Between the 4-Waveform and 9-Waveform Views



Installing the Interface Box

The Large Color Display Interface receives DC power from the AC power adapter and vital-signs data from the cradle. It provides DC power to the cradle and the video signal to the large display. (See [Figure 20](#)).

When the interface box is attached to the cradle, the default power and USB cables (references **A** and **B** in [Table 7, "Cables and AC Power Adapter"](#)) connect the interface box and the cradle. (See [Figure 17](#) on page 25.)

If the interface box and the cradle are not attached, longer cables—references **C** and **D** in [Table 7, "Cables and AC Power Adapter"](#)—are used.

The AC power adapter (reference **E**) is shipped with the cradle.

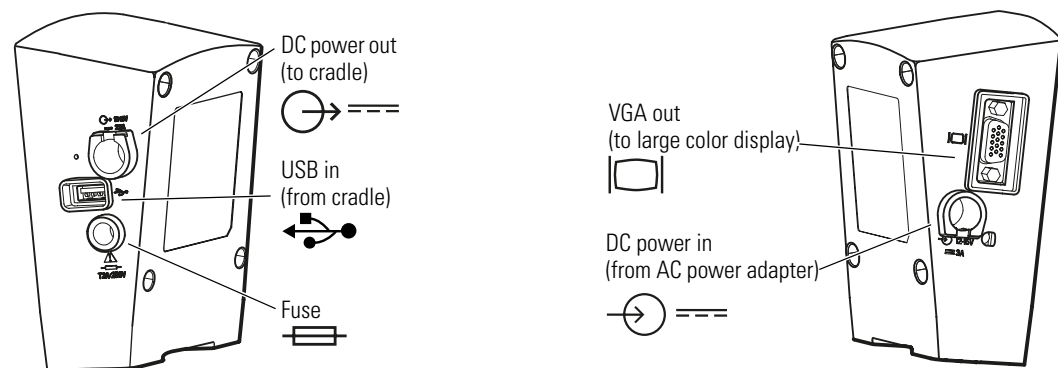
Note The AC power adapter used with the Propaq CS monitor or the Propaq Encore monitor will **not** power the interface box.

When the interface box is not used, the AC power adapter is attached to the cradle. When the interface box is used, the AC power adapter is connected to it and not to the cradle.

Table 7. Cables and AC Power Adapter

Ref	Part Number	Item Description
A	008-0949-00	Power cord, 0.5-meter, box-to-cradle
B	008-0947-00	USB cable, 1-foot
C	008-0948-00	Power cord, 5-meter, box-to-cradle
D	008-0946-00	USB cable, 15-foot
E	503-0142-00	AC Power adapter
	008-0908-00	AC Power cord, Japan
	008-0910-00	AC Power cord, Australia
	008-0911-00	AC Power cord, United Kingdom
	008-0912-00	AC Power cord, Europe
	008-0913-00	AC Power cord, North America

Figure 20. Interface Box Connections



Detaching the Bed Rail Hook from the Cradle

If you are attaching the interface box to the cradle and if the cradle and the bed rail hook are attached, you must first detach the bed rail hook from the cradle (Figure 21).

1. Remove the two screws from the back of the bed rail hook.
2. Lift the bed rail hook off of the shoulder screws on the back of the cradle.
3. Remove the shoulder screws from the back of the cradle.

Figure 21. Detaching the Bed Rail Hook from the Cradle

