8 Monitor Configuration

Overview

The monitor can be configured in various ways.

Each facility can define as many **default configurations** as required to both meet the needs of individual departments and units and to conform to the facility's general methods and standards.

- Each time the patient mode is changed, the monitor settings return to this default configuration.

- Each time the monitor is turned on, the clinician chooses whether to retain the most recently used temporary, patient-specific settings (see below) or to reset the monitor to its default configuration.

Clinicians can use the monitor buttons to **temporarily customize settings** to meet the needs of individual patients. These custom settings can be retained through a monitor shut-down and restart, but they are lost if the patient mode is changed.

When a wireless monitor is in communication with an Acuity Central Station, **Acuity imposes several monitor settings** to assure conformance and consistency among all monitors on a network. These settings override the factory configuration, the default configuration, and any temporary patient-specific settings. If the monitor power is cycled while the monitor is no longer in communication with Acuity, the monitor powers up with the default configuration or with the custom settings for the previously monitored patient.

About Factory Configuration

When the monitor arrives from the factory, it is fully configured and ready for operation. The **factory configuration** defines every setting and behavior for the monitor. Each setting and behavior defined in the factory configuration remains in effect until it is changed by a custom configuration or by a temporary adjustment. Unless the factory configuration is replaced by a custom configuration, the factory settings and behaviors are restored to the monitor each time the monitor is powered up and **Start New Patient** is selected.

When a custom configuration is downloaded to the monitor, the settings and behaviors defined in the custom configuration become the power-up defaults for the monitor, and the factory configuration is no longer in effect. However, the factory configuration information can always be restored by qualified service personnel and can also be restored by downloading the configuration file *PropaqLTFactoryConfig.mnt* from a PC to the monitor.

The factory settings are shown in the "Parameter Configuration Matrix" on page 113.

About Default Configuration

Most facilities, before putting a new monitor into service, reconfigure it to conform to local protocol and to adapt it to the clinical environment in which it is to be used. This reconfiguration results in a set of default settings and monitor behaviors.

Creating a custom default configuration requires the following:

- A Propaq LT Monitor Configuration Utility running on a PC, and
- A cradle with the USB data transfer option

For information about the monitor configuration utility, refer to "Configuring the Monitor" on page 126.

To learn which parameters can be defined using the Configuration Utility, see the "Parameter Configuration Matrix" on page 113.

About Temporary Configuration

While monitoring a patient, you can use the monitor buttons to temporarily adjust many of the monitor settings to accommodate the needs of a specific patient. These custom settings persist through a power cycle if you select to save patient data on shut-down. The persist until they are changed manually or by Acuity, or until the monitor is powered down and then powered up to monitor another patient.

To learn which parameters can be temporarily defined using the User Interface, see the "Parameter Configuration Matrix" on page 113.

About Acuity-Defined Configuration

When the monitor comes into communication with the Acuity Central Station, Acuity downloads some parameter values to the monitor.

The Acuity-defined configuration persists until the monitor is powered off.

To learn which parameters are defined by Acuity, see "Parameter Configuration Matrix" on page 113.

Parameter Configuration Matrix

This table lists shows the factory settings and the possible values for all parameters, and indicates which parameters and settings can be defined by Acuity, through the Configuration Utility, or by the clinician through the monitor buttons.

Note   This table shows only those parameters that can be changed.

Note   Except for **Radio ESSID (NetName)** and **Can Disable HR/PR Alarm Limits**, this table does not show parameters intended for use only by qualified service personnel.

Table 11. Parameter Configuration Matrix

Parameter	Factory Setting	Possible Values	Where Set
General			
Patient Name (Last, First, MI)	[blank]	(≤16 characters displayed; actual number of characters depends on character width)	Monitor, Acuity
Patient ID	[blank]	(12 characters)	Monitor, Acuity
Room	[blank]	(5 characters)	Monitor, Acuity
Regulatory Setting	US	US, European EC, Japan Metrology	Configuration Utility, Acuity
Patient Mode	Adult	Adult, Pediatric, Neonate	Monitor, Configuration Utility, Acuity
LCD Bias	32	1 - 64	Monitor
Network			
Radio Card ON and Acuity Enabled	YES if the radio card is installed. NO if the radio card is not installed.	Yes, No	Configuration Utility
Radio ESSID (NetName)	com.protocol	com.protocol(1), demo.protocol(2) com1.protocol(3), com2.protocol(4) com1.protocol(5), com2.protocol(6) com1.protocol(7), com2.protocol(8) com1.protocol(9), com2.protocol(10) com1.protocol(11), com2.protocol(12) com1.protocol(13), com2.protocol(14) com1.protocol(15), com2.protocol(16) com1.protocol(17), com2.protocol(18) com1.protocol(19), com2.protocol(20)	Monitor
⚠ **CAUTION**	**Do not attempt to change the network name unless you are a qualified biomedical service engineer or technician**. Changing the network name causes the monitor to disconnect from the current FlexNet network, restart (deleting all stored patient data), and attempt to connect to the FlexNet network corresponding to the new network name. **To change the network name:** 1. Enter the **Service** menu. 2. Highlight **Radio**. 3. Highlight **NetName** and press ⊙. 4. Select another network name and press ⊙. 5. Press ⊞ to return to the monitoring display.		
Radio Disconnect	Not Disconnected	Disconnected, Not Disconnected	Monitor

Table 11. Parameter Configuration Matrix (continued)

Parameter	Factory Setting	Possible Values	Where Set
User Interface			
Configuration Name	Factory 1.00	0 - 40 characters	Configuration Utility
Facility Name	[blank]	0 - 40 characters	Configuration Utility
Contact Name	[blank]	0 - 40 characters	Configuration Utility
Unit/Department ID	[blank]	0 - 40 characters	Configuration Utility
Contact Telephone	[blank]	0 - 40 characters	Configuration Utility
Time Format	24-Hr	12-Hr, 24-Hr	Monitor, Configuration Utility
Configured Language	English	Dutch, English, French, German, Italian, Polish, Portuguese, Spanish, Swedish	Monitor, Acuity, Configuration Utility
Decimal Format	Dot	Comma, Dot	Configuration Utility
Date Format	MM/DD/YY	MM/DD/YY, DD.MM.YY, YY/MM/DD	Monitor, Configuration Utility
Alarm/Alert Tone Level	Medium	Low, Medium, High	Monitor, Configuration Utility, Acuity
HR/Pulse Tone Level	Medium	Off, Low, Medium, High	Monitor, Configuration Utility
NIBP Units	mmHg	mmHg, kPa	Monitor, Configuration Utility
Audible Alarm Suspension Time	4 min	Disable, 90 sec, 2 min, 3 min, 4 min, 5 min, 10 min, 15 min, 30 min, 60 min, Always On	Monitor, Configuration Utility
Pacer Indicator On	No	Yes, No	Monitor, Configuration Utility
Buttons Lock-Out Enabled	Yes	Yes, No	Configuration Utility, Acuity
Display Lock-Out Enabled	Yes	Yes, No	Configuration Utility
Back Light Lock-Out Enabled	Yes	Yes, No	Configuration Utility
Back Light Time-Out	2 min	Always Off, 2 min, 5 min, 10 min, 15 min, 30 min, Always On	Monitor, Configuration Utility
Display Time-Out	Always On	2 min, 5 min, 10 min, 15 min, 30 min, Always On	Monitor, Configuration Utility
Adult NIBP Mean Numerics	Small	Small, Large, Off	Monitor, Configuration Utility
Pediatric NIBP Mean Numerics	Small	Small, Large, Off	Monitor, Configuration Utility
Neonatal NIBP Mean Numerics	Large	Small, Large, Off	Monitor, Configuration Utility

Table 11. Parameter Configuration Matrix (continued)

Parameter	Factory Setting	Possible Values	Where Set
Display All ECG Vectors	Yes	Yes, No	Configuration Utility
ECG I Wave Size	1 mV/cm	8 mV/cm, 4 mV/cm, 2 mV/cm, 1 mV/cm, 0.5 mV/cm, 0.2 mV/cm	Monitor
ECG II Wave Size	1 mV/cm	8 mV/cm, 4 mV/cm, 2 mV/cm, 1 mV/cm, 0.5 mV/cm, 0.2 mV/cm	Monitor
ECG III Wave Size	1 mV/cm	8 mV/cm, 4 mV/cm, 2 mV/cm, 1 mV/cm, 0.5 mV/cm, 0.2 mV/cm	Monitor
ECG V Wave Size	1 mV/cm	8 mV/cm, 4 mV/cm, 2 mV/cm, 1 mV/cm, 0.5 mV/cm, 0.2 mV/cm	Monitor
ECG aVR Wave Size	1 mV/cm	8 mV/cm, 4 mV/cm, 2 mV/cm, 1 mV/cm, 0.5 mV/cm, 0.2 mV/cm	Monitor
ECG aVL Wave Size	1 mV/cm	8 mV/cm, 4 mV/cm, 2 mV/cm, 1 mV/cm, 0.5 mV/cm, 0.2 mV/cm	Monitor
ECG aVF Wave Size	1 mV/cm	8 mV/cm, 4 mV/cm, 2 mV/cm, 1 mV/cm, 0.5 mV/cm, 0.2 mV/cm	Monitor
SpO_2 Wave Size	2x	1x, 2x, 4x, 8x	Monitor
Resp Wave Size	2x	0.5x, 1x, 2x, 4x, 8x, 16x	Monitor
ParamSet Enable	Yes	Yes, No	Configuration Utility
NIBP Turbo Mode Enable	Yes	Yes, No	Configuration Utility
Tab Trend Display Interval	5 min	1 min, 5 min, 10 min, 15 min, 30 min, 60 min	Monitor, Configuration Utility
Current Screen	Display 1	Display 1, Display 2, Display 3	Monitor
Display 1			
Format	Large Numerics	Large Numerics, Single Waveform, Dual Waveform, Tabular Trends, Tabular Trends with Waveform	Monitor, Configuration Utility
Top Waveform (if any)	Lead II	Lead I, Lead II, Lead III, Lead V, aVR, aVL, aVF, SpO_2, Resp	Monitor, Configuration Utility
Show Top Waveform 6 Seconds	No	Yes, No	Monitor, Configuration Utility
Show Bottom Waveform 6 Seconds	No	Yes, No	Monitor
Bottom Waveform (if any)	Lead V	Lead I, Lead II, Lead III, Lead V, aVR, aVL, aVF, SpO_2, Resp	Monitor, Configuration Utility
Tabular Trends Display Interval	5 min	1 min, 5 min, 10 min, 15 min, 30 min, 60 min	Monitor, Configuration Utility

Table 11. Parameter Configuration Matrix (continued)

Parameter	Factory Setting	Possible Values	Where Set
Display 2			
Format	Single Waveform	Large Numerics, Single Waveform, Dual Waveform, Tabular Trends, Tabular Trends with Waveform	Monitor, Configuration Utility
Top Waveform (if any)	Lead II	Lead I, Lead II, Lead III, Lead V, aVR, aVL, aVF, SpO$_2$, Resp	Monitor, Configuration Utility
Show Top Waveform 6 Seconds	No	Yes, No	Monitor, Configuration Utility
Show Bottom Waveform 6 Seconds	No	Yes, No	Monitor
Bottom Waveform (if any)	Lead V	Lead I, Lead II, Lead III, Lead V, aVR, aVL, aVF, SpO$_2$, Resp	Monitor, Configuration Utility
Tabular Trends Display Interval	5 min	1 min, 5 min, 10 min, 15 min, 30 min, 60 min	Monitor, Configuration Utility
Display 3			
Format	Tabular Trends with Waveform	Large Numerics, Single Waveform, Dual Waveform, Tabular Trends, Tabular Trends with Waveform	Monitor, Configuration Utility
Top Waveform (if any)	Lead II	Lead I, Lead II, Lead III, Lead V, aVR, aVL, aVF, SpO$_2$, Resp	Monitor, Configuration Utility
Show Top Waveform 6 Seconds	No	Yes, No	Monitor, Configuration Utility
Show Bottom Waveform 6 Seconds	No	Yes, No	Monitor
Bottom Waveform (if any)	SpO$_2$	Lead I, Lead II, Lead III, Lead V, aVR, aVL, aVF, SpO$_2$, Resp	Monitor, Configuration Utility
Tabular Trends Display Interval	5 min	1 min, 5 min, 10 min, 15 min, 30 min, 60 min	Monitor, Configuration Utility
ECG			
ECG Bandwidth	Monitor	Monitor, Extended	Monitor, Configuration Utility, Acuity
HR/PR General			
HR/PR Selected Source	ECG	ECG, SpO$_2$	Monitor, Acuity
Can Disable HR/PR Alarm Limits	Yes (No if lang=French)	Yes, No	Monitor
Power Source Filter	60 Hz	50 Hz, 60 Hz, Off	Monitor, Configuration Utility, Acuity
ParamSet for Upper HR/PR Limit	20%	5% - 25%	Configuration Utility
ParamSet for Lower HR/PR Limit	20%	5% - 25%	Configuration Utility

Table 11. Parameter Configuration Matrix (continued)

Parameter	Factory Setting	Possible Values	Where Set
HR/PR Adult			
Upper Alarm Limit	120 beats/min	27 - 300 beats/min	Monitor
Lower Alarm Limit	50 beats/min	25 - 298 beats/min	Monitor
HR/PR Pediatric			
Upper Alarm Limit	150 beats/min	27 - 300 beats/min	Monitor
Lower Alarm Limit	50 beats/min	25 - 298 beats/min	Monitor
HR/PR Neonate			
Upper Alarm Limit	150 beats/min	27 - 300 beats/min	Monitor
Lower Alarm Limit	50 beats/min	25 - 298 beats/min	Monitor
NIBP General			
NIBP Mode	Manual	Auto, Manual, Turbo	Monitor, Acuity
Auto Interval	15 min	1 min, 2 min, 3 min, 5 min, 10 min, 15 min, 30 min, 60 min	Monitor, Configuration Utility
ParamSet for Upper NIBP Systolic	15%	5% - 25%	Configuration Utility
ParamSet for Lower NIBP Systolic	15%	5% - 25%	Configuration Utility
ParamSet for Upper NIBP Diastolic	15%	5% - 25%	Configuration Utility
ParamSet for Lower NIBP Diastolic	15%	5% - 25%	Configuration Utility
ParamSet for Upper NIBP Mean	10%	5% - 15%	Configuration Utility
ParamSet for Lower NIBP Mean	10%	5% - 15%	Configuration Utility
NIBP Adult			
Systolic Upper Alarm Limit	220 mmHg 29.3 kPa	32 - 260 mmHg 4.3 - 34.7 kPa	Monitor, Acuity
Systolic Lower Alarm Limit	75 mmHg 10.0 kPa	30 - 258 mmHg 4.0 - 34.4 kPa	Monitor, Acuity
Diastolic Upper Alarm Limit	110 mmHg 14.7 kPa	22 - 235 mmHg 2.9 - 31.3 kPa	Monitor, Acuity
Diastolic Lower Alarm Limit	35 mmHg 4.7 kPa	20 - 233 mmHg 2.7 - 31.1 kPa	Monitor, Acuity
Mean Upper Alarm Limit	120 mmHg 16.0 kPa	22 - 255 mmHg 2.9 - 34.0 kPa	Monitor, Acuity
Mean Lower Alarm Limit	50 mmHg 6.7 kPa	20 - 253 mmHg 2.7 - 33.7 kPa	Monitor, Acuity

Table 11. Parameter Configuration Matrix (continued)

Parameter	Factory Setting	Possible Values	Where Set
NIBP Pediatric			
Systolic Upper Alarm Limit	145 mmHg 19.3 kPa	32 - 160 mmHg 4.3 - 21.3 kPa	Monitor, Acuity
Systolic Lower Alarm Limit	75 mmHg 10.0 kPa	30 - 158 mmHg 4.0 - 21.1 kPa	Monitor, Acuity
Diastolic Upper Alarm Limit	100 mmHg 13.3 kPa	17 - 130 mmHg 2.3 - 17.3 kPa	Monitor, Acuity
Diastolic Lower Alarm Limit	35 mmHg 4.7 kPa	15 - 128 mmHg 2.0 - 17.1 kPa	Monitor, Acuity
Mean Upper Alarm Limit	110 mmHg 14.7 kPa	17 - 140 mmHg 2.3 - 18.7 kPa	Monitor, Acuity
Mean Lower Alarm Limit	50 mmHg 6.7 kPa	15 - 138 mmHg 2.0 - 18.4 kPa	Monitor, Acuity
NIBP Neonatal			
Systolic Upper Alarm Limit	100 mmHg 13.3 kPa	27 - 120 mmHg 3.6 - 16.0 kPa	Monitor, Acuity
Systolic Lower Alarm Limit	50 mmHg 6.7 kPa	25 - 118 mmHg 3.33 - 15.7 kPa	Monitor, Acuity
Diastolic Upper Alarm Limit	70 mmHg 9.3 kPa	12 - 105 mmHg 1.6 - 14.0 kPa	Monitor, Acuity
Diastolic Lower Alarm Limit	30 mmHg 4.0 kPa	10 - 103 mmHg 1.3 - 13.7 kPa	Monitor, Acuity
Mean Upper Alarm Limit	80 mmHg 10.7 kPa	12 - 110 mmHg 1.6 - 14.7 kPa	Monitor, Acuity
Mean Lower Alarm Limit	35 mmHg 4.7 kPa	10 - 108 mmHg 1.3 - 14.4 kPa	Monitor, Acuity
SpO_2 General			
Enable Spot Checks	Yes	Yes, No	Configuration Utility
ParamSet for Upper SpO_2	5%	5% - 10%	Configuration Utility
ParamSet for Lower SpO_2	5%	5% - 10%	Configuration Utility
SpO_2 Adult			
Upper Alarm Limit	100%	52% - 100%	Monitor, Acuity
Lower Alarm Limit	90%	50% - 98%	Monitor, Acuity
SpO_2 Pediatric			
Upper Alarm Limit	100%	52% - 100%	Monitor, Acuity
Lower Alarm Limit	90%	50% - 98%	Monitor, Acuity

Table 11. Parameter Configuration Matrix (continued)

Parameter	Factory Setting	Possible Values	Where Set
SpO$_2$ Neonatal			
Upper Alarm Limit	98%	52% - 100%	Monitor, Acuity
Lower Alarm Limit	85%	50% - 98%	Monitor, Acuity
Resp General			
ParamSet for Upper Resp	5%	5% - 25%	Configuration Utility
ParamSet for Lower Resp	5%	5% - 25%	Configuration Utility
Resp On/Off	Yes	Yes, No	Monitor, Configuration Utility
Resp Adult			
Vector	Ld1	Ld1 (RA-LA), Ld2 (RA-LL)	Monitor, Configuration Utility, Acuity
Upper Alarm Limit	30/min	4/min - 150/min	Monitor, Acuity
Lower Alarm Limit	5/min	2/min - 148/min	Monitor, Acuity
Resp Pediatric			
Vector	Ld1	Ld1 (RA-LA), Ld2 (RA-LL)	Monitor, Configuration Utility, Acuity
Upper Alarm Limit	45/min	4/min - 150/min	Monitor, Acuity
Lower Alarm Limit	10/min	2/min - 148/min	Monitor, Acuity
Resp Neonatal			
Vector	Ld1	Ld1 (RA-LA), Ld2 (RA-LL)	Monitor, Configuration Utility, Acuity
Upper Alarm Limit	60/min	5/min - 150/min	Monitor, Acuity
Lower Alarm Limit	10/min	3/min - 148/min	Monitor, Acuity

9 PC Utility

Introduction

Use the Propaq LT Monitor PC Utility to install either or both of the following utilities on a PC:

- Propaq LT Monitor Configuration Utility
- Propaq LT Monitor AutoPrint Utility

These utilities can then be used to control the behavior of any Propaq LT monitor.

Propaq LT Monitor Configuration Utility

The monitor comes fully configured and ready for operation. If the factory configuration does not match your specific needs, you can use the Propaq LT Monitor Configuration Utility to customize the monitor to fit the requirements of your clinical situation.

To configure the monitor, follow these steps:

1. Use the configuration worksheet to specify the monitor settings. (See "Configuration Worksheet" on page 137.)

2. On a PC running the Propaq LT Monitor Configuration Utility, enter the settings into a configuration file. (See "Making a Configuration File" on page 126.)

3. On a PC connected to a Propaq LT Monitor Charging/Communications Cradle configured with the optional data link capability, download the configuration file to any number of Propaq LT monitors. (See "Configuring a Monitor" on page 130.)

Propaq LT Monitor AutoPrint Utility

With a PC connected to a printer and with a cradle configured with the optional data link capability, you can configure the PC to print, manually or automatically, all patient data stored in the monitor each time the monitor is placed in the cradle. (See "Printing Patient Data" on page 103.)

Installation

System Requirements

PC on Which You Have Administrator Privileges

- CPU: 800 MHz or faster
- Hard drive: 20 GB or more
- Available RAM: 256 MB or more
- Available Port: USB 1.1
- OS: Windows 2000 or Windows XP

Printer

- Installed and configured
- Resolution: 300 minimum; 600 or higher recommended

Procedure

Launching the Installation

1. Insert the software distribution CD in a CD-ROM drive of your PC.

2. When the installation program starts, follow the instructions presented on your computer monitor.

   If you are installing on a PC running Windows XP, you might see the message shown below. Click **Continue Anyway** to continue the installation.

Figure 101. Windows Logo Message

Usually, the installation completes quickly. However, if the utility also has to install .NET Framework on your computer, this can add several minutes.

3. Click through the Welcome screen and the license agreement.

   You must accept the terms of the license agreement to proceed with the installation.

Figure 102. Accepting the Terms of the Software License
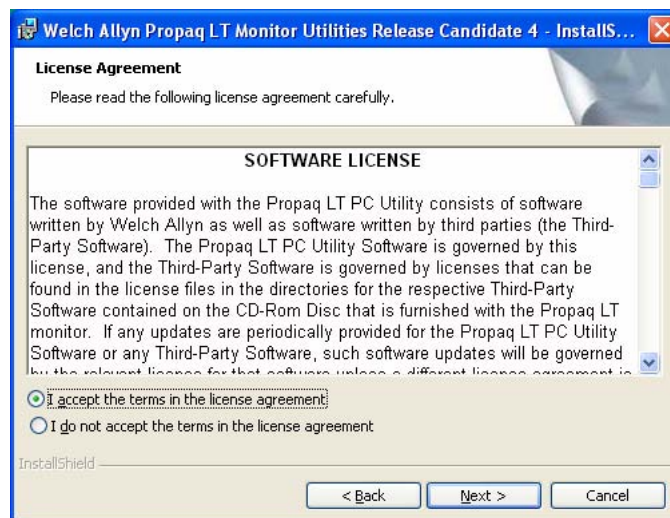
4. Determine whether you want to install the Configuration Utility only, the AutoPrint Utility only, or both utilities.

Figure 103. Complete or Custom Installation
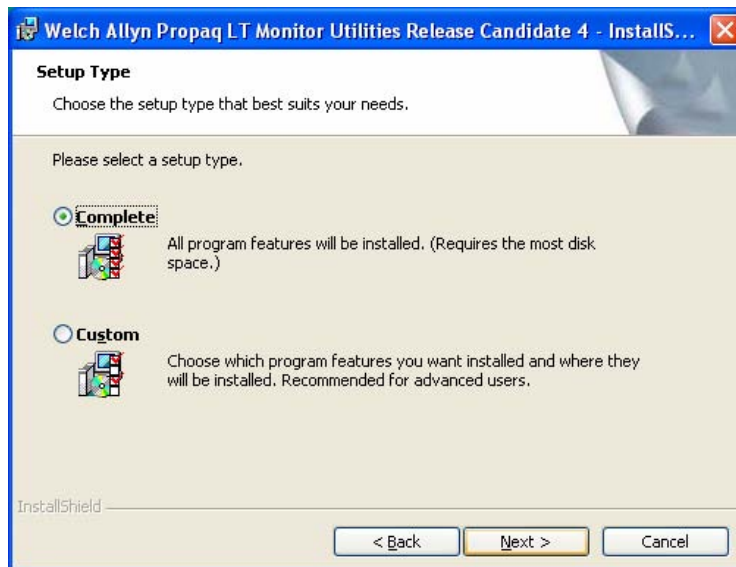
- To install both utilities, click **Complete**.
- To install only one of the utilities, click **Cu<u>s</u>tom** and, in the next screen (Figure 104), select the utility you want to install.

Figure 104. Selecting to Install Either the AutoPrint Utility or the Configuration Utility
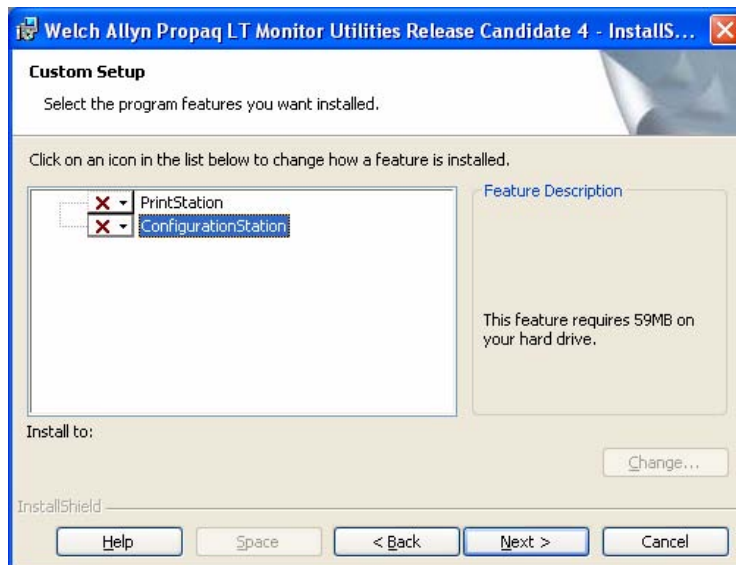
If you click the next to your choice, you can also select one of the installation options available for that choice (Figure 105).

Figure 105. Menu of Installation Options
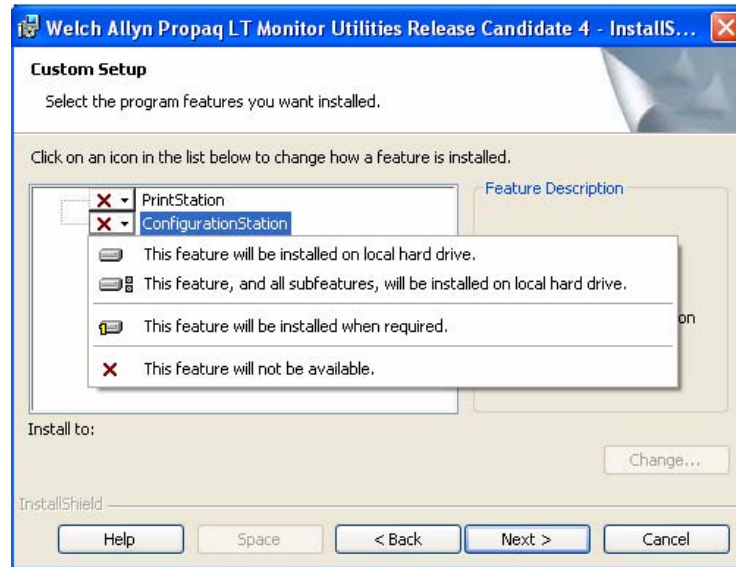
5. The installation prompts you occasionally for information. At each prompt, provide the requested information and then click **Next**. The installation continues until it is finished.

Configuring the Monitor

Making a Configuration File

1. On a PC, start the Propaq LT Monitor Configuration Utility (Figure 106):

    Start > **Programs** > **Welch Allyn** > **Propaq LT Monitor** > **Configuration**

Figure 106. Starting the Configuration Utility - Start Menu
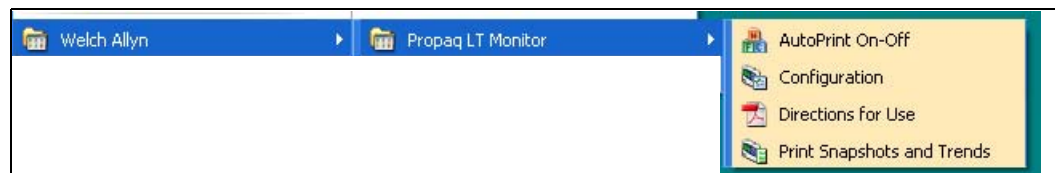
You can also start the utility by double-clicking the **Configuration** icon on the computer desktop.

The configuration utility Welcome screen (Figure 107) appears.

Figure 107. Configuration Utility Welcome Screen

2. Click **Select**. A file-selection window appears (Figure 108), displaying all configuration files (*.mnt) in the **Config** folder. For a new installation of the utility, *DefaultPropaqLTConfiguration.mnt* is the only file in the folder.

Figure 108. Selecting a Configuration File for Display
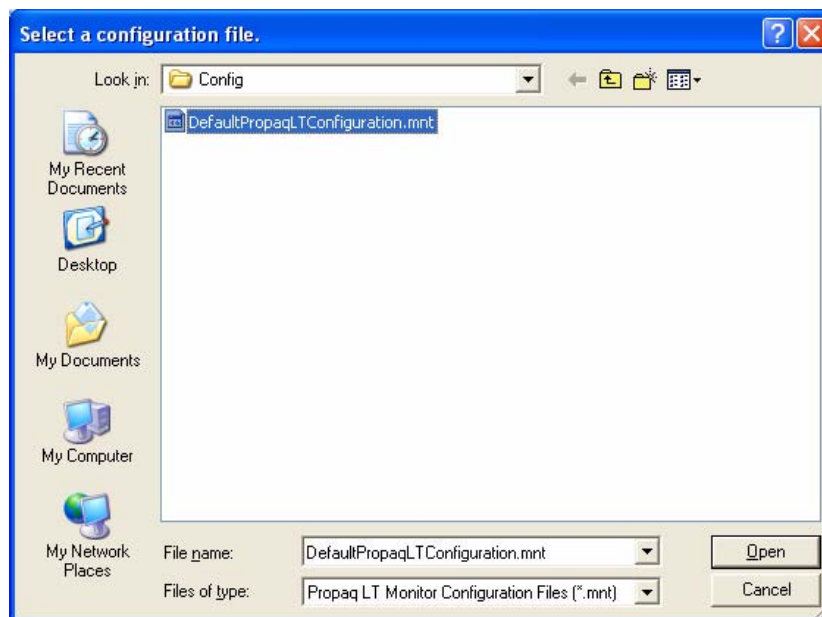
3. Select *DefaultPropaqLTConfiguration.mnt* and click **Open**. The file is opened for viewing in the configuration display (Figure 109). (See *"About the Configuration Display"* on page 130.)

Figure 109. Configuration Display
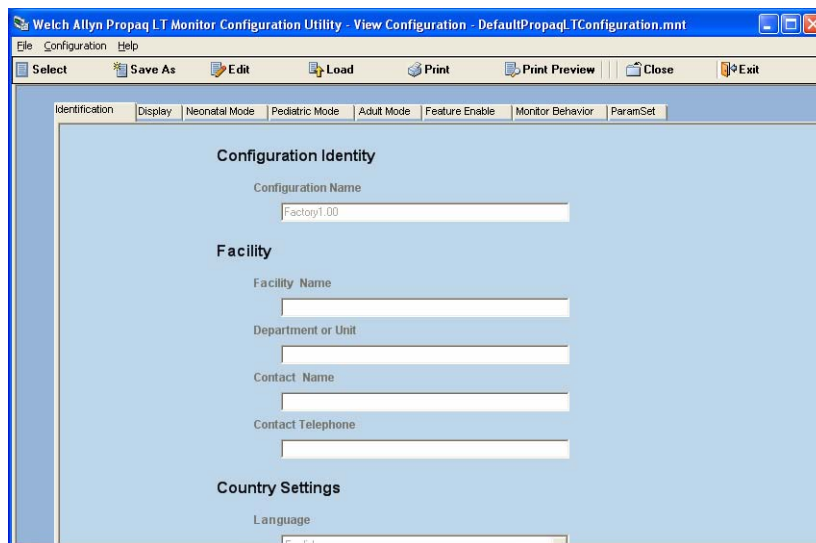
4. The program does not permit you to modify *DefaultPropaqLTConfiguration.mnt*. To make a new configuration file, save *DefaultPropaqLTConfiguration.mnt* under a new name (Figure 110) and then edit the new file as needed.

Figure 110. Creating a New Configuration File (Save As)
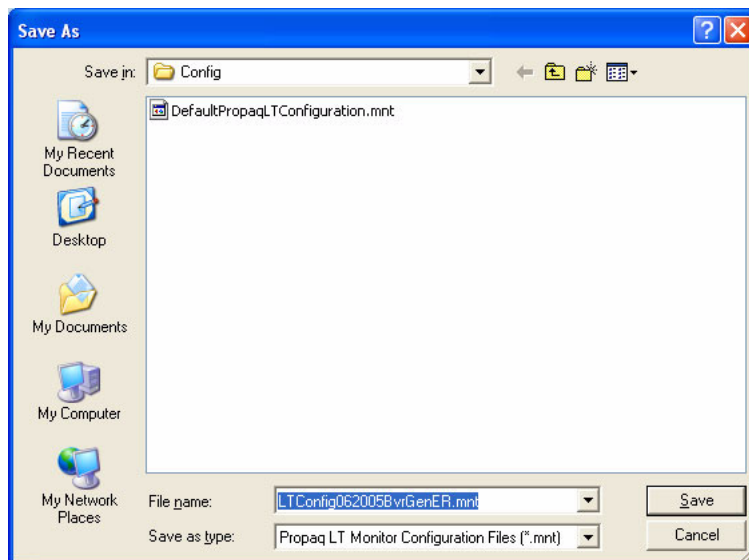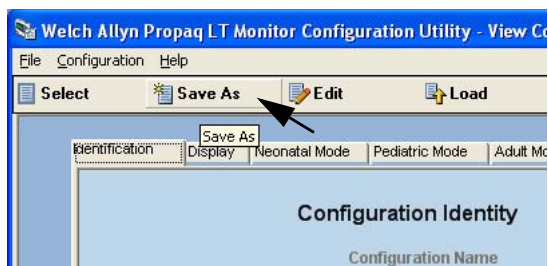
The utility displays the new file (Figure 111).

5. To open the new file for editing, click **Edit**. You can now enter text and select parameter options.

Figure 111. File Opened for Editing
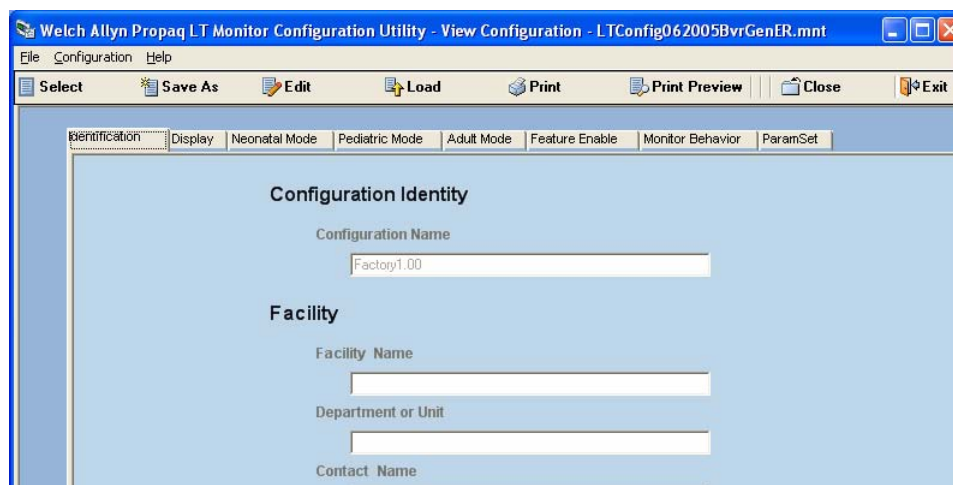
6. Define the monitor settings for the new configuration. Examine each field in the configuration utility. Change any value that is not appropriate for your clinical situation.

7. When the form is complete and the value in each field is correct, click **Save**.

Alternatively, to save the file and close it, click **Save/Close**.

Printing a Configuration File

To print this configuration file, click **Print**.

To see what the printed report looks like before you print it, click **Print Preview**. The Print Preview screen (Figure 112) displays a report of the configuration file and gives you several options for printing, viewing, exporting, and searching the report.

Figure 112. Print Preview - Options
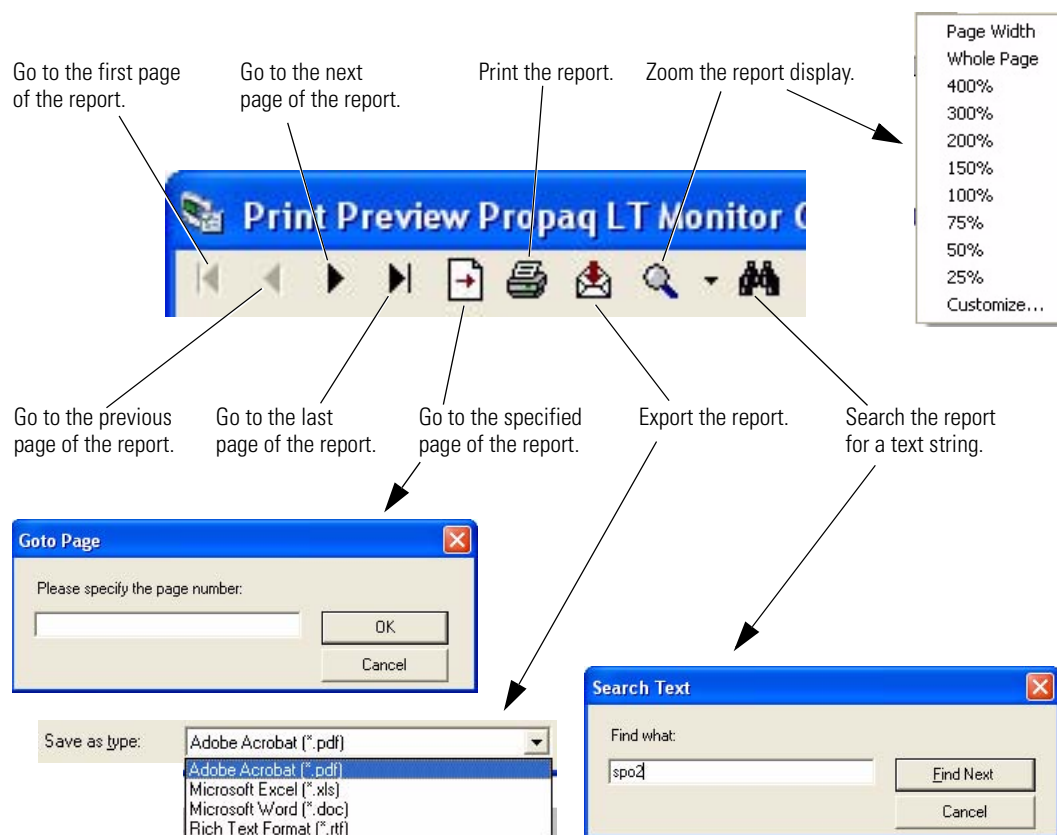
Modifying a Configuration File

To change a configuration file that has already been completed, follow these steps:

1. Start the utility.

2. Select the configuration file that you want to modify.

3. Click **Edit**.

4. Using the section tabs, navigate to the setting you want to change.

5. Enter the new value.

6. Repeat steps 4 and 5 until you have updated all of the settings you want to change.

7. Click **Save** or **Save/Close**.

Configuring a Monitor

1. Seat the monitor in the cradle.

2. If the monitor is off, turn it on and select **Start New Patient**.

3. Start the utility.

4. Select the configuration file that you want to upload.

5. Click **Load**.

6. Wait a few seconds. When the upload is complete, a completion message appears and then the monitor shuts off.

7. Remove the monitor from the cradle. It is now configured.

About the Configuration Display

Figure 113. Configuration Display
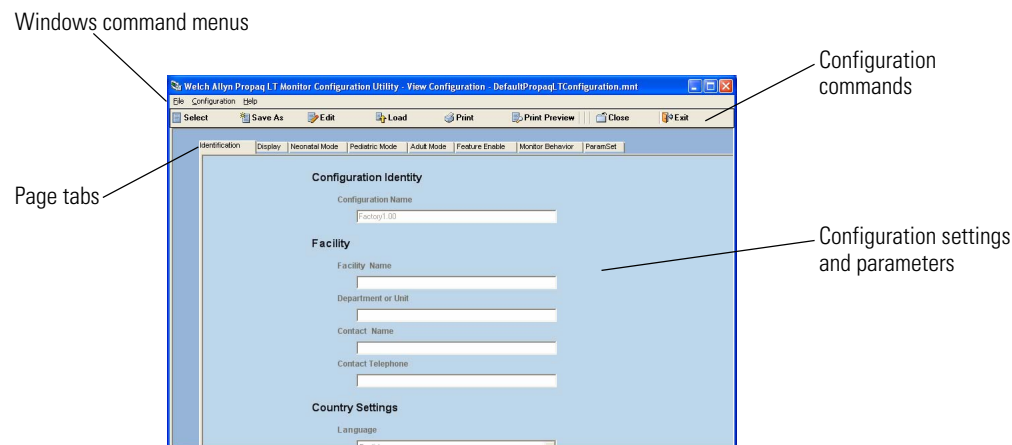
The configuration display contains the following elements:

- Windows command bar
- Configuration command bar
- Page tabs
- Configuration settings and parameters.

The Windows command bar includes **File**, **Configuration**, and **Help**.

File	Save, Close, Save and Close, Exit
Configuration	Select, Save As, Edit, Load, Print, Print Preview
Help	About Propaq LT Monitor Configuration Utility

The configuration commands include the following:

	Select	Open a file-selection dialog. This has the same function as the **Select** button on the Welcome screen (Figure 107 on page 126).
	Save As	Save the configuration file as a new file with another name.
	Edit	Enable the configuration file for editing.
	Load	Upload the configuration file to the monitor currently in the cradle.
	Print	Print the configuration file.
	Print Preview	Open the Print Preview window. This presents options for navigating the configuration file, enlarging or reducing the size of the display, searching for occurrences of specified text in the file, printing the file, and exporting an electronic (PDF) version of the file.
	Close	Close the configuration file.
	Exit	Exit the configuration utility application.

The page tabs link you to the sections of the configuration file:

Identification	Name the configuration, define monitor ownership and support responsibility, and define parameters related to your locale.
Display	Select and define the displays.
Neonatal Mode	Define default settings for neonatal patients.
Pediatric Mode	Define default settings for pediatric patients.
Adult Mode	Define default settings for adult patients.
Feature Enable	Specify the monitor features available to clinicians.
Monitor Behavior	Define the general properties of the monitor.
ParamSet	Define the alarm-limit adjustment percentages (ParamSet) for systolic, diastolic, and mean pressures, HR/PR, SpO_2, and respiration rate.

The utility is divided into eight sections, each represented by a labeled tab across the top of the form. The first page of the worksheet (see Figure 111) describes the content of each section. Individual settings are described in the worksheet.

The first five settings, under the **Identification** tab, are text fields. You can enter text (Figure 114) in each field.

Note These text strings can be of any length; however, the monitor displays only the first 40 characters of the string for each field.
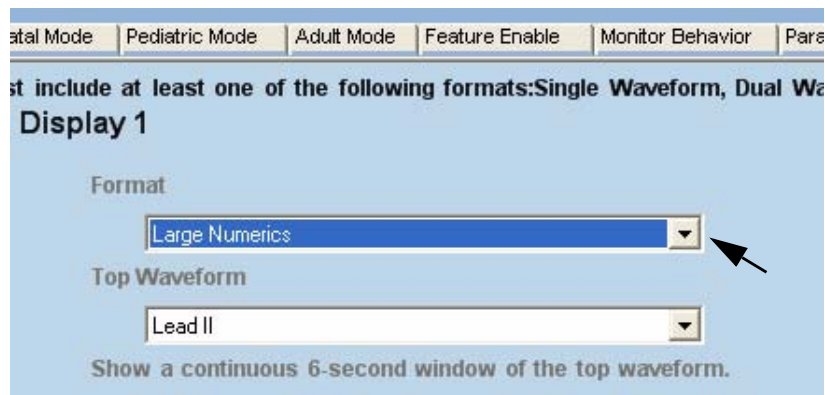
**Figure 114. Text Entered Into a Text Field**

In the remaining fields of the configuration utility, you either...

- select one item from a drop-down menu of items or
- use a check-box to choose between **Yes** and **No**

To see a drop-down menu, click the triangle at the right of the field (Figure 115).

Figure 115. Opening a Drop-down Menu

Click a choice (Figure 116) to select it...

Figure 116. Selecting From a Drop-Down Menu
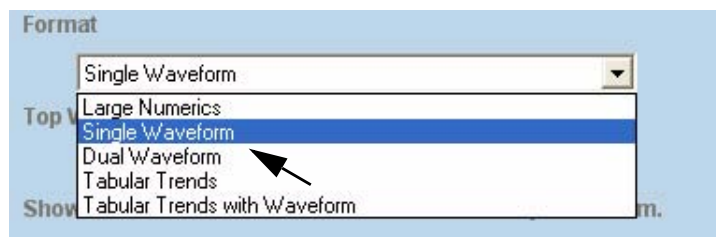
The new selection appears in the field (Figure 117).

Figure 117. New Selection Displayed
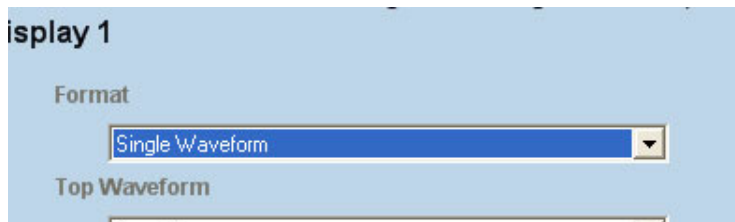
To set a value for a Yes-No item, click the box to insert a mark for **Yes** (Figure 118), or click the box to remove the mark for **No** (Figure 119).

Figure 118. Selecting Yes (A Check Mark)

Figure 119. Selecting No (No Check Mark)

To view the settings for a topic, click the tab for that topic. For example, to see the Default Resp Lead setting for adults, click **Adult Mode** (Figure 120).
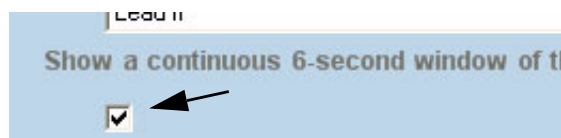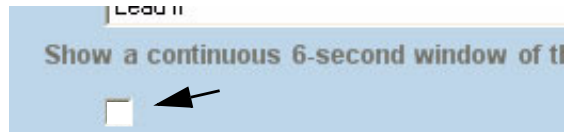
Figure 120. Settings Under Adult Mode
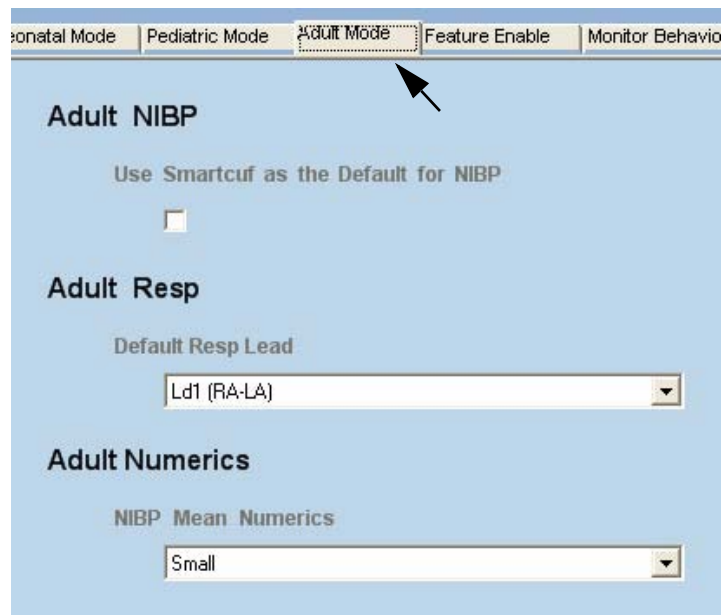
Error Messages

- Communication with the monitor failed. Verify that the monitor is powered on and properly seated in the cradle. Verify that the cable is connected.

- Could not read patient data from the monitor. Please contact Welch Allyn customer service.

- The configuration file did not install on the monitor. Verify all connections between monitor, cradle, and PC and try again. If problems continue, contact Welch Allyn customer service.

- Configuration file format is invalid. Try editing the configuration and saving it again.

- The selected file is read-only and cannot be edited. Please select another file or Save the File with another name.

- The Configuration File: [*file name*] that you are attempting to read is in the wrong format. Please select another file.

About the Configuration Worksheet

⚠️ **WARNING**   You must read and understand the warning statements in "Enable Wireless Communications (with Acuity)" on page 147 before any configuration file is created based on a worksheet.

The first step in customizing a monitor configuration is to complete a configuration worksheet. This defines the settings to be stored in the monitor.

Note   A worksheet is not required. The worksheet makes it possible for key clinical staff to preview and approve the configuration, and it makes it easier to create the configuration file.

Print the worksheet (page 137 to page 156 of this document) and supply the values for any settings you want to change. When the worksheet is complete, give it to the person designated to create the new configuration file.

About Defaults

The settings defined for the monitor when it first arrives from the factory are called 'factory defaults'. Factory defaults include settings for most parameters and also define whether certain monitor features are enabled or disabled.

An example of a default setting:

The default volume of the alarm tone is set to **Medium**. To change the default volume level to Low, select **Low** in the configuration file. (Like many other monitor settings, the volume of the alarm tone can also be changed by the clinician while the monitor is in use. The configuration simply defines what the setting will be when the monitor power is turned on.)

An example of enabled and disabled features:

The monitor behavior **Pacer Indicator On Default** has a default value of **No**, so the monitor does not, by default, include pacemaker indicators in an ECG waveform display. To change the default behavior so that the monitor does show pacemaker indicators in an ECG waveform display, change the value to **Yes** in the custom configuration.

The feature Back Light Lockout Enable has a factory-default value of **Yes** (enabled), so it is, by default, available to clinicians. To make this feature unavailable to clinicians, change the value to **No** in the custom configuration.

Factory defaults remain in effect until you reconfigure the monitor by downloading a custom configuration file to it from the PC.

After you reconfigure the monitor, the settings defined in the new configuration become the 'system defaults', and the factory defaults are no longer in effect. The new system defaults remain in effect until another configuration is downloaded to the monitor. If you reconfigure the monitor and then want to restore the factory defaults, download the configuration file "*DefaultPropaqLTConfiguration.mnt.*"

The monitor is reset to the system defaults (not the factory defaults) every time the monitor power is cycled off and on, with one exception: If a clinician has changed some monitor settings at the bedside for a patient and then shuts off the monitor, the monitor offers the options to "Delete and Shut Down" and to "Save and Shut Down". If the clinician selects "Save and Shut Down," shuts off the monitor, and then turns on the monitor again, the monitor prompts with the choice, "Start New Patient" or "Continue Patient". If the clinician selects "Continue Patient," *the monitor uses the settings that were saved for that patient before the power was turned off.* If the clinician selects "Start New Patient," the system default settings are restored.

- In the printed version of the configuration worksheet, the factory default values are indicated by **bold text**.

- In the electronic version of the configuration worksheet, the factory default values appear in the form fields when you first open the file, *PropaqLTMonCfgWS.doc.*

- In the configuration utility, the factory default values appear in the data fields when you open the default configuration file, *DefaultPropaqLTConfiguration.mnt*, using the configuration utility.

⚠ **Caution**   Do not attempt to modify a configuration file without using the Propaq LT Configuration Utility.

About AutoPrint

For information about using the AutoPrint Utility, see "Printing Patient Data" on page 103.

Configuration Worksheet

The final page of this worksheet is the worksheet authorization, which identifies the person responsible for defining the custom configuration. The information on the authorization page is not part of the monitor configuration.

Note   All configuration parameters are set at the factory. You do not have to change any settings for the monitor to work properly.

1   Identification

1.1   Configuration Identity

For each configuration, enter a unique name that identifies the following:

- the hospital and the care unit or department that owns the monitor

- the date on which this configuration is created

The name can include <u>any</u> standard keyboard characters other than the comma (**,**).

For example:

StEGH #9 West Dec_29 2003

If multiple configuration files are created on the same day, include additional identifying information to the configuration name.

For example:

StEGH #9 West Dec_29 2003 Pediatric
StEGH #9 West Dec_29 2003 Neonate

What name do you want to give this configuration?

Configuration Name
(Up to 40 characters.)

1.2   Facility

This information further clarifies ownership of the monitor, and it identifies a person who should be notified if the monitor needs attention.

What facility, department, and individual is responsible for this monitor?

Facility Name
(Up to 40 characters.)

Department or Unit
(Up to 40 characters.)

Contact Name
(Up to 40 characters.)

Contact Telephone
(Up to 40 characters.)

1.3   Country Settings

Note   All configuration parameters are set at the factory. The monitor works even if you do not change any settings.

This section determines the appearance of information on the monitor display, and specifies an electrical setting and a regulatory setting.

For each parameter, the factory setting is shown in **bold**. The factory setting is used until another value is uploaded to the monitor.

1.3.1   Language

In what language are monitor messages and text to be displayed?

__ **English**
__ Dutch
__ French
__ German
__ Italian
__ Polish
__ Portuguese
__ Spanish
__ Swedish

1.3.2   Time Format

How do you want the monitor to display time?

__ 12-hour AM/PM
__ **24-hour**

1.3.3 Date Format

How do you want the monitor to display the date?

__ **mm/dd/yy**
__ dd.mm.yy
__ yy/mm/dd

1.3.4 Decimal Format

You can configure the monitor to use a dot (for example, 195.18) or a comma (195,18) to display the decimal point.

How do you want the monitor to display the decimal point?

__ **Dot**
__ Comma

1.3.5 Power Source Filter

Set the power-source interference filter to the appropriate frequency for your location.

60 Hz	**North America, Taiwan, and Japan**
50 Hz	**All other locations**
Off	

If the filter is not set, the ECG waveform displays might contain high-frequency noise caused by the interference generated from the facility ac power supply.

Which filter, if any, should be used to reduce interference from the ac power supply?

__ **60 Hz**
__ 50 Hz
__ Off

1.3.6 Regulatory Set

In which regulatory area is this facility located?

__ **US**
__ European EC
__ Japan Metrology

2   Display Configuration

The monitor interface includes a **Display** button: ⊞. Pressing ⊞ cycles the display quickly through the three views you specify below.

In the configuration, you can choose any three of the five display choices shown below for quick display with ⊞. For example, if you select **Large Numerics**, **Single Waveform**, and **Dual Waveform**, a clinician can repeatedly press ⊞ to see a patient's vital signs displayed first as large numerics, second as a single waveform with small numerics, and finally as a dual waveform with small numerics.

- You must include at least one display with a waveform.

- If you select **Single Waveform** and do not select **Dual Waveform**, **Tabular Trends**, or **Tabular Trends with Waveform**, users can still view dual waveforms, tabular trends, and tabular trends with a single waveform.

- If you do not select **Large Numerics**, clinicians cannot access the Large Numerics display.

After you select three displays (see), you can select the default appearance for each.

For each parameter, the factory default value is shown in **bold**. The default value is used by the monitor unless you specify another value in this worksheet.

Large Numerics

Single Waveform

Dual Waveform

Tabular Trends with Waveform
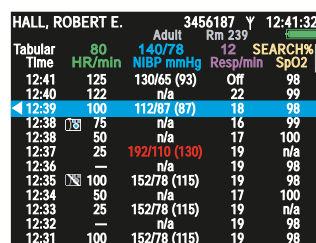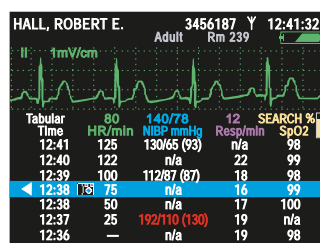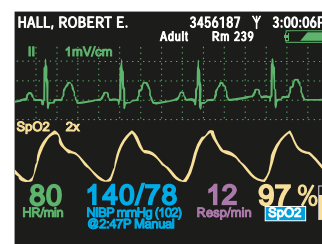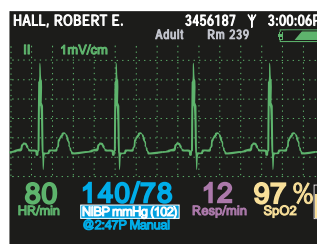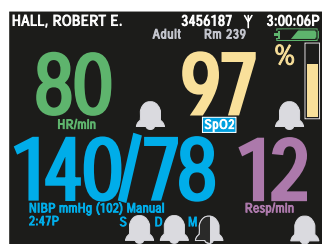
Tabular Trends

Display Format

Which display format do you want to use for ...

Display 1	Display 2	Display 3
__ **Large Numerics**	__ Large Numerics	__ Large Numerics
__ Single Waveform	__ **Single Waveform**	__ Single Waveform
__ Dual Waveform	__ Dual Waveform	__ Dual Waveform
__ Tabular Trends	__ Tabular Trends	__ Tabular Trends
__ Tabular Trends with Waveform	__ Tabular Trends with Waveform	__ **Tabular Trends with Waveform**
	__ None	__ None

If the format includes a waveform, then **from which Lead is the waveform to be displayed?**

Display 1	Display 2	Display 3
__ Lead I	__ Lead I	__ Lead I
__ **Lead II**	__ **Lead II**	__ Lead II
__ Lead III	__ Lead III	__ Lead III
__ Lead V	__ Lead V	__ Lead V
__ aVR	__ aVR	__ aVR
__ aVL	__ aVL	__ aVL
__ aVF	__ aVF	__ aVF
__ SpO_2	__ SpO_2	__ **SpO_2**
__ Resp	__ Resp	__ Resp

Do you want to enable 6-second display of the top waveform?

Display 1	Display 2	Display 3
☑ **(Yes)**	☑ **(Yes)**	☑ **(Yes)**
☐ (No)	☐ (No)	☐ (No)

If you select ☑ (Yes), the monitor displays two consecutive 3-second periods of the top waveform.

If you select ☐ (No), the monitor displays 3 seconds of the top waveform and, if Dual Waveform is selected, 3 seconds of the bottom waveform.

Display Format (continued)

If Dual Waveform display is enabled, which signal is to be displayed as the default bottom waveform?

Display 1	Display 2	Display 3
__ Lead I	__ Lead I	__ Lead I
__ Lead II	__ Lead II	__ Lead II
__ Lead III	__ Lead III	__ Lead III
__ **Lead V**	__ **Lead V**	__ Lead V
__ aVR	__ aVR	__ aVR
__ aVL	__ aVL	__ aVL
__ aVF	__ aVF	__ aVF
__ SpO_2	__ SpO_2	__ **SpO_2**
__ Resp	__ Resp	__ Resp

If Tabular Trends display is enabled, what is the default data interval?

__ 1 minute	__ 1 minute	__ 1 minute
__ **5 minutes**	__ **5 minutes**	__ **5 minutes**
__ 10 minutes	__ 10 minutes	__ 10 minutes
__ 15 minutes	__ 15 minutes	__ 15 minutes
__ 30 minutes	__ 30 minutes	__ 30 minutes
__ 60 minutes	__ 60 minutes	__ 60 minutes

3   Neonatal Mode

For each parameter, the factory default value is shown in **bold**. The default value is used by the monitor unless you specify another value in this worksheet.

3.1   Use Smartcuf as Default for NIBP

Note   **Smartcuf will be available in 2006.**

An NIBP measurement can be adversely affected by many factors, including body motion (such as convulsions or shivering), ambient vibration, vehicle motion, weak pulse, a sudden change in blood pressure, or sudden cuff movement. When these factors are present, Welch Allyn's patented Smartcuf technology can greatly increase the accuracy of NIBP measurements.

Note   Smartcuf functions only during ECG monitoring.

Do you want to use Smartcuf as the default for neonatal NIBP measurements?

☑ (Yes)
☐ **(No)**

3.2   Default Resp Lead

The default Resp Lead for neonatal patients is:

__ **Lead 1 (RA-LA)**
__ Lead 2 (RA-LL)

3.3   NIBP Mean Numerics

Note: Selecting **Large** reduces the size of the systolic and diastolic displays.

What character size, if any, to you want to use as the default for displaying the NIBP Mean Numeric for neonatal patients?

__ Small
__ **Large**
__ Off

4   Pediatric Mode

For each parameter, the factory default value is shown in **bold**. The default value is used by the monitor unless you specify another value in this worksheet.

4.1   Use Smartcuf as Default for NIBP

Note   Smartcuf will be available in 2006.

An NIBP measurement can be adversely affected by many factors, including body motion (such as convulsions or shivering), ambient vibration, vehicle motion, weak pulse, a sudden change in blood pressure, or sudden cuff movement. When these factors are present, Welch Allyn's patented Smartcuf technology can greatly increase the accuracy of NIBP measurements.

Note   Smartcuf functions only during ECG monitoring.

Do you want to use Smartcuf as the default for pediatric NIBP measurements?

☑ (Yes)
☐ **(No)**

4.2   Default Resp Lead

The default Resp Lead for pediatric patients is:

__ **Lead 1 (RA-LA)**
__ Lead 2 (RA-LL)

4.3   NIBP Mean Numerics

Note: Selecting **Large** reduces the size of the systolic and diastolic displays.

What character size, if any, to you want to use as the default for displaying the NIBP Mean Numeric for pediatric patients?

__ **Small**
__ Large
__ Off

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5   Adult Mode

For each parameter, the factory default value is shown in **bold**. The default value is used by the monitor unless you specify another value in this worksheet.

5.1   Use Smartcuf as Default for NIBP

Note   **Smartcuf will be available in 2006.**

An NIBP measurement can be adversely affected by many factors, including body motion (such as convulsions or shivering), ambient vibration, vehicle motion, weak pulse, a sudden change in blood pressure, or sudden cuff movement. When these factors are present, Welch Allyn's patented Smartcuf technology can greatly increase the accuracy of NIBP measurements.

Note   Smartcuf functions only during ECG monitoring.

Do you want to use Smartcuf as the default for adult NIBP measurements?

☑ (Yes)
☐ **(No)**

5.2   Default Resp Lead

The default Resp Lead for adult patients is:

__ **Lead 1 (RA-LA)**
__ Lead 2 (RA-LL)

5.3   NIBP Mean Numerics

Note: Selecting **Large** reduces the size of the systolic and diastolic displays.

What character size, if any, to you want to use as the default for displaying the NIBP Mean Numeric for adult patients?

__ **Small**
__ Large
__ Off

6 Feature Enable

These settings specify whether or not certain features are available to the clinician.

If you enable a feature in the configuration, then it is available to the clinician. If you disable a feature in the configuration, then it is not available to the clinician.

For each parameter, the factory value is shown in **bold**. Factory values are used until other values are uploaded to the monitor.

6.1 Enable Wireless Communications (with Acuity)

For <u>wireless monitors</u> that must communicate with Acuity, this must be set to ☑ **(Yes)**. If this is set to ☐ (No), the monitor cannot communicate with Acuity.

For <u>standalone monitors</u> that do not communicate with Acuity, always set this to ☐ **(No)**. If this is set to ☑ (Yes), the configuration file is not valid and cannot be uploaded to the monitor.

Note   If ☑ **(Yes)** is selected, **NIBP Units Default** (see "NIBP Units Default" on page 153) must be set to **mmHg**.

Do you want to enable wireless communication with Acuity?

☑ **(Yes)**
☐ (No)

6.2   Enable Lockouts

If lockouts are enabled, simultaneously pressing the **Left Arrow**, **Right Arrow**, and **Down Arrow** buttons locks out one or more of the following:

Buttons	Block access to the monitor buttons
Back Light	Extend the battery charge life
Display	Prevent unauthorized viewing of confidential patient information

For the following questions, select which lockouts, if any, to enable for this monitor configuration.

6.2.1   Buttons Lockout Enable

Buttons lockout prevents unauthorized personnel from operating the monitor.

If you enable buttons lockout, the 3-button combination (**Up Arrow**, **Down Arrow**, and **Right Arrow**) locks out the monitor until the combination is repeated or until an alarm or alert condition arises.

Do you want to enable buttons lockout on this monitor?

☑ **(Yes)**
☐ (No)

6.2.2   Display Lockout Enable

Display lockout enable prevents unauthorized viewing of patient vital signs.

If display lockout is enabled, the 3-button combination (**Up Arrow**, **Down Arrow**, and **Right Arrow**) locks out the monitor display until the combination is repeated or until an alarm or alert condition arises.

Do you want to enable display lockout on this monitor?

☑ **(Yes)**
☐ (No)

6.2.3   Back Light Lockout Enable

Back light lockout prevents unauthorized viewing of patient vital signs.

If back light lockout is enabled, the 3-button combination (**Up Arrow**, **Down Arrow**, and **Right Arrow**) locks out the monitor display back light until the combination is repeated or until an alarm or alert condition arises.

Do you want to enable back light lockout on this monitor?

☑ **(Yes)**
☐ (No)

6.3   Display Time Out

Display Time Out greatly increases monitor run time on battery power.

Display Time Out completely shuts off the display if the monitor detects no button press and no alarm for a number of minutes defined below. When the display is off, no monitor information is visible.

Any alarm condition, alert condition, or button press immediately restores the display. If the buttons are locked out (see "Buttons Lockout Enable" on page 148), pressing the 3-button combination (**Up Arrow**, **Down Arrow**, and **Right Arrow**) and then any other button immediately restores the display.

How soon after the last button press or alarm should the monitor turn off the display?

__ 2 minutes
__ 5 minutes
__ 10 minutes
__ 15 minutes
__ 30 minutes
__ **Always On (display always timed out)**

6.4   Back Light Time Out

Back Light Time Out increases monitor run time on battery power.

Back Light Time Out turns off the back light if the monitor detects no button press and no alarm for the number of minutes defined below. When the back light is off, the display continues to be visible, although slightly dimmer, in ambient light.

Any alarm condition, alert condition, or button press immediately restores the back light. If the buttons are locked out (see "Buttons Lockout Enable" on page 148), pressing the 3-button combination (**Up Arrow**, **Down Arrow**, and **Right Arrow**) and then any other button immediately restores the back light.

How soon after the last button press or alarm should the monitor turn off the back light?

__ Always Off
__ **2 minutes**
__ 5 minutes
__ 10 minutes
__ 15 minutes
__ 30 minutes
__ Always On (back light always timed out)

6.5 SpO$_2$ Spot Check Enable

If SpO$_2$ Spot Check is enabled, a clinician can perform a quick SpO$_2$ measurement when SpO$_2$ monitoring is turned off. For detailed information, see *Propaq LT Vital Signs Monitor Directions for Use*.

Do you want to enable SpO$_2$ Spot Check?

☑ **(Yes)**
☐ (No)

6.6 NIBP Turbo Mode Enable

When the monitor takes automatic NIBP measurements in Turbo Mode, it takes as many measurements as possible within the 5-minute Turbo Mode measurement period.

Do you want to enable NIBP turbo mode?

☑ **(Yes)**
☐ (No)

7   Monitor Behavior

For each parameter, the factory value is shown in **bold**. The factory value is used until another value is uploaded to the monitor.

7.1   Patient Mode Default

In what default patient mode should the monitor be set for new patients?

__ **Adult**
__ Pediatric
__ Neonatal

7.2   Display All ECG Vectors

If a 5-lead ECG cable is connected to the monitor, should the monitor be able to display the optional aV$_R$, aV$_L$, and aV$_F$ waveforms?

☑ **(Yes)**
☐ (No)

7.3   ECG Bandwidth Default

ECG Bandwidth refers to the frequency range used to display and print patient data.

Monitor bandwidth is less susceptible to artifact such as patient motion.

Extended bandwidth, although more susceptible to artifact, can provide for more detailed data analysis.

Monitor-Mode Bandwidth

Adult	0.5 Hz to 40 Hz
Pediatric/Neonate	0.5 Hz to 80 Hz

Extended-Mode Bandwidth

Adult	0.05 Hz to 40 Hz
Pediatric/Neonate	0.05 Hz to 80 Hz

Which ECG bandwidth should be displayed by default?

__ **Monitor**
__ Extended

7.4 Pacer Indicator On Default

If a patient being monitored has a pacemaker, the monitor detects the occurrence of pacemaker signals and optionally indicates them with vertical dashed lines in the waveform.

Pacemaker signal indicators

If the pacemaker signal is strong enough, the monitor displays it as a spike. This spike is displayed whether the pacemaker indicator is on or off.

Should the pacemaker indicator be on by default?

☑ (Yes)
☐ **(No)**

7.5 Alarm Tone Level Default

What should be the default volume level of the alarm tones?

__ Low
__ **Medium**
__ High

7.6 HR/PR Tone Level Default

What should be the default volume level of the HR/PR tone?

__ Off
__ Low
__ **Medium**
__ High

7.7   Audible Alarms Suspension Time Default

While monitoring a patient, the clinician can use the settings menu to suspend all alarm tones for all parameters for a configurable period.

Note   This parameter does not affect the behavior of ⅍, (Silence/Reset). Regardless of how this parameter is configured, pressing ⅍ silences a sounding alarm tone for 90 seconds.

Suspend can be turned on or off by the clinician, but the suspend period cannot be changed by the clinician.

What is the period for which alarm tones are to be suspended?

__ Disable (alarm tones cannot be suspended)
__ 90 seconds
__ 2 minutes
__ 3 minutes
__ **4 minutes**
__ 5 minutes
__ 10 minutes
__ 15 minutes
__ 30 minutes
__ 60 minutes
__ Always On (alarm tones always suspended)

7.8   NIBP Units Default

Select the NIBP display units. (Note: If the monitor is connected to an Acuity Central Station, this setting is forced to **mmHg**.)

__ **mmHg**
__ kPa

7.9   NIBP Auto Mode Interval (minutes)

When the monitor is in Auto NIBP mode, what is the default interval, in minutes, between automatic NIBP measurements?

__ 1
__ 2
__ 3
__ 5
__ 10
__ **15**
__ 30
__ 60

7.10   Resp On Default

During ECG monitoring, should the monitor also monitor impedance respiration rate (Resp) by default?

☑ **(Yes)**
☐ (No)

8 ParamSet

If ParamSet is enabled, the clinician can quickly and easily change the current alarm limits for any vital sign. If you choose to enable ParamSet, you can then define the percentage by which the alarm limit for each vital sign is changed.

To Adjust Alarm Limits Quickly with ParamSet:

When the ParamSet message appears, press ⊙ twice.

Example:

The ParamSet value for the **Upper HR/PR** alarm limit is configured to be **15%**.

Patient Jane's Upper HR/PR alarm limit is set to 100. At the default alarm settings, Jane triggers an Upper HR/PR alarm with a heart rate of 103. Her clinician, knowing that a heart rate of 103 is acceptable for Jane, wants to quickly set a higher Upper HR/PR alarm limit for this patient.

The monitor displays the message, "Press **Select** to ParamSet the upper HR/PR limit to 118." The clinician presses ⊙ to get to the HR/PR control screen and immediately presses ⊙ again to accept the ParamSet adjustment. Jane's alarm limit for Upper HR/PR is immediately changed to 118, and the main vital-signs screen is again displayed.

(103 + 15% of 103 = approximately 118)

Note   The ParamSet default values can be changed only by downloading another monitor configuration.

When monitor power is cycled, the factory default alarm limits and ParamSet default values are again in effect.

ParamSet can be used multiple times for any alarm limit. Each time you press ParamSet for a given vital sign, the alarm limit expands by the configured percentage. However, the alarm limits can **never** be expanded beyond the limit boundaries built into the monitor. (See the specifications for vital signs in Appendix A, starting with "ECG" on page 163.)

This table shows the effect of ParamSet for various vital signs, based on a patient's normal levels for each vital sign. These values are based on the assumption that:

- the patient mode is Adult
- the monitor is initially using factory default alarm levels

For each parameter listed below, the factory value is shown in **bold**. The factory value is used until another value is uploaded to the monitor.

Parameter		Alarming Level	Alarm Limit (ParamSet = 5%)	Alarm Limit (Paramset = 10%)	Alarm Limit (ParamSet = 15%)	Alarm Limit (Paramset = 20%)	Alarm Limit (Paramset = 25%)
HR/PR	Upper	90	94	99	104	108	113
	Lower	60	57	54	51	48	45
NIBP Systolic	Upper	140	147	154	161	168	175
	Lower	100	95	90	85	80	75
NIBP Diastolic	Upper	90	94	99	104	108	113
	Lower	60	57	54	51	48	45
NIBP MAP	Upper	107	112	118	123	128	134
	Lower	73	69	66	62	58	55
SpO$_2$	Upper	100	100	100	100	100	100
	Lower	90	86	81	77	72	68
Resp	Upper	20	21	22	23	24	25
	Lower	12	11	11	10	10	9

8.1 ParamSet Enable

Do you want to enable ParamSet?

☑ **(Yes)**
☐ (No)

Note If you select ☐ (No), disregard the rest of the ParamSet settings.

8.2 ParamSet % for Upper HR/PR

ParamSet increases the Upper HR/PR limit by ____%. (5, 10, 15, **20**, 25**)**

8.3 ParamSet % for Lower HR/PR

ParamSet decreases the Lower HR/PR limit by ____%. (5, 10, 15, **20**, 25**)**

8.4 ParamSet % for Upper NIBP Systolic

ParamSet increases the Upper NIBP Systolic limit by ____%. (5, 10, **15**, 20, 25**)**

8.5 ParamSet % for Lower NIBP Systolic

ParamSet decreases the Lower NIBP Systolic limit by ____%. (5, 10, **15**, 20, 25**)**

8.6 ParamSet % for Lower NIBP Diastolic

ParamSet increases the Upper NIBP Diastolic limit by ____%. (5, 10, **15**, 20, 25**)**

8.7 ParamSet % for Lower NIBP Diastolic

ParamSet decreases the Lower NIBP Diastolic limit by ____%. (5, 10, **15**, 20, 25**)**

8.8 ParamSet % for Upper NIBP Mean

ParamSet increases the Upper NIBP Mean limit by ____%. (5, **10**, 15**)**

8.9 ParamSet % for Lower NIBP Mean

ParamSet decreases the Lower NIBP Mean limit by ____%. (5, **10**, 15**)**

8.10 ParamSet % for Upper SpO$_2$

ParamSet increases the Upper SpO$_2$ limit by ____%. (5**, 10**)**

8.11 ParamSet % for Lower SpO$_2$

ParamSet decreases the Lower SpO$_2$ limit by ____%. (5**, 10**)**

8.12 ParamSet % for Upper Resp

ParamSet increases the Upper Resp limit by ____%. (5**, 10, 15, 20, 25**)**

8.13 ParamSet % for Lower Resp

ParamSet decreases the Lower Resp limit by ____%. (5**, 10, 15, 20, 25**)**

Configuration Worksheet Authorization

The information on this page relates only to this worksheet, and is not entered into the monitor configuration. Users are encouraged to provide their own procedures for defining, categorizing, storing, and approving configuration files.

Date   _____

Hospital   _____

Department   _____

Name   _____

Title   _____

Phone   _____

Signature   _____