



Configuration Guide

## IntelliVue Patient Monitor

**MX600/700/800 MP2/5/20/30/40/50  
60/70/80/90 MP5T/MP5SC/X2**

For monitor release J.x with software revision J.00.xx

Patient Monitoring

**PHILIPS**



# Table of Contents

<b>1 Understanding Configuration</b>	9
<hr/>	
Who is this Guide for?	9
Which Monitor Models is this Guide for?	9
What is Configuration Mode?	10
Who Can Change the Monitor Configuration?	11
Understand Profiles and Settings	11
Entering and Leaving Configuration Mode	15
About the IntelliVue Support Tool	15
<b>2 Configuring Profiles and Settings Blocks</b>	17
<hr/>	
Getting Started	17
Modifying an Existing Profile	18
Modifying an Existing Settings Block	20
Creating New Profiles	20
Deleting a Settings Block or Profile	22
Renaming a Settings Block or Profile	22
Changing the Monitor's Default Profile	23
Unlocking a Settings Block or Profile	23
Configuring a Second/Third Main Display	24
Loading a Screen on a Second/Third Display	25
Changing Elements on a Second/Third Display	25
<b>3 Configuring Screens</b>	27
<hr/>	
Understanding Screen Settings	27
Modifying an Existing Screen	28
Creating New Screens	28
Configuring Screens on an XDS Remote Display	29
Changing the Content of Screen Elements	29
Changing the Size and Position of Screen Elements	32
Configuring SmartKeys	32
Configuring Special Screen Settings	33
<b>4 Understanding Configuration Settings</b>	39
<hr/>	
Documenting Monitor Configurations	39
Understanding Configuration Implications	39
Using Configuration Tables	39
How to Read the Configuration Tables	40

---

## 5 Profile Settings 43

---

## 6 Measurement Settings 45

---

Configuring ECG	46
Configuring ECG/Pulse Alarms	50
Configuring System Pulse	54
Configuring Arrhythmia	55
Configuring ST Analysis	60
Configuring STE Analysis	62
Configuring QT Analysis	63
Configuring IPI	64
Configuring SpO2	66
Configuring Pulse from SpO2	71
Configuring Delta SpO2	72
Configuring NBP	73
Configuring Invasive Pressure	78
Configuring Pulse from Invasive Pressure	86
Configuring CPP	87
Configuring IAP	88
Configuring PPV	88
Configuring C.O.	89
Configuring CCO	91
Configuring SVR	92
Configuring SO2	94
Configuring Sp-vO2	95
Configuring tcpO2, tcpCO2	97
Configuring TcG10	99
Configuring CO2 from Capnometry	99
Configuring awRR from Capnometry	102
Configuring Resp	103
Configuring Spirometry	104
Configuring EEG	107
Configuring BIS	111
Configuring NMT	114
Configuring Temperature	117
Configuring Predictive Temperature	120
Configuring Delta Temperature	121
Configuring VueLink	123
Configuring IntelliBridge	124
Configuring the Gas Analyzer	124

## 7 Monitor Settings 133

---

Understanding Monitor Settings	133
Configuring Alarms	135
Configuring Alarm Recordings	144
Configuring Auto Alarm Limits	145

Configuring INOP Severity	146
Configuring Screen Trend Settings	147
Configuring Horizon Trend Settings	148
Configuring Trend Windows	150
Configuring Vital Signs Recording	154
Configuring ST Map	156
Configuring ProtocolWatch	156
Configuring SpotCheck Monitoring	158
Configuring Workflow	160
Configuring the Cardiac Output Window	161
Configuring the Wedge Window	162
Configuring the Loops Window	162
Configuring the CSA Window	163
Configuring ECG	164
Configuring Capture 12 Lead	166
Configuring Calculations	170
Configuring Reports	171
Configuring Other Report Settings	176
Configuring Auto Reports	177
Configuring ECG Reports	178
Configuring CSA Reports	179
Configuring Trend Reports	180
Configuring User Interface Settings	182
Configuring Network Settings	195

## **8 Unique Monitor Settings** 201

---

Configuring Trend Groups	203
Configuring Trend Priorities	205
Configuring Trend Scales and Trend Units	207
Configuring Event Surveillance	211
Configuring Event Annotations	218
Configuring SSC Sepsis Protocol	219
Configuring Guardian Early Warning Scoring	221
Configuring Recordings	222
Configuring Timers	229
Configuring User Interface Settings - Keys	233
Configuring CSA Buffers	237
Configuring the Drug Calculator	238

## **9 Global Settings** 239

---

Configuring General Global Settings	240
Configuring Auto Free Settings	250
Configuring Ask for New Patient Settings	252
Configuration Recommendations when using an X2 or MP5 with a Telemetry Label	253
Configuring Demographic Field Settings	254
Configuring Quick Admit Settings	256

Configuring Remote Display Settings	257
Configuring Setup Internal PC Settings	258
Configuring Timer Selection and Order Settings	259
Configuring Manual Data Entry	260
Configuring Country-Specific Settings	265
Configuring Printers	273
<b>10 Hardware Settings</b>	<b>281</b>
<hr/>	
Configuring General Hardware Settings	282
Configuring Multiple Display Settings	284
Configuring Video Settings	286
Configuring Interfaces and Input Device Settings	290
Configuring IntelliVue Remote Control (Wireless Mode)	291
Configuring SRR Channels	295
Configuring Bed Information Settings	296
<b>11 Monitor Databases Configuration</b>	<b>299</b>
<hr/>	
Configuring Databases	300
Configuring Trend Database	301
Configuring Aperiodic Trend Database	304
Configuring Trend Transport Database	304
Configuring Event Surveillance Database	305
Configuring Print Database	305
Configuring 12 Lead ECG Database	305
Configuring SpotCheck Database	306
<b>12 H Option-Specific Settings</b>	<b>307</b>
<hr/>	
<b>13 Profiles Overview</b>	<b>309</b>
<hr/>	
About the Screen Configurations	309
Sample Screen Image	311
<b>14 Screens Overview</b>	<b>313</b>
<hr/>	
<b>15 Use Model Configurations</b>	<b>315</b>
<hr/>	
Glossary of Terms	315
Symbols	317
Use Models with PIIC iX	317
Use Models with PIIC	328
TeleMon Use Model	337
General Troubleshooting - FAQ	339
Short-Range Radio (SRR) Error Conditions	340
<b>16 Release-Specific Information</b>	<b>343</b>
<hr/>	
What's New in this Configuration Guide?	343







---

# Understanding Configuration

## Who is this Guide for?

This book is for anyone making permanent changes to the configuration of an IntelliVue Patient Monitor. You must understand English, be familiar with the monitor and its Instructions for Use, know how to make changes to measurements and settings in monitoring mode, and understand the clinical implications of any changes you make.

---

### WARNING

- Before starting monitoring, check that the configuration meets your requirements, especially patient category, alarm limits and paced setting.
  - Changing the configuration may alter the way the monitor performs when monitoring patients. Do not change anything unless you are aware of the possible consequences, especially if you are monitoring a patient whilst in configuration mode.
- 

## Which Monitor Models is this Guide for?

The descriptions and configuration settings in this configuration guide are valid for IntelliVue Patient Monitors MX800, MX600/700, MP80/90, MP60/70, MP40/50, MP20/30, MP5SC, MP5T, MP5, MP2, and the IntelliVue X2 Multi-Measurement Module (when used as a standalone monitor), release J.x with software J.0.xx.

This guide explains use models for patient monitors used in combination with PIIC iX and PIIC.

This guide cannot be used for other monitor models or IntelliVue monitors with other software releases.

Not all information contained in this guide applies to all monitor models. If a certain section applies only to certain models, this is indicated next to the section heading.

For example, if a certain section does not apply to the MP2 and X2, or - in other words - only applies to monitor models MP40/50, MP60/70, MP80/90, and MX600, MX 700, MX800 it would be indicated like this:

**MX600-800  
MP40-90  
only** For example, if a certain section does not apply to the MP2 and X2, or - in other words - only applies to monitor models MX600, MX700, MX800, and MP40/50, MP60/70, MP80/90 MX800 it would be indicated like here, left of a paragraph.

# What is Configuration Mode?

The monitor ships with preset configurations that are suitable for common monitoring situations. To develop and store your own configurations you must switch to the monitor's configuration mode. Configuration mode is a password-protected operating mode that lets expert users make permanent changes to the monitor configuration. It is an extension of monitoring mode; it contains all of the settings available in monitoring mode plus some settings that are accessible only in configuration mode.

For example, when you access the Setup SpO <sub>2</sub> menu in monitoring mode, you will only be able to see and change these settings:	In configuration mode, these additional settings become visible:																																																																								
<table border="1"> <thead> <tr> <th colspan="2" style="background-color: #d9d9d9;">Setup SpO<sub>2</sub></th> </tr> </thead> <tbody> <tr> <td>High Limit</td> <td>: 100</td> </tr> <tr> <td>Low Limit</td> <td>: 90</td> </tr> <tr> <td>Desat Limit</td> <td>: 80</td> </tr> <tr> <td>Alarms</td> <td>: On</td> </tr> <tr> <td>SpO<sub>2</sub></td> <td>: On</td> </tr> <tr> <td colspan="2" style="background-color: #d9d9d9;">Pulse (SpO<sub>2</sub>)</td> </tr> <tr> <td>Label</td> <td>: SpO<sub>2</sub></td> </tr> <tr> <td colspan="2" style="background-color: #d9d9d9;">Set Perf Ref.</td> </tr> <tr> <td>QRS Volume</td> <td>: 1</td> </tr> <tr> <td>Tone Modulation</td> <td>: Yes</td> </tr> <tr> <td>Average</td> <td>: 10 sec</td> </tr> <tr> <td>SmartAlarmDelay</td> <td>: Off</td> </tr> </tbody> </table>	Setup SpO <sub>2</sub>		High Limit	: 100	Low Limit	: 90	Desat Limit	: 80	Alarms	: On	SpO <sub>2</sub>	: On	Pulse (SpO <sub>2</sub> )		Label	: SpO <sub>2</sub>	Set Perf Ref.		QRS Volume	: 1	Tone Modulation	: Yes	Average	: 10 sec	SmartAlarmDelay	: Off	<table border="1"> <thead> <tr> <th colspan="2" style="background-color: #d9d9d9;">Setup SpO<sub>2</sub></th> </tr> </thead> <tbody> <tr> <td>High Limit</td> <td>: 100</td> </tr> <tr> <td>Low Limit</td> <td>: 90</td> </tr> <tr> <td>Desat Limit</td> <td>: 80</td> </tr> <tr> <td>Alarms</td> <td>: On</td> </tr> <tr> <td>SpO<sub>2</sub></td> <td>: On</td> </tr> <tr> <td colspan="2" style="background-color: #d9d9d9;">Pulse (SpO<sub>2</sub>)</td> </tr> <tr> <td>Label</td> <td>: SpO<sub>2</sub></td> </tr> <tr> <td colspan="2" style="background-color: #d9d9d9;">Set Perf Ref.</td> </tr> <tr> <td>QRS Volume</td> <td>: 1</td> </tr> <tr> <td>Tone Modulation</td> <td>: Yes</td> </tr> <tr> <td>Tone Mod. Type</td> <td>: Enhanced</td> </tr> <tr> <td>Perfusion</td> <td>: On</td> </tr> <tr> <td>Signal Quality</td> <td>: On</td> </tr> <tr> <td>Average</td> <td>: 10 sec</td> </tr> <tr> <td>Average In Mon.</td> <td>: No</td> </tr> <tr> <td>SmartAlarmDelay</td> <td>: Off</td> </tr> <tr> <td>High Alarm Delay</td> <td>: 10 sec</td> </tr> <tr> <td>Low Alarm Delay</td> <td>: 10 sec</td> </tr> <tr> <td>Desat Delay</td> <td>: 20 sec</td> </tr> <tr> <td>NBP Alarm Suppr.</td> <td>: On</td> </tr> <tr> <td>Extd. Auto OnOff</td> <td>: Disabled</td> </tr> <tr> <td>Color</td> <td>: Cyan</td> </tr> </tbody> </table>	Setup SpO <sub>2</sub>		High Limit	: 100	Low Limit	: 90	Desat Limit	: 80	Alarms	: On	SpO <sub>2</sub>	: On	Pulse (SpO <sub>2</sub> )		Label	: SpO <sub>2</sub>	Set Perf Ref.		QRS Volume	: 1	Tone Modulation	: Yes	Tone Mod. Type	: Enhanced	Perfusion	: On	Signal Quality	: On	Average	: 10 sec	Average In Mon.	: No	SmartAlarmDelay	: Off	High Alarm Delay	: 10 sec	Low Alarm Delay	: 10 sec	Desat Delay	: 20 sec	NBP Alarm Suppr.	: On	Extd. Auto OnOff	: Disabled	Color	: Cyan
Setup SpO <sub>2</sub>																																																																									
High Limit	: 100																																																																								
Low Limit	: 90																																																																								
Desat Limit	: 80																																																																								
Alarms	: On																																																																								
SpO <sub>2</sub>	: On																																																																								
Pulse (SpO <sub>2</sub> )																																																																									
Label	: SpO <sub>2</sub>																																																																								
Set Perf Ref.																																																																									
QRS Volume	: 1																																																																								
Tone Modulation	: Yes																																																																								
Average	: 10 sec																																																																								
SmartAlarmDelay	: Off																																																																								
Setup SpO <sub>2</sub>																																																																									
High Limit	: 100																																																																								
Low Limit	: 90																																																																								
Desat Limit	: 80																																																																								
Alarms	: On																																																																								
SpO <sub>2</sub>	: On																																																																								
Pulse (SpO <sub>2</sub> )																																																																									
Label	: SpO <sub>2</sub>																																																																								
Set Perf Ref.																																																																									
QRS Volume	: 1																																																																								
Tone Modulation	: Yes																																																																								
Tone Mod. Type	: Enhanced																																																																								
Perfusion	: On																																																																								
Signal Quality	: On																																																																								
Average	: 10 sec																																																																								
Average In Mon.	: No																																																																								
SmartAlarmDelay	: Off																																																																								
High Alarm Delay	: 10 sec																																																																								
Low Alarm Delay	: 10 sec																																																																								
Desat Delay	: 20 sec																																																																								
NBP Alarm Suppr.	: On																																																																								
Extd. Auto OnOff	: Disabled																																																																								
Color	: Cyan																																																																								

In monitoring mode, you can change settings, but cannot permanently store the changes to the monitor configuration. In configuration mode, you can change and permanently store settings to the monitor configuration.

## Who Can Change the Monitor Configuration?

Only people authorized to do so by their institution should make changes in configuration mode. They require the configuration mode password.

## Understand Profiles and Settings

The IntelliVue patient monitor is highly configurable. To manage its various settings, settings are grouped into six main categories:



- Profiles
- Screens
- Monitor settings
- Measurement settings
- Global settings
- Hardware settings

All settings except hardware settings can be changed in configuration mode. Hardware settings can be changed in service mode only (with some exceptions).

### Profiles

Profiles are named combinations of the following "building blocks":

- Patient Category
- Paced Mode
- Display (Screen name)
- Measurement Settings block
- Monitor Settings block.

Profile Details	
Profile	: Profile Adult
Patient Category	:  Adult
Paced Mode	:  On
Display	: 12 Waves
Measmnt.Settings	: Measmt. Adult
Monitor Settings	: Monitor A

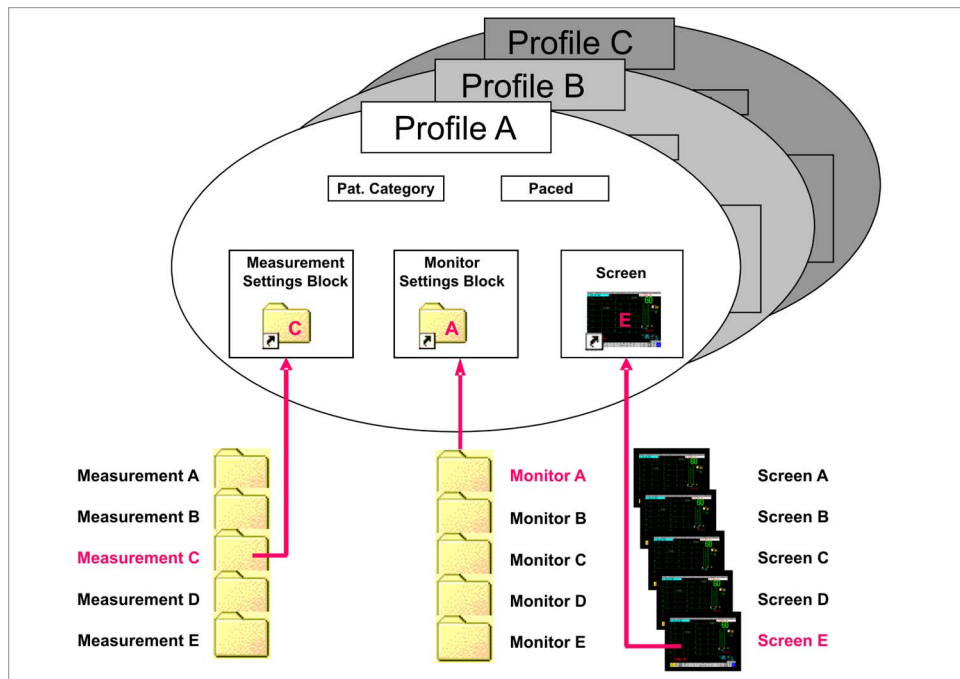
## 1 Understanding Configuration

A monitor can have up to 20 different Profiles.

When you load a Profile, the configured combination of building blocks becomes active.

This provides a powerful method to easily adapt the monitor to specific clinical scenarios or users, or switch back and forth between different configurations depending on specific phases within a case.

Consider this example: You are in the emergency room (ER). Your monitor is configured for an adult patient. Your next patient is a 5-year old child. By switching to a predefined pediatric ER Profile, you can have appropriate measurement settings (such as alarm limits), patient category and so forth very easily, instead of having to alter measurements and limits individually. In this example, your monitor's Profiles can be based on the age and condition of your patient, but there are of course other use models.



### NOTE

- Settings blocks and screens are only **linked** to a Profile. This indicates that saving a changed Profile saves the combination of building blocks, but not individual monitor settings, measurement settings, or Screens.
- Changes that you have made to measurement or monitor settings, or screens can only be saved in the appropriate type of settings block or Screen, or by selecting **Save All**. For details, see “Modifying an Existing Settings Block” on page 20.

## Patient Category

For each profile, a patient category is defined. This patient category becomes active when you load the Profile. It determines

- the algorithm the monitor uses to process and calculate some measurements (for example arrhythmia),

- the safety limits that apply for some measurements (for example NBP), and
- the alarm limit ranges for all measurements.

Note that a change of the patient category does not change any alarm limits to fit this category.

## Paced Mode

For each profile, the **Paced Mode** is defined, and is displayed with a symbol underneath the HR label. The **Paced Mode** setting determines whether the monitor shows pacemaker pulses or not. It becomes active when you load the Profile.

The following choices are available:

- **On**  
The pacer detection is switched **On**, and the ECG/Arrhythmia algorithm activates the pacer rejection. For paced patients, **Paced Mode** must be set to **On**.
- **Off**  
The pacer detection is switched **Off**, and the ECG/Arrhythmia algorithm disables the pacer rejection. Pace pulses are filtered and therefore do not show in the ECG wave.
- **Unconfirmed**  
As long as the user has not set the Pace Mode to **On** or **Off**, this is indicated by the state **Unconfirmed**, and the ECG/Arrhythmia algorithm works as if **Paced Mode** is set to **On**.
- **As Is**  
**As Is** can only be selected in configuration mode. If this profile is loaded the **Paced Mode** setting is left unchanged.

## Display Screens

A Screen defines the overall selection, size and position of measurement waves, numerics and SmartKeys on the monitor display. A monitor can have a maximum of 20 preconfigured Screens, optimized for common monitoring scenarios. Examples of different Screens include the **Big Numerics**, the 12-lead ECG, and the **Horizon** Screen. For a complete list of Screens supplied with your monitor model, see “Screens Overview” on page 313.

For each Profile, a Screen is defined. This Screen becomes the active Screen when you load the Profile. If you are using two or three main displays, for each main display a different Screen can be configured.

## Measurement Settings

Measurement settings are settings specific to each measurement, for example alarm limits, measurement color, or measurement unit. For a complete list of measurement settings, see “Measurement Settings” on page 45.

A monitor can have a maximum of 10 blocks of measurement settings. Each block includes the complete list of measurement settings available. You can configure individual measurement settings differently for each settings block. By configuring different settings blocks, you can provide customized combinations of measurement settings for different profiles.

A typical example are the measurement settings blocks provided in the factory default configurations (documented in this guide). The measurement settings blocks **Measmt. Adult**, and **Measmt. Pedi**, for example, differ mainly by the alarm limits which are configured differently for different patient ages. When you switch to a different Profile, for example from **Profile Adult** to **Profile Pedi**, the measurement settings block defined for that Profile becomes active.

### Monitor Settings

Monitor settings define general aspects of how the monitor works, and include settings that affect more than one measurement, such as alarm volume, report settings, or display brightness. For a complete list of monitor settings, see “Monitor Settings” on page 133.

A monitor can have a maximum of 10 blocks of monitor settings. Each block includes the complete list of monitor settings available. You can configure individual monitor settings differently for each settings block. By configuring different settings blocks, you can provide customized combinations of monitor settings for different profiles.

For example, you could generate a monitor settings block, in which the monitor’s display brightness is lowered and the alarm volume is softened, and call it “Night”. When you then assign this block to a new Profile and name it accordingly, for example “Profile Night”, you can easily switch between day and night settings.

### Unique Monitor Settings

The IntelliVue patient monitor uses two categories of monitor settings: normal and unique monitor settings. Normal monitor settings can be configured differently for different monitor settings blocks (e.g. Monitor A, Monitor B). Unique monitor settings cannot be configured differently. They are the same in each monitor settings block and are automatically included in all monitor settings blocks when you store them to one block.

### Global Settings

Global settings are typically set once at monitor installation by service personnel and include settings such as **Altitude**, **Line Frequency**, or **Label Set**. Global settings are not part of a Profile. They can be changed in configuration mode only and are automatically stored in the monitor’s configuration with each change. Global Settings **can** be cloned from a monitor's cfg. file.

For a complete list of Global Settings, see “Global Settings” on page 14.

### Hardware Settings

Most hardware settings can only be changed in service mode. They are typically set once at monitor installation by service personnel, and include settings, such as **Keyboard** layout, the configuration of the monitor interfaces, or video settings, such as **Display Type**, **Display Size**, and **Display Resolution**. Like global settings, hardware settings are independent of Profiles, and any changes you make to the hardware settings configuration are automatically stored, there is no need to save them in an extra step. Hardware Settings **cannot** be cloned from a monitor's cfg. file.

For a complete list of Hardware Settings, see “Hardware Settings” on page 281, or refer to the Service Guide of your monitor model, provided on the Documentation DVD supplied with your monitor.

### Profiles and Settings Implications for Companion Mode

The IntelliVue X2 or MP5 can be connected to an IntelliVue MP20 to MP90 patient monitor, where it acts as a multi-measurement module, acquiring measurements for the host monitor. When connected to a host monitor, the host controls the connected device.

When an X2 or MP5 is connected to a host monitor (Companion Mode is indicated):

- Profiles and Settings from the host monitor are applied to the X2 or MP5 on connection (with the exception of a few alarm related settings). When disconnected from the host, the X2 or MP5 applies its own Profiles and Settings.

- The X2 or MP5 will keep its Profiles and Settings if you change the Profiles or Settings of the host monitor in Configuration Mode or with the Support Tool.
- If you want to change the Profiles or Settings of an X2 or MP5 directly on the monitor, you must leave Companion Mode. If you want to change them with the Support Tool, you must select the X2 or MP5 in the Device view of the Support Tool window. Then apply your changes directly to their configurations.

## Entering and Leaving Configuration Mode

Switching between monitoring and configuration mode does not affect the active settings. You can even continue to monitor patients while in configuration mode. The password for configuration mode is given in the monitor's service documentation.

To enter configuration mode:

- 1 In the **Main Setup** menu, select **Operating Modes**.
- 2 Select **Config** and enter the password.

The monitor displays **Config** at the right hand side of the status line and in the center of the Screen while you are in configuration mode.

Before you leave configuration mode, always be sure to save any changes you made. You must save changes made to each Settings Block and to each Profile, individually, or by selecting **Save All**. As it may be difficult to remember whether the settings you changed belong to a Monitor Settings block or a Measurement Settings block, we recommend that you save each block before you leave configuration mode.

---

### WARNING

If you are handing over the monitor to the end-users directly after configuration, make sure that it is in Monitoring mode.

---

To leave configuration mode either:

- 1 In the **Main Setup** menu, select **Operating Modes** and then select the operating mode you require or
- 2 Select the gray **Config** block in the lower right corner of the screen or
- 3 Switch the monitor off, then switch it on again.
  - If you switch the monitor off and then on again after less than one minute, it returns in monitoring mode with the same settings ("hotstart").
  - If you leave the monitor switched off for more than one minute, the Profiles and settings loaded when you switch back on are determined by the **Automat. Default** setting. See "Global Settings" on page 14.

## About the IntelliVue Support Tool

The IntelliVue Support Tool is a PC-based software application that is designed to help configuring IntelliVue monitors and to manage IntelliVue Monitor configurations.

Using the Support Tool, you can, for example, read in (clone) a configuration from an IntelliVue monitor to a PC, modify this configuration offline on the PC, and then store (clone) the changed

version back to the monitor. With the Support Tool you can clone configurations to more than one monitor at a time. You can also use the Support Tool to make backups of your configurations, or generate configuration reports. The configuration files generated by the Support Tool are stored in a format that can be e-mailed.

### What Can I Configure with the Support Tool?

You can configure everything you can configure on the monitor, except that you cannot change individual monitor and measurement settings.

- In addition to the configuration on the monitor, the Support Tool allows, for example:
- Changing the order of items in the lists of Screens, measurement or monitor settings blocks.
- Unlocking Profiles, Screens and settings blocks.
- Making realtime waves, or screen trends overlap on the Screen.
- Importing Screens into a configuration, and copying Screens between configurations.
- Importing SmartKey configurations into a configuration.
- Copying monitor settings, measurement settings, and global settings between config files.
- Importing, creating and modifying drug calculator configurations.
- Importing, creating and modifying the SSC Sepsis protocol, or the Guardian Early Warning Scoring protocols.

For a complete description of the Support Tool functionality, refer to the Support Tool Instructions for Use, provided with the Support Tool.

### How Can I Get a Support Tool License Key?

To use the Support Tool, you must have a license key. To get a license key, you must complete a special training. Please contact your local Philips Customer Response Center for further details.

The Support Tool functionality your license key permits you to use, depends on your function (e.g. Biomed/CE/Configuration Expert) and your level of training.

License keys are issued to individuals and they **may not be shared**. The Support Tool tracks the use of each license key: you will be held responsible for any configuration changes made using your license key.



# Configuring Profiles and Settings Blocks

## Getting Started

To start configuring your monitor, access **Profiles** by selecting either:

- the **Profiles** screen element from the monitor's Info Line
- the **Profiles** SmartKey



- the **Profiles** pop-up key in the **Patient Demographics** menu
- **Profiles** from the **Main Setup** menu

The configuration pop-up keys will appear to let you carry out configuration tasks.

## Using the Configuration Pop-up Keys

In configuration mode, you have the following pop-up keys:

Key	Description
Profile Details	Opens the Profile Details menu of the currently active profile, where the individual blocks can be changed. If a block is changed, the block and the profile name is marked with an asterisk.
Load	Activates a selected Profile or settings block.
Save All	(appears in Profiles menu) Saves the Profile and all related <b>active</b> settings of the Profile, Patient Category, Paced Mode, Display-, Measurement-, and Monitor Settings blocks for the <b>current</b> Profile.
Save All As	(appears in Profiles menu) Saves all <b>active</b> settings of the Profile, Patient Category, Paced Mode, Display-, Measurement-, and Monitor Settings blocks for the <b>current</b> Profile as a new Profile. All of these instances receive the same new name. If another existing unlocked Profile or settings block is selected, this can be overwritten.
Save	(appears in Profile Detail menu) Saves the <b>current</b> combination of Settings blocks to the highlighted Profile, or Saves the <b>active</b> settings to the highlighted settings block.

Key	Description
Save as	(appears in Profile Detail menu) Saves the <b>current</b> combination of Settings blocks as a new Profile, or Saves the <b>active</b> settings as a new settings block.
Rename	Opens the on-screen keyboard to rename the selected Profile or settings block.
Delete	(appears in Profile Detail menu) Deletes the selected Profile or settings block.
Delete All	(appears in Profile Detail menu) Deletes the selected <b>Profile and all related settings</b> blocks.
Set Default	To make the <b>current</b> Profile the default Profile.
Sort Up/Down	To sort the list of profiles or settings blocks by moving them up and down

Select the Confirm pop-up key to apply your changes.

### CAUTION

The pop-up keys **Save All**, **Save All As**, and **Delete All** affect all active settings (Profile, Display, Measurement, and Monitor settings).



## Modifying an Existing Profile

You can change the settings within an existing Profile. The monitor remembers any changes made when you switch between monitoring mode and configuration mode. All changes can be permanently stored in configuration mode, as described in the following sections.

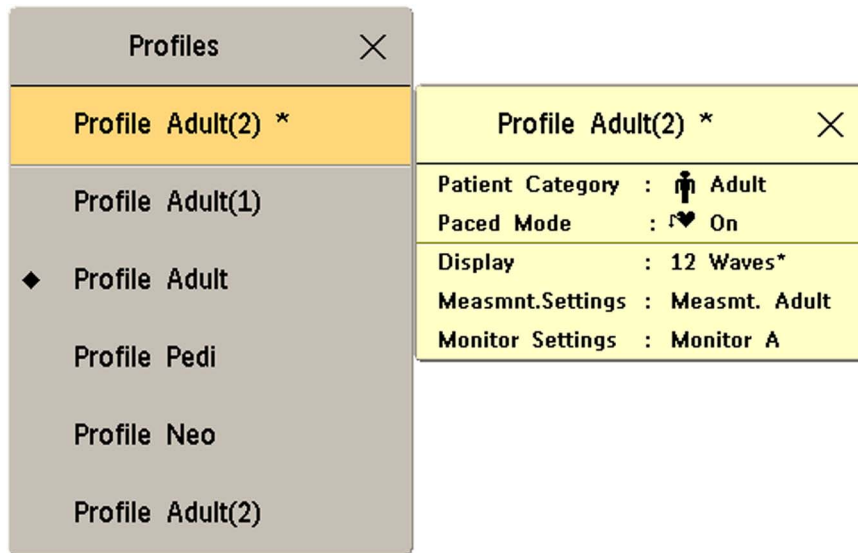
Be aware that if you don't save changes they will be reset to the monitor's stored configuration when you

- change from configuration or monitoring mode to service or demonstration mode,
- load Profiles or Settings Blocks, or
- switch off the monitor for more than one minute (if the Global Setting **Automat. Default** is set to **Yes**).

## Changing the Combination of Settings Blocks in an Existing Profile

To permanently save a different combination of settings blocks into an existing Profile:

- 1 Select the **Profile** you want to change and select the **Load** pop-up key to activate it.
- 2 Open the **Profiles** menu again and select this profile again. The information field pops up with a delay. Check the pop-up information field with the details of the selected profile.



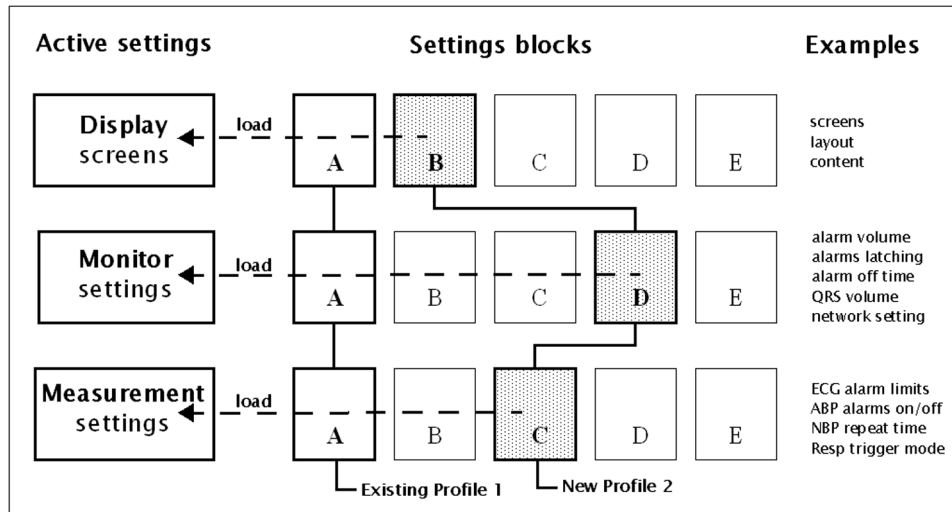
- 3 Select **Profile Details** to open the **Profile Details** menu.
- 4 Change the **Patient Category** and **Paced Mode** if necessary.
- 5 Load the settings blocks you want to have into the activated **Profile** one after the other by selecting them in the **Profile Details** menu and then selecting the **Load** pop-up key. These settings become active immediately in the monitor, but the asterisk beside the Profile name in the Profiles menu shows that the newly loaded blocks are not yet stored as part of the **Profile**.
- 6 Select the **Profile** again.
- 7 Select the **Save All As** pop-up key to save this combination of Patient Category, Paced Mode, Display-, Measurement-, and Monitor Settings blocks for the current Profile.

### NOTE

- If one or more of the settings blocks are locked, the **Save** pop-up key is grayed out. If you select the **Save As** pop-up key, the on-screen keyboard opens. Change the name of the locked settings blocks.

The following example shows the changing of a Profile. The **Existing Profile 1** was built from a combination of Screen A + Monitor Settings Block A + Measurement Settings Block A.

The **New Profile 2** is built from a combination of Screen B + Monitor Settings Block D + Measurement Settings Block C. This is now the active Profile, because it is loaded into the monitor's active memory.



## Modifying an Existing Settings Block

To change settings in an existing settings block:

- Select the settings block you want to change and select the **Load** pop-up key to activate it.
- Make the changes to the individual measurements or monitor settings.
- Select the **Save** pop-up key to overwrite the existing settings. Changes to a settings block affect all Profiles in which this block is used.

## Creating New Profiles

Follow these steps to create a new Profile **ICU B** based on the Profile **ICU A** and add it to the list of Profiles stored in the monitor. As creating a Profile requires you to activate different settings, you should not do this while monitoring a patient. Each new name you assign to Profiles or Settings Blocks must be unique, otherwise you have two items with the same name and you will not be able to distinguish them.

Existing Profile	Profile to be created
<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: right;">Profile Details <span>✕</span></p> <p>Profile : ICU A</p> <p>Patient Category :  Adult</p> <p>Paced Mode :  On</p> <p>Display : 12 Waves</p> <p>Measmnt.Settings : Measmt. Adult</p> <p>Monitor Settings : Monitor A</p> </div>	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: right;">Profile Details <span>✕</span></p> <p>Profile : ICU B</p> <p>Patient Category :  Adult</p> <p>Paced Mode :  On</p> <p>Display : 12 Waves</p> <p>Measmnt.Settings : Measmt. Adult</p> <p>Monitor Settings : Monitor A</p> </div>

- 1 Select a Profile similar to the one you want to create from the list of Profiles available in the monitor.
- 2 Select **Load** to activate this Profile.
  - a. Create a new Profile that references the same settings as the active Profile:
  - b. In the **Profiles** menu, select **Profile Details**.
  - c. Select the pop-up key **Save As**.
  - d. Use the on-screen keyboard to type a meaningful name for the new Profile, in this case **ICU B**. If you do not name the Profile, the monitor will assign a default name. You can rename the Profile later.
  - e. Select **Enter**.
  - f. Select **Load** to activate the new Profile.
- 3 Create new setting blocks for the new Profile.
  - a. In the **Profile Details** menu, select **Monitor Settings**.
  - b. Select the pop-up key **Save As**.
  - c. Use the on-screen keyboard to type the name of the new settings block, in this case **Monitor B**. If you do not name the Settings Block, the monitor will assign a default name. You can rename the Settings Block later.
  - d. Select **Enter**. You have now created a new settings block containing the same monitor settings as the block **Monitor A**.
  - e. Repeat this procedure to create a new measurement settings block.  
You have now prepared the structure of the Profile you are creating.
- 4 Select the required **Patient Category** for the new Profile. In the **Profile Details** menu, select either **Adult, Pedi, or Neo**, or select **As Is** to retain the patient category active at the time this Profile is activated.

**NOTE**

If you configure **Patient Category** in the default Profile to **As Is**, the monitor starts after a coldstart with **Patient Category** set to **Neo**. A coldstart will be caused, for example, after changing the monitor's database configuration, see "Monitor Databases Configuration" on page 299.

- 5 Select the required **Paced Mode** for the new Profile as described in "Paced Mode" on page 13.

**NOTE**

If you configure **Paced Mode** in the default Profile to **As Is**, the monitor starts after a coldstart with **Paced Mode** set to **Unconfirmed**. A coldstart will be caused, for example, after changing the monitor's database configuration, see "Monitor Databases Configuration" on page 299.

- 6 Select a Screen for the new Profile.
  - a. In the **Profile Details** menu, select **Display**
  - b. Select the Screen you require from the pop-up list of available Screens.
  - c. Select **Load** to confirm your choice.
  - d. If the monitor has more than one main display, repeat these steps for the additional displays.

### NOTE

If you are using an XDS Remote Display as second or third main display, the default Screen for this display must be configured in the XDS Application software. It cannot be stored as part of the Profile configuration of the IntelliVue monitor. For more detail, refer to the Installation and Configuration Guide for the XDS Application.

- 7 Adjust the monitor and measurement settings as required.
- 8 Store the changed settings to the settings blocks: In the **Profile Details** menu, select **Measmnt. Settings**, and then select **Save** and then **Confirm** to apply your changes. Repeat this for **Monitor Settings**. There is no undo function.
- 9 Store the finished Profile: In the **Profile Details** menu, select **Profiles** and then select **Save All** and then **Confirm** to apply your changes. There is no undo function.

---

### CAUTION

When changing settings, you are strongly advised to create new settings blocks, rather than storing changes to the existing ones. Similarly, when changing a Profile, you are strongly advised to create a new Profile, rather than storing changes to an existing one. Once you save changes to a settings block or Profile, there is no way to undo these changes, unless you have saved a backup using the Support Tool. Settings blocks may be used in more than one Profile. If you edit a settings block it will change in the other Profiles in which it is used.

---

## Deleting a Settings Block or Profile

You cannot delete a locked settings block, or one that is used in any Profile. You must remove it from the Profile or delete the Profile first.

- 1 From the **Profile Details** menu, select the block or Profile you want to delete.
- 2 Select the **Delete** pop-up key and **Confirm** to delete the highlighted settings block.

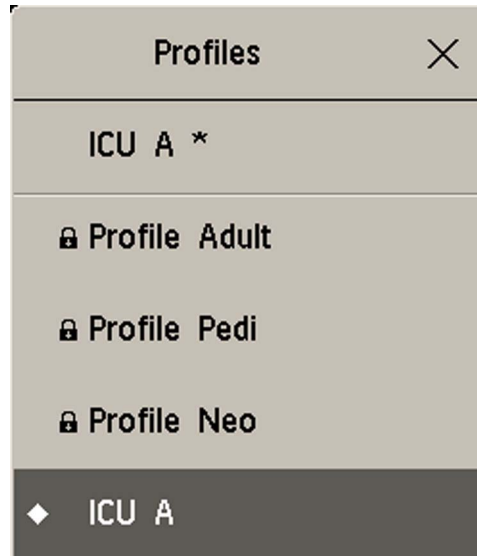
## Renaming a Settings Block or Profile

If you rename a settings block that is used in other Profiles, the name changes in the other Profiles too.

- 1 From the **Profile Details** menu, select the block or Profile you want to rename.
- 2 Select **Rename**.
- 3 Use the on-screen keyboard to type the new name, then select **Enter** to apply the change.

## Changing the Monitor's Default Profile

Every monitor has one default Profile. This is marked with a black diamond.



The monitor loads the default Profile:

- when returning to monitoring mode after leaving demonstration mode (but not after leaving configuration or service mode).
- after discharging a patient.
- after being switched off for more than 60 seconds (only if **Automat. Default** is set to **Yes**).

To change the default Profile:

- 1 In the **Profiles** menu, select the Profile you want to set as default.
- 2 From the pop-up keys select **Set Default**. The “Default Diamond” jumps to this Profile to indicate that it is now this monitor’s default Profile. This setting takes effect immediately, you do not have to switch the monitor off and on again.

## Unlocking a Settings Block or Profile



Profiles and settings blocks can be locked to prevent them from being modified or deleted. This ensures that a minimum configuration is always available. A locked Profile or settings block is identified (in configuration mode only) by a lock symbol.



You cannot unlock Profiles or settings blocks in the monitor’s configuration mode. To lock or unlock Profiles or settings blocks you need to use the IntelliVue Support Tool.

## Configuring a Second/Third Main Display

To distinguish between individual main displays, the displays are numbered on the Screen. The number is shown next to the Screen Name field.

Display 1	Display 2
1  8 Waves	2  Other Bed

### A second main display can be used with

- an MX800 with Independent Display Interface, or MP90 with a Dual CPU, or
- an MX600/700, MX800, MP2/X2, MP5, MP60/70, MP80, MP90 with a single CPU, when using an XDS Remote Display as the second display.

**Display 1** is always the built-in display, or the display connected to the first CPU of the Dual CPU MP90 monitor.

**Display 2** is the display connected:

- to the Independent Display Interface of the MX800
- to the second CPU of the Dual CPU of the MP90 monitor
- to the XDS Remote Display.

### A third main display can be used with

- a D80 Intelligent Display connected to a Dual CPU MP90 monitor, or
- an MX800 with Independent Display Interface or MP90 with a Dual CPU, when using an XDS Remote Display as the third display.



**Display 1** is always the built-in display of the MX800, or the display connected to the first CPU of the MP90 monitor.

**Display 2** is the:

- display connected to the Independent Display Interface of the MX800
- display connected to the second CPU of the MP90
- Otherwise, it is the XDS Remote Display.

**Display 3** is the display connected to either the D80 or the XDS Remote Display.



Profile Details	
Profile	: ICU B
Patient Category	:  Adult
Paced Mode	:  On
Display 1	: 12 Waves
Display 2	: 12 Lead ECG
Display 3	: Dynamic Waves
Measmnt.Settings	: ICU B
Monitor Settings	: ICU B

**NOTE**

**Other Bed Overview, Other Devices Overview, and Caregroup Status** are not available on **Display 3**.

## Loading a Screen on a Second/Third Display

To load a Screen onto the second or third main display,

- on the second/third display, enter the **Change Screen** menu and select a Screen from the list of available Screens, or
- on any display, enter the **Profiles** menu, select **Display 2** (or **Display 3**) and select a Screen from the list of available Screens (not possible on the main display of MP2 and X2 monitors).

**NOTE**

If you are using an IntelliVue monitor with the XDS Remote Display as either the second or third display, the selection of Screens available for the XDS Remote Display can be different from the Screen selection for the other displays.

## Changing Elements on a Second/Third Display

To change elements on the second or third main display:

- 1 Load the Screen that you want to modify onto the second/third display.
- 2 Make the required changes to the Screen.
- 3 Save the Screen.

To do this, enter the monitor's configuration mode, select **Profiles** -> **Display 2** (or **Display 3**), then select the **Save** pop-up key.

### NOTE

Any change to a Screen will mark that Screen modified. In the **Change Screen** menu, the modified Screen is shown linked to the original Screen and marked with an asterisk (\*).

If you load the same Screen onto more than one display, then modify them differently, and then store one of the Screens, the modified Screen on the other displays will still be available. The stored Screen will be available on all displays except on the XDS Remote Display.

Changes made to a Screen viewed on an XDS Remote Display will be stored on the PC connected to the XDS Remote Display and will not be part of the monitor configuration, see “Configuring Screens on an XDS Remote Display” on page 29.

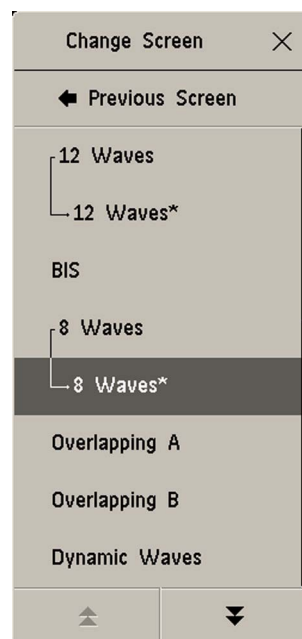
# Configuring Screens

During monitoring, you can change the content of most of the Screen elements, for example you can exchange a Resp wave for a Pressure wave. These changes can be permanently stored as part of the Screen settings in configuration mode.

You can also use the IntelliVue Support Tool to configure Screens offline on a personal computer and then upload them as part of a configuration file to one or more patient monitors. To use the IntelliVue Support Tool for Screen configuration, you must have a support tool and a support tool license key that entitles you to use the Screen configuration functionality. See “About the IntelliVue Support Tool” on page 15 and the Support Tool Instructions for Use.

## Understanding Screen Settings

Screen settings are stored in the Screen. Changing a Screen setting modifies the Screen. This is indicated by an asterisk (\*) in front of the Screen name. In the Change Screen menu, modified Screens are shown linked to their parent Screens.



Screen settings include:

- the basic layout of a Screen, i.e. the selection, size, and position of any Screen element visible on the Screen. The Screen layout cannot be modified in the monitor's configuration mode.
- the content of each Screen element, i.e. the information displayed in each Screen element.
- the selection and sequence of SmartKeys available on a Screen.
- special settings that determine the behavior of certain Screen elements, such as Screen trends, realtime waves, embedded trend windows, or embedded Other Bed Overview windows.

## Modifying an Existing Screen

To change an existing Screen:

- 1 Load the Screen and make the changes to the Screen.
- 2 In configuration mode, select **Profile Details** -> **Display** (or **Display 2**, or **Display 3**).
- 3 In the list of Screens, the modified Screen is shown linked to the original Screen and marked with an asterisk (\*). Select the Store pop-up key to overwrite the existing Screen. Changes to the Screen affect all Profiles in which this Screen is used.

### NOTE

Changes made to a Screen viewed on an XDS Remote Display will be stored on the PC connected to the XDS Remote Display and will not be part of the monitor configuration, see “Configuring Screens on an XDS Remote Display” on page 29.

## Creating New Screens

- 1 Load a Screen similar to the one you want to create from the list of Screens available in the monitor.
- 2 Create a new Screen based on the active Screen:
  - a. In the **Profile Details** menu, select **Display** (or **Display 2**, or **Display 3**).
  - b. Select the pop-up key **Save As**.
  - c. Use the on-screen keyboard to type a meaningful name for the new Screen. If you do not name the Screen, the monitor will assign a default name. You can rename it later.
  - d. Select **Enter**.
- 3 Change the content of the Screen as required.
- 4 Store the finished Screen:
  - a. In the **Profile Details** menu, select **Display** (or **Display 2**, or **Display 3**).
  - b. Select the pop-up key **Save** and then **Confirm** to apply your changes. There is no undo function.

### NOTE

Changes made to a Screen viewed on an XDS Remote Display will be stored on the PC connected to the XDS Remote Display and will not be part of the monitor configuration, see “Configuring Screens on an XDS Remote Display” on page 29.

## Configuring Screens on an XDS Remote Display

For certain IntelliVue monitor models, the XDS Remote Display (IntelliVue XDS solution) can be used as second or third main display.

When you make changes to a Screen that is viewed on an XDS Remote Display, be aware of the following implications:

- The changes are stored on the XDS Remote Display and not on the monitor.
- The changed Screen is not part of the monitor configuration and can therefore not be cloned to another monitor using the IntelliVue Support Tool.
- The changed Screen can be modified with the Screen Editor of the IntelliVue Support Tool.

For more details regarding the configuration of the XDS Remote Display, refer to the Installation and Configuration Guide for the XDS Application.

## Changing the Content of Screen Elements

### Changing the Content of a Wave Element

To change the content of a wave element on a Screen,

- 1 Select the wave you want to change to open the **Change Wave** menu.
- 2 Then select the wave you want to be displayed.

### Changing the Content of a Numeric Element

To change the content of a numeric element on a Screen,

- 1 Select the numeric you want to change. You can only change numerics that are not directly associated with (aligned to) a wave or a Screen Trend. This opens the **Change Numeric** menu.
- 2 From the **Change Numeric** menu select the numeric you want to be displayed.

### Changing the Content of a Screen Trend Element

To change the content of a screen trend element on a Screen,

- 1 Select the screen trend you want to change. You can only change a Screen Trend that is not directly associated with (aligned to) a wave.
- 2 From the trend menu that appears, select **Change Trend** and then select the screen trend you want to be displayed.

### Changing the Content of a High Resolution Trend Element

**MX600-800** To change the content of a HiRes Trend element on a Screen,

**MP5-90  
only**

- 1 Select the HiRes Trend you want to change.
- 2 From the menu that appears, select the HiRes trend you want to be displayed.

### 3 Configuring Screens

Depending on the H option (see “Understanding H Options” on page 42) and C option of your monitor, the following parameters are available for selection:

Label	H10/H40	H20	H30	Comments
btbHR	X	X	X	<ul style="list-style-type: none"> <li>These 4 parameters are included in the OxyCRG option (C08)</li> <li>MP5: tcpO<sub>2</sub> not available</li> </ul>
Any SpO <sub>2</sub>	X	X	X	
Resp	X	X	X	
tcpO <sub>2</sub>		X		
Pulse	X	X	X	<ul style="list-style-type: none"> <li>MX600-800, MP20-90 monitors only</li> </ul>
Any Perf	X	X	X	
tcpCO <sub>2</sub>	X	X		
CO <sub>2</sub>	X	X	X	
ABP	X	X	X	
PAP	X		X	
CVP	X	X	X	
ICP	X	X	X	
CPP	X	X	X	
BIS	X	X	X	
CCO	X	X	X	
AWP	X	X	X	
Any Agent			X	
Delta SpO <sub>2</sub>		X		
inO <sub>2</sub>	X		X	

## Displaying Timers on the Main Screen

**MX600-800** If you want to have a timer displayed on the Main Screen, you can substitute it for a numeric which is not directly associated with a wave or a Screen Trend.  
**MP5-90**  
**only**

To display a timer on the Main Screen,

- 1 Select the numeric you want to substitute.
- 2 Select **Change Numeric**.
- 3 Select **Any Timer**. The monitor automatically uses the timer label with the highest priority that is not displayed on the Screen yet. see “Configuring Timers” on page 229.

Be aware of the following restrictions:

- If limited space is available, some elements displayed in the Timers window may not be displayed. The minimum information displayed is the elapsed or remaining time.
- The maximum number of timers that can be displayed on the Main Screen depends on your monitor model:
  - MX 600-800, MP60-90: four timers
  - MP40-50: three timers
  - MP5/MP5T/MP5SC/MP20-30: two timers
  - MP2/X2: no timer

- Any timer label can only be used once per Screen.

## Displaying a Clock on the Main Screen

**MX600-800** If you want to have a clock displayed on the Main Screen, you can substitute it for a numeric which is not directly associated with a wave or a Screen Trend.

**MP5-90**  
**only**

To display a clock on the Main Screen,

- 1 Select the numeric you want to substitute to open the **Change Numeric** menu.
- 2 Select **Clock**. The digital clock appears in the field.
- 3 If you prefer an analog clock, select the **Clock** field again to open the **Clock** menu.
- 4 Select **Analog Clock**. The analog clock appears in the field.

Be aware of the following restrictions:

- Only one clock can be displayed per Screen
- If limited space is available, the label “Clock” may not be displayed. The minimum information displayed is the time.

## Displaying the NMT application on the Main Screen

**MX600-800** Individual NMT numerics may appear on the screen in numerics fields that are configured to “Any Numeric”. For NMT a special application is available that shows the TOF numeric and a graphic representing the twitches. If you want to have the NMT application displayed on the Main Screen, you can substitute it for a numeric which is not directly associated with a wave or a Screen Trend.

**MP40-90**  
**only**

To display the NMT application on the Main Screen,

- 1 Select the numeric you want to substitute to open the **Change Numeric** menu.
- 2 Select **NMT**. The NMT application window appears embedded in the field.

Be aware of the following restrictions:

- A maximum of two NMT application fields can be displayed per Screen.
- A maximum of three Screens can be configured with a maximum of (in total) six NMT application fields per patient monitor.
- In small numeric fields only a limited amount of elements of the NMT application may be displayed.

## Displaying a ProtocolWatch Status Indicator on the Main Screen

**MX600-800** If you want to have a ProtocolWatch status indicator displayed on the Main Screen, you can substitute it for a numeric which is not directly associated with a wave or a Screen Trend.

**MP5-90**  
**only**

To display a ProtocolWatch status indicator on the Main Screen,

- 1 Select the numeric you want to substitute to open the **Change Numeric** menu.
- 2 Select **PW Status**.

Only one ProtocolWatch status indicator can be displayed per Screen.

## Changing the Size and Position of Screen Elements

You cannot change the size and position of Screen elements. This is a configuration service that is provided, at a charge, by Philips. Changing the size and position of Screen elements is only possible with a Configuration Expert Support Tool license.

## Configuring SmartKeys

There are two ways to configure SmartKeys:

- Configuring a different list of SmartKeys for each Screen (not possible for MP2/X2)
- Configuring a global list of SmartKeys that applies for all Screens

### Configuring a Different List of SmartKeys for Each Screen

**MX600-800** The selection and order of SmartKeys that are specific to a Screen are stored as part of the Screen, i.e. as a Screen setting. This can be configured on the monitor (in configuration mode) or by using the Support Tool Screen Editor. The following describes how to configure SmartKeys on the monitor. For a detailed description on how to use the Support Tool Screen Editor, see the Support Tool Instructions for Use.

**MP5-90**  
**only**

To change the selection of SmartKeys displayed,

- 1 Select **Main Screen**, then select the left double arrow key to scroll back one page of SmartKeys.
- 2 Select the SmartKey **SmartKeys** to open a menu that lists all SmartKeys currently configured for that Screen. From the pop-up key line, select **Add** to open a second menu that contains all available SmartKeys.
- 3 In the **Setup SmartKeys** menu, select the SmartKey that should appear left of the SmartKey that will be added.
- 4 From the **Choices** menu, select the desired SmartKey. This adds the new SmartKey directly under the selected SmartKey in the **Setup SmartKeys** menu.  
If you did not pre-select a SmartKey in the **Setup SmartKeys** menu, the newly added SmartKey appears at the bottom of the list of configured SmartKeys (in the **Setup SmartKeys** menu).

#### NOTE

The maximum number of SmartKeys per Screen is 30 for the MX600 - MX800, MP60 - MP90, and 24 for the MP5 - MP50.

To delete a SmartKey from the list of configured SmartKeys,

- ◆ select it in the list, then select the pop-up key Delete.

To move a SmartKey to a different position,

- ◆ Use the Sort Up and Sort Down pop-up keys.



**NOTE**

The number of SmartKeys visible at a time depends on the monitor's display resolution and the resolution of the Screen:

Product	Display Resolution	Number of SmartKeys
MP5, MP20, MP30, MP40, P50	SVGA (800x600)	6
MP60, MP70, MP80, MP90	XGA (1024x768)	7
MP80, MP90	SXGA (1280x1024)	9
MX600, MX700	WXGA (1280x768)	7
Secondary Display only	WXGA+ (1366x768)	8
Secondary Display only	WSXGA (1440x900)	9
MX800	WSXGA+ (1680x1050)	9
Secondary Display MX800 only	HD (1920x1080)	9

## Configuring a Global List of SmartKeys for All Screens

The global list of SmartKeys is stored as a unique monitor setting in the monitor configuration. See “Configuring User Interface Settings - Keys” on page 233 for details on how to configure the global SmartKey list.

Individual SmartKey configurations for each Screen override the global SmartKey configuration. The global SmartKey list will therefore only be visible when you load a Screen that has no SmartKeys configured to it.

If you want to use the global SmartKeys for all Screens on a monitor, you must delete all individual SmartKeys from all Screens in the configuration.

## Configuring Special Screen Settings

### Configuring the Wave Channel Speed

To change this setting, select the measurement wave on the Screen to open the related Wave menu.

#### Change Speed

This setting determines the wave speed of the related wave channel.

If set to **Global**, the speed of the wave channel follows the monitor setting **Global Speed** (or **RespiratorySpeed**, or **EEG Speed**) as described under “Configuring User Interface Settings” on page 182.

If set to any of the fixed speeds (**6.25 mm/sec**, **12.5 mm/sec**, **25 mm/sec**, **50 mm/sec**), the speed of that wave channel follows its own distinct setting and is not affected by any changes of the **Global Speed**. The wave channel speed is independent of the wave (label) depicted in the channel. If you change the wave, the new wave will retain the set channel speed.

### Configuring Screen Trends

To change the following settings, select the screen trend on the Screen to open the related Trend menu.

#### Change TrendTime

This setting determines the trend time in a screen trend. If set to **Global**, the trend time in the screen trend channel follows the monitor setting **Screen Trend Time** as described under see “Configuring Screen Trends” on page 33. If set to any of the fixed times (**30 min, 1 hours, 2 hours, 4 hours, 8 hours, 12 hours**), the screen trend time follows its own distinct time setting and is not affected by any changes of the global **Screen Trend Time**.

#### Change View

The screen trend presentation can be configured to **Tabular, Graphical, Horizon, or Histogram**. The **Tabular** view can only be used with aperiodic measurements, such as NBP, C.O., C.I., PAWP. If you configure the view of an NBP trend, for example, to **Tabular**, and during monitoring the user changes the trend to a periodic measurement, such as ABP, the view automatically switches to Graphical.

#### Show with Trend

If you set **Show with Trend** to **Yes**, the **histogram or horizon** trend information appears together with the graphical trend part. If you set it to **No**, the graphical trend information is not displayed.

#### NOTE

The graphical trend information is optional and is not shown if the size of the screen trend tile is not large enough.

## Configuring an Embedded Vital Signs Trend Window

To change the following settings, select the embedded **Vital Signs Trend** window on the Screen to open the related pop-up key line.

#### NOTE

The following settings are Screen settings and therefore do not affect the behavior of the normal (not embedded) **Vital Signs** windows.

#### Select Interval

This setting defines the trend interval that will be used in the embedded trend window when the corresponding Screen (with the embedded trend window) is opened. If set to **Global**, the setting follows the monitor setting Interval as described under “Configuring Trend Windows” on page 150.

#### Graph Trend / Vital Signs

This setting defines the view (**Graph Trends or Vital Signs**) of the embedded trend window when the corresponding Screen is opened. The view can be changed at any time.

#### Select Group

This setting defines the trend group that is displayed in the embedded trend window when the corresponding Screen is opened. If set to **Global**, the setting follows the monitor setting **Trend Group** as described under “Configuring Trend Windows” on page 150.

#### Show Unit

If **Show Units** is configured to **On**, the measurements in the embedded Vital Signs window are shown together with their units. If set to **Global**, the setting follows the monitor setting **Show Units** as described under “Configuring Trend Windows” on page 150.

#### NOTE

This Screen setting can only be set in the Configuration Editor of the IntelliVue Support Tool. For more information how to set it, refer to "Screen Design Guide for Configuration Experts" for IntelliVue Patient Monitors Rev. J.

## Configuring an Embedded Graph Trend Window

To change the following settings, select the embedded **Graph Trend** window on the Screen to open the related pop-up key line.

### NOTE

The following settings are Screen settings and therefore do not affect the behavior of the normal (not embedded) **Graph Trend** windows.

#### Select Interval

This setting defines the trend interval that will be used in the embedded trend window when the corresponding Screen (with the embedded trend window) is opened. If set to **Global**, the setting follows the monitor setting Interval as described under “Configuring Trend Windows” on page 150.

#### Graph Trend / Vital Signs

This setting defines the view (**Graph Trend** or **Vital Signs**) of the embedded trend window when the corresponding Screen is opened. The view can be changed at any time.

#### Select Group

This setting defines the trend group that is displayed in the embedded trend window when the corresponding Screen is opened. If set to **Global**, the setting follows the monitor setting **Trend Group** as described under “Configuring Trend Windows” on page 150.

#### No. Of Segments

This setting defines the number of trend segments displayed in the embedded Graph Trends window when the Screen is opened.

To change the setting,

- 1 select the embedded **Graph Trend** window on the Screen, then
- 2 select one of the segments **on the left side** of the window to open the segment menu.

## Configuring an Embedded Histogram Window

To change the following settings, select the embedded **Histogram** window on the Screen to open the related pop-up key line.

### NOTE

The following settings are Screen settings and therefore do not affect the behavior of the normal (not embedded) **Histogram** windows.

### Data Source

To configure which data source is displayed each time the histogram window is opened, use the **Data Source** setting by following the procedure below:

- 1 Select **Realtime Data**, or **Trended Data** for data from the trend database.
- 2 In **Configuration mode**: select **one of all**:
  - realtime data labels (SpO<sub>2</sub> labels or **SysPLS**), or
  - trend database labels.
- 3 In **Monitoring mode**: select the **one of the currently-monitored**:
  - realtime data labels (SpO<sub>2</sub> labels or **SysPLS**), or
  - trend database labels.

#### Period

Use the **Period** setting to define the default time period that is displayed each time a histogram window is opened. Choices are:

- 30 min
- 1 h
- 2 h
- 4 h
- 8 h
- 12 h
- 24 h

#### Unit

Use the **Unit** setting to define the unit. The choices are depending on the selected data unit; the unit list contains the units for the respective label.

##### NOTE

If no unit is defined for a label, the list provides all units.

#### Range; Upper, Lower

Use the **Upper** and **Lower Range** settings to define the lowest and highest value on the x-axis. The available choices are depending on the selected label.

##### NOTE

If no ranges are defined for a label, question marks are displayed, and you can define the ranges with an on-screen keyboard.

#### Curve

Toggle the **Cumulative Curve** setting to switch **On** or **Off** the cumulative curve which is drawn behind the columns.

#### Column Value

The percentage values above (or inside) each column can be switched on and off by selecting the Histogram area on the screen.

##### NOTE

This is an operation only. It is not a setting.

#### Column Width

Use the **Column Width** setting to define the column width. The selected number defines the amount of units that is represented by one column. With that, it also defines the number of columns for this histogram.

The choices are depending on the selected labels and units.

## Cursor Range; Upper, Lower

Use the **Upper** and **Lower Cursor Range** settings to configure the position of the "upper" and "lower" cursor. Set the **Upper** and **Lower** cursor range to the same values to display only one cursor. The available choices are depending on the selected label.

### NOTE

If no ranges are defined for a label, question marks are displayed, and you can define the ranges with an on-screen keyboard.

## Configuring an Embedded CSA Window

**MX600-800** To change the following settings, select the embedded CSA window on the Screen to open the related pop-up key line. Note that the following settings are Screen settings and therefore do not affect the behavior of the normal (not embedded) CSA window.  
**MP40-90 only**

### On/Off SEF

defines whether the SEF trend line is displayed in the embedded CSA window when the corresponding Screen is loaded.

### On/Off MDF

defines whether the MDF trend line is displayed in the embedded CSA window when the corresponding Screen is loaded.

### On/Off PPF

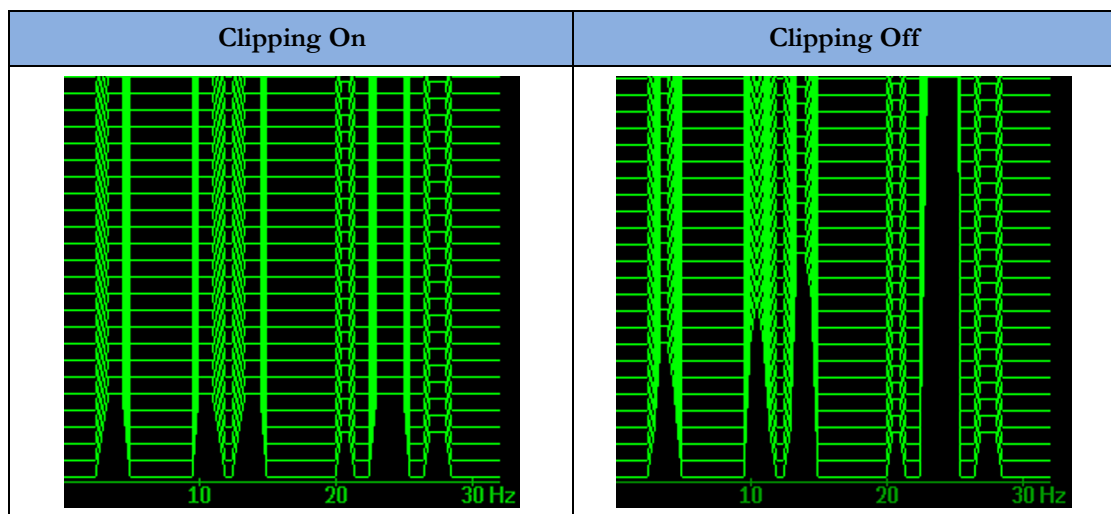
defines whether the PPF trend line is displayed in the embedded CSA window when the corresponding Screen is loaded.

### Buffer

defines which of the three pre-configured buffers is used when the Screen with the embedded CSA window is loaded.

### On/Off Clipping

Set **Clipping** to **On** to improve the 3-D presentation of the embedded CSA and make it more "readable". When set to On, peaks in the spectral lines are artificially clipped at a certain height (see "CSA Window Settings Configuration Implications" on page 163). If **Clipping** is **Off**, peaks can be displayed over the full window height which may result in a more cluttered presentation.



#### Frequency Scale

defines the bandwidth displayed in the embedded CSA.

## Configuring an Embedded Other Bed Window

**MX600-800** For Screens with an embedded Other Bed window, you can configure which bed is displayed in the Other Bed window each time the Screen is loaded.

**MP5-90**  
**only**

To configure the embedded Other Bed window,

- 1 select the Other Bed window on the Screen
- 2 select the pop-up key **My Patients**.

This opens the **My Patients** menu where you can choose between the following settings:

- **Bed <xx>** (xx = Bed ID)  
If you select a specific Bed ID, the monitor displays the associated bed every time the Screen is loaded. If this bed is unavailable, the message “No data from bed” is shown in the embedded window.
- **Any Bed**  
Select Any Bed if you want the monitor to display the first bed shown in the care group list. If this bed is removed from the care group, the new first bed in the care group is automatically displayed. The setting Any Bed might be unavailable if it has been disabled for this Screen using the Support Tool.
- **Blank** (Factory Default)  
This is the factory default setting used on the “Other Bed” Screen that is part of the Support Tool Screen library. If an embedded Other Bed window is configured to **Blank**, the window is empty when the Screen is loaded.

At any time during monitoring, the user can select the Other Bed window and temporarily change the current setting.

---

# Understanding Configuration Settings

The IntelliVue Patient Monitor is pre-configured with factory default settings when it is shipped. This section documents the factory default settings and lists the configuration implications that need to be considered when changing settings from their default.

The configuration implications are only provided in this guide. You must read this document before you modify monitor configurations.

The settings documented here are valid for IntelliVue Patient Monitors release J.x with software J.0.xx.

## Documenting Monitor Configurations

If you change settings from their default, this document will no longer reflect your configuration.

A Philips representative or trained biomedical engineer can generate a detailed report of the changed monitor configuration using the IntelliVue Support Tool. Make sure you review the description of this functionality in the Support Tool Instructions for Use before you interpret the content of this report.

## Understanding Configuration Implications

When you permanently change any element of the configuration, you must consider the effect of the new configuration on both patient and application behavior. For additional information on the context of the configuration settings, see your monitors Instructions for Use. Always ensure that the monitor users are aware of the configuration settings.

## Using Configuration Tables

The “breadcrumb trail” at the top of each table indicates which Settings Block the settings are grouped under. For example, “**Measurement Setting: Main Setup > Measurements > ECG**” means that the ECG settings in the table below the heading are part of the Measurement Settings Block. This is also the path you should follow to access the settings in the table: in this example, to configure ECG settings, in the Main Setup menu, select Measurements and then select ECG.

## How to Read the Configuration Tables

The following tables are (modified) examples of configuration tables, as you will find them in the sections of this manual.

### Factory Default Settings for Monitor Models

The following table lists the actual factory default settings for each configuration item and for each of the listed patient monitor models, e.g.:

- MX600 - MX800
- MP5 - MP90
- MP5T, MP5SC
- MP2, X2

Factory Defaults for Profiles					
Setting Item	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP5-MP90, MP5T, MP5SC, MP2, X2</b>					
ECG	C, M	On	On	On	On
QRS Volume	C, M	not applicable, this setting is stored in the Monitor Settings Block, see “Configuring User Interface Settings” on page 182			
Primary Lead	C, M	II	II	II	II
Secondary Lead	C, M	V (V1)	V (V1)	V (V1)	V (V1)
Va Lead	C, M	V2	V2	V2	V2
Vb Lead	C, M	V5	V5	V5	V5
Analysis Mode	C, M	Multi Lead	Multi Lead	Multi Lead	Multi Lead
Lead Placement	C, M	Standard	Standard	Standard	Standard
Mod.LeadPlacment	C, M	Off	Off	Off	Off
Color	C	Green	Green	Green	White
Asystole Threshold	C, M	4.0 sec	4.0 sec	3.0 sec	4.0 sec
ECG Al. OFF Inop	C	Cyan	Cyan	Cyan	Cyan
Fallback	C	On	On	On	On

### Configuration Settings

The leftmost column in each table lists the individual configuration items. The names and order of these items correspond to those of the menu items in the related setup in the monitor.



## Operation Mode

This column indicates in which operation mode the setting is available. Abbreviations used for the operating modes in this guide are:

Abbreviation	Comment
C	Configuration Mode
M	Monitoring Mode
S	Service Mode
<blank>	Fixed setting, visible but not operable

## Profiles

All IntelliVue monitor models are shipped with different profiles to accommodate different monitoring environments and patient categories. Therefore, the default values for some settings differ between different profiles. In the example table above, you can see this for the settings **Color** and **Asystole Threshold**.

## Not Applicable

Whenever you see a statement in the setting tables starting with "not applicable" (as in **QRS Volume**), this can mean two things (the exact reason will always be given in the context):

- the setting appears as a menu item in the related Setup menu, but is actually stored in a different context. For example, the **QRS Volume** setting appears in the **Setup ECG** menu. However, it is not stored as an ECG measurement setting, but as a monitor setting in the User Interface menu.
- the setting appears as a menu item in the related Setup menu, but cannot be stored in the monitor configuration. For example, the setting **C.O.** in the **Setup C.O.** menu defines whether the Cardiac Output measurement is switched on or off. However, the C.O. measurement (as most other measurements in the IntelliVue monitor) can only be switched on if a C.O. transducer is connected to the monitor. Therefore, this setting cannot be permanently stored in the monitor's configuration.

## Settings for Specific Options or Monitor Models

Some factory default settings may differ between different monitor models or options, e.g. H options (application area). In this case, these settings are listed in additional tables.

Factory Defaults for Profiles					
Setting Item	Mode	Adult	Pedi	Neo	Outdoor (MP2/X2 Only)
<b>Option #H10, #H20, #H40 (for MX600-MX800, MP5-MP90)</b>					
<b>MP5T, MP5SC, MP2, X2</b>					
Filter	C, M	Monitor	Monitor	Monitor	Monitor
<b>Option #H30 (for MX600-MX800, MP5-MP90)</b>					
Filter	C, M	Filter	Filter	Filter	n/a
<b>MX600-MX800</b>					
Sync Out Chan 1		ECG AnlgWave fixed setting, visible but not operable			n/a

## 4 Understanding Configuration Settings

Factory Defaults for Profiles					
Setting Item	Mode	Adult	Pedi	Neo	Outdoor (MP2/X2 Only)
Sync Out Chan 2	C	ECG AnlgWave	ECG AnlgWave	ECG AnlgWave	n/a
MX600-MX800, MP2, X2, MP5					
SyncPulse Sensit.	C, M	Medium	Medium	Medium	Medium
SyncPulse Marker	C, M	On	On	On	On

### NOTE

If you cannot find a setting in the table **Settings Common to all Monitor Models**, this item has different factory default settings in different monitors or options, and therefore appears in the following tables for **Settings for Specific Options or Monitor Models**.

## Understanding H Options

The following tables list explanations for different H options:

H Options	Area
H10	General/Intensive Care
H20	Neonatal
H30	Anesthesia
H40	Cardiac Care

---

# Profile Settings

## Profile Settings: Main Setup > Profiles

Factory default settings for Profiles depend on the monitor model, as well as the monitor's H and A option. For detailed information on all factory-provided default Profiles, see "Profiles Overview" on page 309.

The monitor does not need a Profile to start monitoring. If, in the case of an error, no configuration is loaded, or if a loaded configuration is corrupt, the monitor will be operational and use the factory defaults documented in the configuration tables of this guide. The **Paced Mode** status will be set to **Unconfirmed** and the **Patient Category** will be set to **Neo**. An appropriate configuration should then be loaded onto the monitor using the IntelliVue Support Tool.

The default Profile is used after discharging a patient, leaving demonstration, or when the monitor is switched off for more than 60 seconds (if the global setting **Automat. Default** is set to **Yes**).



# Measurement Settings

This section lists all the settings grouped in the Measurement Settings Block. They define how the monitor measures and displays patient data. Read any information on configuration implications at the end of each section before you make any configuration changes.

Setting	Page
“Configuring Arrhythmia”	55
“Configuring awRR from Capnometry”	102
“Configuring BIS”	111
“Configuring C.O.”	89
“Configuring CCO”	91
“Configuring CO2 from Capnometry”	99
“Configuring CPP”	87
“Configuring Delta SpO2”	72
“Configuring Delta Temperature”	121
“Configuring ECG”	46
“Configuring ECG/Pulse Alarms”	50
“Configuring EEG”	107
“Configuring IAP”	88
“Configuring IntelliBridge”	124
“Configuring Invasive Pressure”	78
“Configuring IPI”	64
“Configuring NBP”	73
“Configuring NMT”	114
“Configuring PPV”	88
“Configuring Predictive Temperature”	120
“Configuring Pulse from Invasive Pressure”	86
“Configuring Pulse from SpO2”	71
“Configuring QT Analysis”	63
“Configuring Resp”	103
“Configuring SO2”	94
“Configuring Spirometry”	104
“Configuring SpO2”	66

Setting	Page
“Configuring Sp-vO2”	95
“Configuring ST Analysis”	60
“Configuring STE Analysis”	62
“Configuring SVR”	92
“Configuring System Pulse”	54
“Configuring TcG10”	99
“Configuring tcpO2, tcpCO2”	97
“Configuring Temperature”	117
“Configuring the Gas Analyzer”	124
“Configuring VueLink”	123

## Configuring ECG

Measurement Settings: Main Setup > Measurements > ECG

### Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP5-MP90, MP5T, MP5SC, MP2, X2</b>					
High Limit	C, M	not applicable, see “Configuring ECG/Pulse Alarms” on page 50			
Low Limit	C, M				
ECG/Arrhy Alarms	C, M				
AlarmSrc (ECG/AR)	C, M				
ECG	C, M	On	On	On	On
Paced Mode	C, M	not applicable, the paced status is stored in a Profile, see “Profile Settings” on page 43			
QRS Volume	C, M	not applicable, this setting is stored in the Monitor Settings Block, see “Configuring User Interface Settings” on page 182			
Primary Lead	C, M	II	II	II	II
Secondary Lead	C, M	V (V1)	V (V1)	V (V1)	V (V1)
Va Lead	C, M	V2	V2	V2	V2
Vb Lead	C, M	V5	V5	V5	V5
Analysis Mode	C, M	Multi Lead	Multi Lead	Multi Lead	Multi Lead
Lead Placement	C, M	Standard	Standard	Standard	Standard
Mod.LeadPlacment	C, M	Off	Off	Off	Off
Auto Filter	C	not applicable, these settings are stored in the Monitor Settings Block, see “Configuring ECG” on page 164			
Fix PacerAmplit	C				
Default ECG Size	C				
Color	C	Green	Green	Green	White
Asystole Thresh.	C, M	4.0 sec	4.0 sec	3.0 sec	4.0 sec

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
Δ ExtrTachy	C	not applicable, see “Configuring ECG/Pulse Alarms” on page 50			
Tachy Clamp	C				
Δ ExtrBrady	C				
Brady Clamp	C				
ECG Al. OFF Inop	C	Cyan	Cyan	Cyan	Cyan
Fallback	C	On	On	On	On
Alarms Off	C	not applicable, see “Configuring ECG/Pulse Alarms” on page 50			
AlarmSource Sel.	C				
PulseAlarms Tele	C				

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Factory Defaults for Profiles					
Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>Option #H10, #H20, #H40 (for MX600-MX800, MP5-MP90) MP5T, MP5SC, MP2, X2</b>					
Filter	C, M	Monitor	Monitor	Monitor	Monitor
<b>Option #H30 (for MX600-MX800, MP5-MP90)</b>					
Filter	C, M	Filter	Filter	Filter	n/a
<b>MX600-MX800</b>					
Sync Out Chan 1		ECG AnlgWave fixed setting, visible but not operable			n/a
Sync Out Chan 2	C	ECG AnlgWave	ECG AnlgWave	ECG AnlgWave	n/a
<b>MX600-MX800, MP2, X2, MP5</b>					
SyncPulse Sensit.	C, M	Medium	Medium	Medium	Medium
SyncPulse Marker	C, M	On	On	On	On

## ECG Configuration Implications

### ECG

This setting lets you switch the ECG measurement **On** or **Off**. If ECG is switched **Off**, the monitor will change to Pulse as alarm source, if a Pulse is available. One exception to this rule can arise when you have a telemetry device paired with your monitor. If **PulseAlarms Tele** (see “Configuring ECG/Pulse Alarms” on page 50) is configured to **Disabled**, the monitor does not fall back to the System Pulse as alarm source.

### Primary Lead, Secondary Lead, Analysis Mode

The monitor uses the primary and secondary lead to compute HR and to analyze and detect cardiac arrhythmias. They are also available for recordings and for display on the Information Center. The

**Secondary Lead** setting is used only if **Analysis Mode** is configured to **Multi Lead** (instead of **Single Lead**) arrhythmia analysis. It determines which additional lead will be used for arrhythmia analysis.

### Va Lead, Vb Lead

If you are using a 6-lead ECG cable, the two chest leads can be positioned at any two of the V1 to V6 positions. The **Va Lead / Vb Lead** settings tell the monitor which positions you have used so that the chest leads will be correctly labeled on the monitor and in printouts. If the Global setting **ECG Cable Color** is set to **IEC**, these settings are labeled **Ca Lead** and **Cb Lead**.

### Lead Placement

Set this setting to **EASI** if you are using EASI lead placement. This tells the monitor that you are using EASI lead placement. The label “EASI” will be shown beside the 1mV calibration bar on the ECG wave on the display, and “EASI” is marked on any recorder strips and printouts.

### Mod.LeadPlacement

When **Mod.LeadPlacement** is set to **On**, 12 Lead ECG Reports will be labeled 12 Lead ECG Report (Mason-Likar), and captured 12-lead ECGs will be labeled Mason-Likar to the right of the bandwidth annotation at the Information Center. When **Mod. LeadPlacement** is set to **Off**, 12 Lead ECG Reports will be labeled 12 Lead ECG Report, and captured 12-lead ECGs will not be annotated at the Information Center.

### Filter

The **Filter** setting defines how ECG waves are smoothed.

#### Monitor

The **Monitor** filter results in an ECG bandwidth of 0.5 - 40 Hz for the Adult, and 0.5 - 55 Hz for the Pedi and Neo patient category. Use under normal measurement conditions.

#### Ext. Monitor

The **Ext. Monitor** filter results in an ECG bandwidth of 0.5 – 150 Hz. Use when diagnostic quality is required but low frequency interference or a wandering baseline may be expected. The upper edge frequency is the same as the **Diag** setting and the lower edge frequency is the same as the **Monitor** setting.

#### Filter

Using this filter reduces interference to the signal and results in an ECG bandwidth of 0.5 – 20 Hz for all patient categories. It should be used if the signal is distorted by high frequency or low frequency interference. High frequency interference usually results in large amplitude spikes making the ECG signal look irregular. Low frequency interference usually leads to a wandering or rough baseline. In the operating room, this setting reduces artifacts and interference from electrosurgical units. Under normal measurement conditions, selecting **Filter** may suppress the QRS complexes too much and thus interfere with the clinical evaluation of the ECG displayed on the monitor. This does not affect the ECG analysis performed by the monitor. If **AutoFilter** (see “Configuring ECG” on page 164) is set to **On**, the filter setting will automatically be set to **Filter** if electromagnetic interference is detected.

#### Diag (Diagnostic)

The setting **Diag** selects the highest available ECG bandwidth which is 0.05 to 150 Hz for all patient categories. Use when diagnostic quality is required. The unfiltered ECG wave is displayed so that changes such as R-wave notching or discrete elevation or depression of the ST segments are visible.



## Sync Out Chan 1

Output signal of the first Sync Out channel. This setting cannot be changed (visible only).

## Sync Out Chan 2

Output signal of the second Sync Out channel. Possible choices are **ECG AnlgWave** (default) and **ECG SyncPuls**.

## SyncPulse Sensit, SyncPulse Marker

These settings are only available in MP2, X2 and MP5 monitors. In the MP5 it is only available if an MIB/RS232 interface is installed and the driver **ECG Sync Pulse** is configured for one of the MIB ports (see the MP5 Service Guide for detailed setup information). If these requirements are met, the monitor outputs a SyncPulse via the MIB/RS232 interface (MP5) or the ECG Sync Pulse Output Connector (MP2, X2) which can be used to synchronize external medical devices (such as CT scanners) to the patient's ECG.

- Set **SyncPulse Marker** to **On** to display SyncPulse markers in the ECG wave on the monitor screen.
- **SyncPulse Sensit** lets you change the sensitivity of the Sync Pulse detection. If **SyncPulse Marker** is switched **On**, and not every QRS complex in the ECG wave on the monitor is marked with a Sync Pulse marker, you should increase the sensitivity (**Medium** or **High**) until you see a marker for each QRS complex. If you see Sync Pulse markers in areas of the ECG wave other than the QRS complexes, lower the sensitivity (**Medium** or **Low**).

## Asystole Thresh.

This setting lets you adjust the time period between the point where the monitor cannot detect a QRS complex and the indication of an asystole alarm. It also affects the way the enhanced asystole detection behaves, see “General Global Settings Configuration Implications” on page 242.

## Color

The **Color** setting defines the color for ECG, Arrhythmia, ST, and QT. The color setting for Pulse is taken from the system pulse source.

## ECG AL. Off Inop

If ECG alarms are off or Pulse is selected as active alarm source, the INOP **ECG/Arrh Alarm Off** is shown permanently. If you do not want this INOP to appear, you must set **ECG AL. Off Inop** to **Off**. If you want the **ECG/Arrh Alarm Off** INOP to be automatically escalated to a yellow alarm after a fixed time, configure it to one of the available choices: **Yellow @2h**, **Yellow @4h**, **Yellow @6h**, or **Yellow @8h**.

## Fallback

If **Fallback** is configured **On** and there is a **Lead Off** INOP in the primary lead (and in the secondary lead, if you are using multi-lead monitoring) for longer than 10 seconds, and if another lead is available, this available lead automatically becomes the primary lead. This is known as lead fallback. When the Leads Off condition is corrected, the leads are automatically switched back.

## Configuring ECG/Pulse Alarms

Measurement Settings:

Main Setup > Measurements > ECG > AlarmSrc(ECG/AR), or

Main Setup > Measurements > Pulse > AlarmSrc(ECG/AR)

### Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP2-MP90, MP5T, MP5SC, X2</b>					
ECG/Arrhy Alarms	C, M	On	On	On	On
Pulse Alarms	C, M	Off	Off	Off	Off
High Limit	C, M	120	160	200	120
Low Limit	C, M	50	75	100	50
Δ ExtrTachy	C	20	20	20	20
Tachy Clamp	C	200	220	240	200
Δ ExtrBrady	C	20	20	20	20
Brady Clamp	C	40	40	50	40
Alarms Off	C	Enabled	Enabled	Enabled	Enabled
AlarmSource Sel.	C	Enabled	Enabled	Enabled	Enabled
PulseAlarms Tele	C	Enabled	Enabled	Enabled	Enabled
Pulse NotAl INOP	C	Enabled	Enabled	Enabled	Enabled

### Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

<b>Factory Defaults for Profiles</b>					
Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>Option #H10, #H20, #H40 (for MX600-MX800, MP20-MP90)</b>					
Alarms Source	C, M	ECG/Arrhythm	ECG/Arrhythm	ECG/Arrhythm	n/a
<b>Option #H30 (for MX600-MX800, MP20-MP90)</b>					
<b>Option #H10, #H20, #H40 (for MP5)</b>					
<b>MP5T, MP5SC</b>					
<b>MP2, X2</b>					
Alarms Source	C, M	Auto	Auto	Auto	Auto

Factory Defaults for Profiles								
Setting	Mode	EWS Scoring	Frequent Vitals	RRT	Resus	SpotCheck	SinglePat.EWS	SinglePat.SC
<b>MP5SC, Option #P05 (for MP5)</b>								
High Limit	C, M	120	120	120	120	120	120	120
Low Limit	C, M	50	50	50	50	50	50	50
Tachy Clamp	C	200	200	200	200	200	200	200
Brady Clamp	C	40	40	40	40	40	40	40

## ECG/Pulse Alarms Configuration Implications

### Alarm Source

Alarms Source

In most cases the heart rate and Pulse numerics are identical. In order to avoid simultaneous alarms on heart rate and Pulse, the monitor uses either ECG **or** Pulse as its active alarm source. The **Alarm Source** setting lets you choose **ECG/Arrhythm**, **Pulse** or **Auto** as the source of heart-related rate alarms.

### ECG/Arrhythm

Select **ECG/Arrhythm** if you want the heart rate from the ECG to be the alarm source.

Even with **Alarm Source** set to **ECG/Arrhythm**, if you switch the ECG measurement off, the monitor will automatically use Pulse as alarm source, provided a pulse source is switched on and available.

### Pulse

If you select **Pulse** as the active alarm source, the monitor will prompt you to confirm your choice. Be aware that if you select **Pulse**, all arrhythmia and ECG HR alarms are switched off.

### Auto

If the **Alarm Source** is set to **Auto**, the monitor will use the heart rate from the ECG measurement as alarm source whenever the ECG measurement is switched on and at least one ECG lead can be measured without an INOP condition.

The monitor will automatically switch to **Pulse** as the alarm source if:

- a valid ECG lead can no longer be measured  
**and**
- a Pulse source is switched on and available.

The monitor then uses the pulse rate from the measurement currently active as system pulse. While **Pulse** is the alarm source, all arrhythmia and ECG HR alarms are switched off. If an ECG lead becomes available again, the monitor automatically uses **ECG/Arrhythm** as alarm source.

### NOTE

If the ECG measurement is switched off, the monitor will always change to **Pulse** as alarm source, if a Pulse source is available. One exception to this rule can arise when you have a telemetry device paired with your monitor. The monitor ECG is then deactivated but the monitor may be configured to allow only ECG as the active alarm source (see setting **AlarmSource Sel.**). In this case the monitor will not switch to **Pulse** as alarm source and Pulse will not be available as a selection in the ECG/Pulse Alarms menu.

---

### WARNING

Selecting Pulse as the active alarm source for HR/Pulse switches off most arrhythmia alarms (see the Instructions for Use), including Asystole, Vfib and Vtach alarms, and the heart rate alarms. This is indicated by the crossed-out alarm symbol beside the ECG heart rate numeric and the message ECG/ARRH ALARM OFF, if configured (see “ECG Configuration Implications” on page 47). High and low pulse rate and extreme bradycardia and extreme tachycardia alarms from Pulse are active.

---

## ECG/Arrhy Alarms

This setting is only available if **Alarm Source** is set to **ECG/Arrhythm** or **Auto**. Be aware that with **Alarm Source** set to **ECG/Arrhythm**, if you switch **ECG/Arrhy Alarms** off, all Pulse alarms are switched off as well.

## Pulse Alarms

This setting is only available if **AlarmSource** is set to **Pulse** and a pulse signal is currently measured. Be aware that with **Alarm Source** set to **Pulse**, if you switch **Pulse Alarms** off, all ECG and Arrhythmia alarms are switched off as well.

## High Limit / Low Limit

ECG and Pulse share the same alarm limits. These alarm limits apply to the currently selected alarm source, either **ECG/Arrhythm** or **Pulse**. Note that if you change the High/Low alarm limits in the ECG/Pulse Alarms menu, this will also change the High/Low alarm limits in the Setup Pulse menu and Setup ECG menu and vice versa.

## Delta ExtrTachy, Delta ExtrBrady

### $\Delta$ ExtrTachy, $\Delta$ ExtrBrady

Extreme bradycardia and extreme tachycardia alarms are based on the ECG/Pulse limit alarms. Use the  $\Delta$  **ExtrTachy** and  $\Delta$  **ExtrBrady** setting to define the difference between the heart rate limit and the extreme limit. For example, if the heart rate high limit is 120 bpm and the difference is 20 bpm then the extreme tachycardia limit is 140 bpm.

ECG and Pulse share the same alarm limits. The  $\Delta$  **ExtrTachy** and  $\Delta$  **ExtrBrady** settings apply to the currently selected alarm source, either ECG or Pulse. If you change the  $\Delta$  **ExtrTachy** and  $\Delta$  **ExtrBrady** setting in the ECG/Pulse Alarms menu, this will also change the  $\Delta$  **ExtrTachy** and  $\Delta$  **ExtrBrady** setting in the Setup Pulse menu and Setup ECG menu and vice versa.

## Tachy Clamp, Brady Clamp

The Brady and Tachy clamp allows you to configure a safety threshold for the extreme bradycardia and tachycardia alarm limits. For example, if the low heart rate limit is 50 bpm and the  $\Delta$  **ExtrBrady** setting is 20 bpm (50 bpm - 20 bpm = 30) with a Brady clamp set at 40, the resulting extreme bradycardia limit would be 40 bpm (instead of 30 bpm). If the clinician sets the ECG alarm limit above or below the limit clamps for an individual patient, the limit clamps become the extreme brady or extreme tachy alarm (these are red alarms). Be sure to set the clamps beyond the configured ECG limits.

ECG and Pulse share the same alarm limits. The **Tachy Clamp** and **Brady Clamp** settings apply to the currently selected alarm source, either ECG or Pulse. If you change the **Tachy Clamp** or **Brady Clamp** setting in the ECG/Pulse Alarms menu, this will also change the **Tachy Clamp** or **Brady Clamp** setting in the Setup Pulse menu and Setup ECG menu and vice versa.

## Alarms Off

If this setting is configured to **Disabled**, the user cannot switch off ECG alarms in monitoring mode. Note that changing the **Alarms Off** setting in the ECG/Pulse Alarms menu, also changes the **Alarms Off setting** in the Setup Pulse menu and Setup ECG menu and vice versa.

## AlarmSource Sel.

If you do not want the **Alarm Source** setting to be available in monitoring mode, you must set **AlarmSource Sel.** to **Disabled**. Note that if you change the **AlarmSource Sel.** setting in the ECG/Pulse Alarms menu, this will also change the **AlarmSource Sel.** setting in the Setup Pulse menu and Setup ECG menu and vice versa.

## PulseAlarms Tele

This setting affects the monitor's behavior only while it is paired with a telemetry transmitter. In paired mode, if the Tele transmitter delivers a valid ECG, the monitor automatically deactivates the internal ECG and displays the ECG from the telemetry transmitter. With the internal ECG deactivated, and **PulseAlarms Tele** configured to **Enabled**, the monitor automatically falls back to the monitor's System Pulse as alarming source if a System Pulse is available. With **PulseAlarms Tele** configured to **Disabled**, the monitor does not fall back to the System Pulse as alarm source. In this case no ECG/Pulse alarms from the bedside monitor are active. When the monitor ECG becomes available again, or the telemetry transmitter is unpaired, the monitor automatically activates the internal ECG and the configured ECG/Pulse alarms are active again. Note that if you change the **PulseAlarms Tele** setting in the ECG/Pulse Alarms menu, this will also change the **PulseAlarms Tele** setting in the Setup Pulse menu and Setup ECG menu and vice versa.

## Pulse NotAI INOP

If you set the setting **Pulse NotAI INOP** to **Enabled**, the **INOP Pulse Not Alarming** is issued while a VueLink or IntelliBridge pulse is system pulse and ECG is switched off.

# Configuring System Pulse

Measurement Settings: Main Setup > Measurements > Pulse

## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP5-MP90, MP5T, MP5SC, MP2, X2</b>					
High Limit	C, M	not applicable, see “Configuring ECG/Pulse Alarms” on page 50			
Low Limit	C, M				
Pulse Alarms	C, M				
AlarmSrc(ECG/Ar)	C,M				
System Pulse	C, M	Auto			
QRS Volume	C,M	not applicable, see “Configuring User Interface Settings” on page 182			
Δ ExtrTachy	C	not applicable, see “Configuring ECG/Pulse Alarms” on page 50			
Tachy Clamp	C				
Δ ExtrBrady	C				
Brady Clamp	C				
Alarms Off	C				
AlarmSource Sel.	C				
PulseAlarms Tele	C				
Pulse NotAl INOP	C				

## System Pulse Configuration Implications

### System Pulse

The **System Pulse** setting allows you to configure the measurement source for the System Pulse.

The pulse rate chosen as system pulse:

- is monitored as system pulse and generates alarms when you select **Pulse** as the active **Alarm Source**
- is sent via the network to the Information Center, if available
- is trended in the HighRes Trends and stored in the monitor’s databases.

The choices are **SpO<sub>2</sub>**, **SpO<sub>2</sub>pr**, **SpO<sub>2</sub>po**, **SpO<sub>2</sub> r**, **SpO<sub>2</sub> l**, **%SpO<sub>2</sub>T**, **P**, **ABP**, **ART**, **Ao**, **PAP**, **UAP**, **FAP**, **BAP**, and **Auto**. If you select **Auto**, the monitor automatically chooses a pulse rate to be used as system pulse. It looks through the list from top to bottom and activates the first pulse rate that is switched on and available.

#### NOTE

SpO<sub>2</sub> from Cableless Measurements can only be System Pulse source if the CL pod is used in Continuous Mode.

# Configuring Arrhythmia

Measurement Settings: Main Setup > Measurements > Arrhythmia

## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP5-MP90, MP5T, MP5SC, MP2, X2</b>					
Arrhythmia	C, M	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On
Asystole Thresh	C, M	not applicable, see "Asystole Thresh." on page 49			
Pause Threshold	C, M	2.0 sec	2.0 sec	1.5 sec	2.0 sec
Afib/IHR End Dly	C, M	5 min	5 min	5 min	5 min
VTach HR	C, M	100	120	150	100
VTach Run	C, M	5	5	5	5
Vent Rhythm	C, M	14	14	14	14
SVT HR	C, M	180	200	210	180
SVT Run	C, M	5	5	5	5
PVCs/min	C, M	10	5	5	10
All Yellow On	C, M	With <b>All Yellow On</b> and <b>Off</b> you can switch the following yellow arrhythmia alarms all together <b>On</b> or <b>Off</b> . These are not settings.			
All Yellow Off	C, M				
Show	C	Unlocked	Unlocked	Unlocked	Unlocked
Non-Sustain	C, M	On	On	On	On
Vent Rhythm	C, M	On	On	On	On
Run PVCs	C, M	On	On	On	On
Pair PVCs	C, M	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On
R-On-T PVCs	C, M	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On
V.Bigeminy	C, M	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On
V.Trigeminy	C, M	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On
PVCs/min	C, M	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On
Multif.PVCs	C, M	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On
Pacer N.Cap	C, M	On	On	On	On
Pacer N.Pac	C, M	On	On	On	On
Pause	C, M	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On
Missed Beat	C, M	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On
SVT	C, M	On	On	On	On
Afib	C, M	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On
IrregularHR	C, M	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On
HR Alarms	C	Short Yellow	Short Yellow	Short Yellow	Short Yellow
Analysis Mode	C, M	not applicable, see "Primary Lead, Secondary Lead, Analysis Mode" on page 47			
TimeOut 1st	C	3 min	3 min	3 min	3 min

## 6 Measurement Settings

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
TimeOut 2nd	C	10 min	10 min	10 min	10 min
Afib/IHR Remind.	C	30 min	30 min	30 min	30 min
ArrhyOff Message	C	not applicable, this setting is stored in the Monitor Settings block, see “ArrhyOff Message” on page 185			
Some ECG AI INOP	C	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On (Off <sup>1</sup> )	On

<sup>1</sup> Setting is set to **Off** for monitors with **Option #H30** (for MX600-MX800, MP5-MP90)

## Arrhythmia Configuration Implications

### Arrhythmia

Change **Arrhythmia** to switch the arrhythmia measurement **On** or **Off**.

### Pause Thresh.

The **Pause Thresh.** setting lets you adjust the time period between the point where the monitor cannot detect a QRS complex and the indication of a Pause alarm.

### Afib/IHR End Dly

Use the **Afib/IHR End Dly** setting to define the End Alarm (**END AFIB** or **END Irregular HR**) delay time from the end of the atrial fibrillation (Afib) or the irregular heart rate (IHR).

Choices are:

- **0 min**
- **1 min**
- **3 min**
- **5 min**
- **10 min**
- **20 min**
- **30 min**

### VTach HR

Use the **VTach HR** setting to define the heart rate trigger limit for a VTach alarm. Choices are from **20** to **300** bmp.

### VTach Run

Use the **VTach Run** setting to define the amount of PVCs in a row for a VTach alarm. Choices are from **3** to **99** PVCs.

### Vent Rhythm

Use the **Vent Rhythm** setting to define the amount of PVCs in a row for a Ventricular Rhythm alarm. Choices are from **3** to **99** PVCs.



## SVT HR

Use the **SVT HR** setting to define the supraventricular heart rate trigger limit for an SVTach alarm. Choices are from **120** to **300** bmp.

## SVT Run

Use the **SVT Run** setting to define the amount of supraventricular PVCs in a row for an SVTach alarm. Choices are from **3** to **99** PVCs.

## PVCs/min

Use the **PVCs/min** setting to define the amount of PVCs per minute for a PVC alarm. Choices are from **1** to **99** PVCs.

## Yellow Arrhythmia Alarms

All yellow arrhythmia alarms can be switched on and off together. To do this, select **All Yellow On** or **All Yellow Off**.

The following yellow arrhythmia alarms can also be switched on and off individually:

- **Non-Sustain**
- **Vent Rhythm**
- **Run PVCs**
- **Pair PVCs**
- **R-On-T PVCs**
- **V.Bigemini**
- **V.Trigemini**
- **PVCs/min**
- **Multif.PVCs**
- **Pacer N.Cap**
- **Pacer N.Pac**
- **Pause**
- **Missed Beat**
- **SVT**
- **Afib**
- **IrregularHR**

### Show

Use the **Show** sub-menu to configure the availability of the yellow arrhythmia alarms in monitoring mode. Choices are:

- **Unlocked**:alarm is available for operation in monitoring mode
- **Locked**:alarm is displayed grayed-out in monitoring mode
- **Hidden**:alarm is not visible in monitoring mode. Only alarms that are switched **Off** can be hidden.

### HR Alarms

With **Arrhythmia** switched **On**, high and low heart rate alarms were traditionally part of the yellow arrhythmia alarm chain and were therefore signaled as short yellow alarms.

The setting **HR Alarms** lets you configure high and low heart rate alarms to be treated as normal (long) yellow alarms. Choices are **Short Yellow** and **Yellow**.

Be aware that when you configure **HR Alarms** to **Yellow**, high and low heart rate alarms are not subject to arrhythmia timeouts and arrhythmia alarm chaining.

### Timeout 1st, TimeOut 2nd

The timeout period for first level yellow alarms can be configured for between 0 and 5 minutes. The timeout period for second level yellow alarms can be configured for between 0 and 15 minutes.

### Afib/IHR Remind.

Use the **Afib/IHR Remind.** setting to define the alarm reminder period for **Afib** and **Irregular HR** alarms.

Choices are:

- **10 min**
- **20 min**
- **30 min**
- **60 min**
- **120 min**

### Some ECG AI INOP

If users want to be notified whenever the On/Off settings for ECG/Arrhythmia alarms differ from the current Profile, you must configure **Some ECG AI INOP** to **On** (short for "some ECG alarms off INOP message"). If this message is configured **Off**, it is important for the clinician to check the on/off status of the alarms.

### Combined Arrhythmia Alarms

Arrhythmia alarms that combine runs of PVCs and heart rate are chained together and the configuration of one effects the configuration of others.

### VTach

- **VTach HR**  $\geq 100$
- **VTach Run**  $\geq 5$

To set the Ventricular tachycardia alarm, you must configure both the **Vtach HR** limit, and the **Vtach Run** limit. Both criteria must be met to cause an alarm.

### Non-Sustain VTach

- **HR**  $\geq 100$
- **Run**  $< 5$

Non-sustained ventricular tachycardia cannot be configured. The criteria for this alarm is based on the VTach settings. It must be a run less than the VTach run limit but the heart rate limit must be the same as VTach.

### Vent Rhythm

- **HR** < 100
- **Run** ≥ 14

Ventricular rhythm can be configured for the number of PVCs in a run (ventricular limit) but the heart rate limit is automatically set to be less than the VTach heart rate.

### Run of PVCs

- **HR** < 100
- **Run** > 5 < 14

A Run of PVCs must be more than two but less than the ventricular rhythm.

### Pair of PVCs

- **Run** = 2

A Pair of PVCs is by definition two PVCs in a run.

## Configuring Arrhythmia Alarm Recordings

**Main Setup > Alarms > Alarm Recording**, see “Configuring Alarm Recordings” on page 144

Arrhythmia recordings are affected by the settings **Alarm Recording > HR** and **PVC**, as some arrhythmia alarms have both a HR component and a PVC component. To receive all arrhythmia alarm recordings, you must configure both these alarms **On**. If **Alarm Recording > PVC** is **Off** but **HR** is **On**, these PVC alarms are not recorded:

- Non-Sustain Vtach
- Vtach
- Ventricular Rhythm
- Run of PVCs
- Pair of PVCs
- R on T PVC
- V Bigeminy
- V Trigeminy
- PVC/min
- MultiFocal PVC

## Arrhythmia and Visible and Audible Alarm Latching

**Main Setup > Alarms > Alarm Settings**, see “Configuring Alarms” on page 135

Alarm visual and audio latching settings can affect the arrhythmia alarm sounds. Visual and Audible Latching should be set to **Red** or **Red and Yellow** if **Arrhythmia** is **On**.

## Configuring ST Analysis

ST segment monitoring is intended for use with adult patients only and is not clinically validated for use with neonatal and pediatric patients. For this reason, the recommended - and default - setting for ST monitoring in neonatal and pediatric modes is **ST Analysis: Off**.

**Measurement Settings: Main Setup > Measurements > ST Analysis**

### Lead-Independent Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP2-MP90, MP5T, MP5SC, X2</b>					
ST Analysis	C, M	On (Off <sup>1</sup> )	Off	Off	On
Alarms	C, M	On	On	On	On
ST-Index	C, M	Off	Off	Off	Off
Setup ST Leads	C, M	Operation to select leads for ST analysis: see “Selecting Leads for ST Analysis” on page 61			
Show ST In Wave	C	not applicable, this setting is stored in the Monitor Settings block: see “Show ST In Wave” on page 193			
Show Points, Hide Points	C, M	not applicable, this setting is stored in the Monitor Settings block: see “ST View, STE View” on page 165			
ISO/J Point	C, M	Auto	Auto	Auto	Auto
ISO Point	C	-80 msec	-68 msec	-56 msec	-80 msec
J Point	C	48 msec	29 msec	0 msec	48 ms
ST Offset	C	J+60	J+60	J+60	J+60

<sup>1</sup> MP5T only

## ST Analysis Configuration Implications

### ST Analysis

This setting lets you switch **ST Analysis On** or **Off**.

### Alarms

Use the **Alarms** setting to switch ST alarms **On** or **Off**.

### ST-Index

This setting lets you switch the ST-Index numeric **On** or **Off** for display. The ST index numeric (**STindx**) is the sum of the absolute values for the ST leads V2, V5, aVF. Because it is based on absolute values, it is always a positive number. If you have not selected one of the leads V2, V5, and aVF for ST analysis, the STindx numeric will display a question mark “?”.

## ISO/J Point

Use the **ISO/J Point** setting to define the ISO and J-point detection mode:

- **Auto** ISO and J-point are calculated automatically (ST Offset is still adjusted manually)
- **Manual** ISO and J-point have to be adjusted manually

## ISO Point

Use the **ISO Point** setting to define the ISO point of the QRS complex.

Choices are from **-460 msec** to **460 msec** (in increments of 4 msec).

## J Point

Use the **J Point** setting to define the J point of the QRS complex.

Choices are from **-440 msec** to **380 msec** (in increments of 4 msec).

## ST Offset

Use the **ST Offset** setting to define the ST offset from the J point.

Choices are:

- **J+0**
- **J+20**
- **J+40**
- **J+60**
- **J+80**

## Lead-Dependent Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP2-MP90, MP5T, MP5SC, X2</b>					
<b>Lead I, II, III, aVR, aVL, AVF, V1-6 Settings</b>					
ST <Label> High	C, M	1.0	1.0	1.0	1.0
ST <Label> Low	C, M	-1.0	-1.0	-1.0	-1.0
<b>Lead V, MCL Settings</b>					
ST <Label> High	C, M	2.0	2.0	2.0	2.0
ST <Label> Low	C, M	-2.0	-2.0	-2.0	-2.0

## Selecting Leads for ST Analysis

You select which leads to use for ST analysis in the **Setup ST Analysis** menu.

To select a lead for ST Analysis:

- 1 Select **Main Setup > Measurements > ST Analysis** to enter the Setup ST Analysis menu.

## 6 Measurement Settings

- 2 Select **Setup ST Leads** to open the Setup ST Leads menu. All leads currently chosen for ST monitoring are listed here.
- 3 Select the **Add** key. This opens the Choices pop-up window.
- 4 Choose a lead from the list. This closes the Choices window and adds the selected lead to the list of chosen leads.

To disable ST monitoring for a lead:

- 1 In the Setup ST Leads menu, choose a lead from the list.
- 2 Select the **Delete** key. This removes this lead from the list of chosen leads.

The order in which ST leads are listed in the Setup ST Leads menu determines the order in which ST leads are displayed on the monitor screen.

To change the order in which ST leads are displayed:

- 1 In the Setup ST Leads menu, choose a lead from the list.
- 2 Select the Sort Up or Sort Down key to move the lead up or down in the list.

### Changing ST Alarm Limits

The monitor can detect alarms on each ST lead separately. Use the **<ST label> High** and **<ST label> Low** settings to set the high and low ST alarm limits (in increments of 0.2) individually for each ST lead.

## Configuring STE Analysis

ST segment monitoring is intended for use with adult patients only and is not clinically validated for use with neonatal and pediatric patients. For this reason, the recommended - and default - setting for ST monitoring in neonatal and pediatric modes is **ST Analysis: Off**.

**Measurement Settings: Main Setup > Measurements > ST Analysis > ST Elevation**

### Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP2-MP90, MP5T, MP5SC, X2</b>					
STE	C, M	Off	Off	Off	Off
Alarms	C, M	On	On	On	On
STE Fem. V1,V4-6	C	1.0	1.0	1.0	1.0
STE Female V2,V3	C	1.5	1.5	1.5	1.5
STE Female Limb	C	1.0	1.0	1.0	1.0
STE Male V1,V4-6	C	1.0	1.0	1.0	1.0
STE Male V2, V3	C	2.0	2.0	2.0	2.0
STE Male Limb	C	1.0	1.0	1.0	1.0

### STE

This setting lets you switch **ST Elevation Analysis On** or **Off**.

## Alarms

Use the **Alarms** setting to switch STE alarms **On** or **Off**.

### STE <Gender> <Lead Labels> Alarm Limits

The monitor can detect alarms on gender specific STE lead combinations for:

- **STE Fem. V1, V4–6 leads**
- **STE Female V2,V3**
- **STE Female Limb**
- **STE Male V1, V4–6 leads**
- **STE Male V2,V3**
- **STE Male Limb**

Use the these settings to set the STE alarm limits. Choices are from **0.1** to **10.0** (in increments of 0.1).

## Configuring QT Analysis

Measurement Settings: Main Setup > Measurements > QT Analysis

### Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP2-MP90, MP5T, MP5SC, X2</b>					
QT Lead	C, M	All	All	All	All
QTc High Limit	C, M	500	480	460	500
ΔQTc High Limit	C, M	60	60	60	60
QTc High Alarm	C, M	On	On	On	On
ΔQTc High Alarm	C, M	On	On	On	On
QT Analysis	C, M	Off	Off	Off	Off
QTc Formula	C, M	Bazett	Bazett	Bazett	Bazett

### QT Analysis Configuration Implications

#### QT Lead

For QT Monitoring you can select one of the following **QT Lead** modes:

- **All**  
All available leads (I, II, III, V, MCL, V1 - V6) are used to produce a global QT measurement. For EASI lead placement, directly acquired AI, AS and ES leads are used.
- **Primary**  
The primary lead will be used for QT measurement. If the original primary lead becomes unavailable or is changed, QT measurement will continue with the new primary lead.

- I,II,III,MCL,V,V1-V6

A single lead selected from all available leads (except the augmented leads) will be used for QT measurement. QT measurement will stop if the selected lead becomes unavailable.

### QT Analysis

This setting lets you switch QT Analysis **On** or **Off**.

### QTc Formula

This setting lets you change the correction formula used to correct the measured QT interval for the patient's heart rate.

The QT interval has an inverse relationship to heart rate. Faster heart rates shorten the QT interval and slower heart rates prolong the QT interval. Researchers have generated correction formulas to normalize the effects of heart rate. Heart rate corrected QT interval is abbreviated as “**QTc**”.

Several commonly used heart rate correction formulas are available. In clinical practice, the most commonly used formula is the Bazett formula. The setting **QTc Formula** lets you configure either the **Bazett** or **Fridericia** formula. The differences are shown here:

Correction Method	Formula
Bazett	$QTc = QT / (RR)^{1/2}$
Fridericia	$QTc = QT / (RR)^{1/3}$

#### NOTE

For more detail about the QT/QTc measurement and correction formulas, refer to the IntelliVue Instructions for Use, as well as the Application Note “QT/QTc Interval Monitoring”. Both documents are available on the IntelliVue Documentation DVD.

## Configuring IPI

### Measurement Settings: Main Setup > Measurements > IPI

The **IPI** (Integrated Pulmonary Index)<sup>1</sup> is only available in CO<sub>2</sub> measurement modules with Oridion Microstream® Capnography:

- MMS Extension M3015A with HW Rev. B or higher and FW Rev. P.01.32 or higher
- IntelliVue MP5 with HW Rev. B or higher and FW Rev. P.01.32 or higher
- MMS Extension M3015B with HW Rev. C or higher and FW Rev. P.01.46 or higher

The **IPI** is based on four measurement parameters:

- **SpO<sub>2</sub>**
- **Pulse** from SpO<sub>2</sub>
- **etCO<sub>2</sub>**
- **awRR** from CO<sub>2</sub>

The **IPI** is available for adult patients and all three groups of pediatric patients (1-3 years, 3-6 years, and 6-12 years).



## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP2-MP90, X2</b>					
Low Limit	C, M	7	7	7	7
Low Alarm	C, M	On	On	On	On
IPI	C, M	not applicable, the IPI On/Off state is not a setting, see “Configuring IPI Settings Configuration Implications” on page 65			

## Configuring IPI Settings Configuration Implications

### Low Limit

Use this setting to set the **Low Limit**. Choices are from **2** up to **9** in single steps.

### Low Alarm

Use this setting to switch the **Low Alarm** functionality **On** or **Off**.

### IPI

The value of the Integrated Pulmonary Index given in the IPI numeric is associated with the patient status as follows:

IPI	Patient Status
10	Normal
8-9	Within normal range
7	Close to normal range; requires attention
5-6	Requires attention and may require intervention
3-4	Requires intervention
1-2	Requires immediate intervention

### NOTE

- The interpretation of the patient's IPI score may change in different clinical environments. For example, patients with specific respiratory difficulties (in contrast to normally healthy patients who are being monitored during sedation or pain management) may require a lower IPI Low Alarm threshold to reflect their impaired respiratory capacity.
- The index is modeled on normal healthy patients (ASA Physical Status value of 1 according to the ASA Physical Status Classification System). Patients with ASA Physical Status values of 3 or higher are expected to have low IPI values by definition. Therefore, for patients with an ASA Physical Status value of 3 or higher, the index may have no added value.

**WARNING**

Ensure that the patient category and date of birth are set correctly before monitoring a patient's IPI. An incorrect patient category or date of birth could produce incorrect IPI data.

## Configuring SpO<sub>2</sub>

### Measurement Settings: Main Setup > Measurements > SpO<sub>2</sub> <Label>

The configuration settings for SpO<sub>2</sub> can be set individually for each label:

- SpO<sub>2</sub>
- SpO<sub>2</sub>pr
- SpO<sub>2</sub>po
- SpO<sub>2</sub> r
- SpO<sub>2</sub> l
- %SpO<sub>2</sub>T

**NOTE**

The label %SpO<sub>2</sub>T is only available on monitors that are currently connected to a telemetry device.

## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP2-MP90, MP5T, MP5SC, X2</b>					
Desat Limit	C, M	80	80	80	80
Alarms	C, M	On	On	On	On
SpO <sub>2</sub> <label>	C, M	not applicable, the SpO <sub>2</sub> On/Off state is not a setting, see “SpO <sub>2</sub> Configuration Implications” on page 68			
Mode <sup>1</sup>	C, M	Continuous	Continuous	Continuous	Continuous
Repeat Time <sup>2</sup>	C, M	15 minutes	15 minutes	15 minutes	15 minutes
Pulse SpO <sub>2</sub> <label>	C, M	not applicable, see “Configuring Pulse from SpO <sub>2</sub> ” on page 71			
QRS Volume	C, M	not applicable, these settings are stored in the Monitor Settings Block: “Configuring User Interface Settings” on page 182			
Tone Modulation	C, M				
Tone Mod. Type	C				
Measurement Time	C	not applicable, this setting is only visible and stored in the Monitor Settings block, see “Measurement Time” on page 194			
Perfusion	C	On	On	On	On
Signal Quality <sup>3</sup>	C	On	On	On	On
Average	C, M <sup>4</sup>	10 sec	10 sec	10 sec	10 sec

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
Average in Mon.	C	No	No	No	No
SmartAlarmDelay <sup>5</sup>	C	Off	Off	Off	Off
High Alarm Delay <sup>6</sup>	C, M	Short	Short	Short	Short
Low Alarm Delay <sup>6</sup>	C, M	Short	Short	Short	Short
High Alarm Delay	C	10 sec	10 sec	10 sec	10 sec
Low Alarm Delay	C	10 sec	10 sec	10 sec	10 sec
Desat Delay	C	20 sec	20 sec	20 sec	20 sec
NBP Alarm Suppr.	C	On	On	On	On
Color	C	Cyan	Cyan	Cyan	White
Aging Time	C	10.0 min	10.0 min	10.0 min	10.0 min

<sup>1</sup> Setting is available for the CL SpO<sub>2</sub> pod, and also for the label %SpO<sub>2</sub>T, on monitors that are currently connected to a telemetry device via a Short Range Radio (SRR) connection.

<sup>2</sup> Setting is only available for CL SpO<sub>2</sub> pod if Mode is set to Auto.

<sup>3</sup> Setting is only available for monitors with FAST SpO<sub>2</sub> (Option A01) and OxiMax compatible SpO<sub>2</sub> (Option A02).

<sup>4</sup> Availability in Monitoring mode determined by the setting **Average in Mon.**

<sup>5</sup> Not available in the USA and territories relying on FDA Market clearance.

<sup>6</sup> Setting is only available if **SmartAlarmDelay** is set to **On**.

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Factory Defaults for Profiles					
Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP5-MP90</b>					
<b>MP5T, MP5SC, MP2, X2</b>					
High Limit	C, M	100	100	95	100
Low Limit	C, M	90	90	85	90
Extd. Auto OnOff	C	Disabled	Disabled	Disabled	Disabled

Factory Defaults for Profiles								
Setting	Mode	EWS Scoring	Frequent Vitals	RRT	Resus	SpotCheck	SinglePat.EWS	SinglePat.SC
<b>MP5SC, Option #P05 (for MP5)</b>								
High Limit	C, M	100	100	100	100	100	100	100
Low Limit	C, M	90	90	90	90	90	90	90
Extd. Auto OnOff	C	Enabled	Disabled	Disabled	Disabled	Enabled	Enabled	Enabled

## SpO<sub>2</sub> Configuration Implications

### SpO<sub>2</sub> <label>

The **On / Off** state of the SpO<sub>2</sub> measurement cannot be pre-configured. SpO<sub>2</sub> is automatically switched **On** when an SpO<sub>2</sub> sensor is connected to the monitor.

### Mode

This setting is only available for monitors that have a Short Range Radio (SRR) interface installed. It is only available for the label %SpO<sub>2</sub>T. Configure **Mode** to **Manual** to allow %SpO<sub>2</sub>T measurements from the telemetry device to be made on request and not continuously, helping to save the telemetry device's battery power when it is connected to a monitor via a short-range radio link.

To ensure there is no gap in SpO<sub>2</sub> measurements when moving from standard telemetry transmission to short range radio transmission, the SpO<sub>2</sub> mode will be automatically switched to **Continuous** in this situation unless **Manual** mode is set in both the telemetry device and the monitor.

When using a CL SpO<sub>2</sub> pod, configure **Mode** to **Auto** to allow automatic SpO<sub>2</sub> measurements according to the selected **Repeat Time**.

### Perfusion

Perfusion

If **Perfusion** is switched **Off**, Perfusion is not measured and the Perf numeric disappears from the Screen. Note that you will only see the Perfusion numeric on the Screen if **Perfusion** is switched **On**, and a Perf numeric is configured on the Screen.

### Signal Quality

Set **Signal Quality** to **Off**, if you don't want the signal quality indicator to be displayed next to the SpO<sub>2</sub> numeric on the Screen. Note that this setting is only available for monitors with FAST SpO<sub>2</sub> (Option A01) and OxiMax compatible SpO<sub>2</sub> (Option A02).

### Average

The SpO<sub>2</sub> numeric represents an average value calculated from several SpO<sub>2</sub> values. **Average** lets you adjust the averaging time between **5 sec**, **10 sec**, and **20 sec**. It represents the approximate time

period used for the calculation. The exact averaging algorithm depends on the SpO<sub>2</sub> technology (option) used and on the signal conditions. The longer the averaging time, the longer the time needed until the SpO<sub>2</sub> value reflects the physiological event. Fast averaging is useful for situations where an extremely fast measurement is required or few artifacts are expected. Use slow averaging where you expect the number of artifacts to be relatively high.

### Average in Mon.

This setting determines whether the setting **Average** can be changed in Monitoring mode. Set **Average in Mon.** to **Yes** to enable the user to change the averaging time in Monitoring mode.

### SmartAlarmDelay

Set **SmartAlarmDelay** to **On** if you want the SpO<sub>2</sub> limit alarms to be delayed using an intelligent algorithm. This setting can be used to suppress alarms which occur because a limit is exceeded for a short time or by a small amount.

To accommodate different levels of patient stability, there are three different settings: **Short**, **Medium** and **Long**. Select the appropriate setting for the treatment area where the monitor is to be used. The **Short** setting ensures a quick response to changing conditions for less stable patients. The delay is only extended for very small deviations from the alarm limit (up to 2%). The **Medium** and **Long** settings extend the delay further to avoid unnecessary alarms for more stable patients. With the **Medium** setting the delay is extended for deviations up to 4%, with the **Long** setting for deviations up to 9%.

All settings use the default delay of 10 seconds when the delay is not extended. This means that irrespective of which setting is made, at the latest when a deviation from the alarm limit of 9% is exceeded, the delay will revert to the default 10 seconds delay. You can see the exact delays applied in the following table:

Deviation From Violated Alarm Limit	Resulting Alarm Delay		
	Short	Medium	Long
1%	25 sec (maximum delay)	50 sec (maximum delay)	100 sec (maximum delay)
2%	12 sec	25 sec	50 sec
3%	10 sec	16 sec	33 sec
4%		12 sec	25 sec
5%		10 sec	20 sec
6%			16 sec
7%			14 sec
8%			12 sec
9%			11 sec
> 9%		10 sec	

### CAUTION

- Only people authorized by their institution to activate **SmartAlarmDelay** should make changes in configuration mode. They require the configuration mode password.
- When you permanently change the SpO<sub>2</sub> SmartAlarmDelay, always ensure that the monitor users are aware of the actual configuration settings.

- It is strongly recommended that these settings are the same in all monitors within a unit.
- 

### High Alarm Delay, Low Alarm Delay, Desat Alarm Delay

The alarm delay defines the amount of time that the averaged SpO<sub>2</sub> value needs to be above or below the corresponding alarm limits before an alarm is activated. For the high and low alarms, these settings offer the **Short**, **Medium** and **Long** choices when the **SmartAlarmDelay** setting is set to **On** and the standard time choices when the **SmartAlarmDelay** setting is set to **Off**.

### NBP Alarm Suppr.

This setting has an effect only when using SpO<sub>2</sub> options FAST-SpO<sub>2</sub> or OxiMax-compatible SpO<sub>2</sub>. Set **NBP Alarm Suppr.** to **On** to suppress INOPs that would otherwise be generated when you measure NBP on the same limb as SpO<sub>2</sub>. If **NBP Alarm Suppr.** is configured to **On**, the monitor automatically remembers the SpO<sub>2</sub> value measured before cuff inflation and suppresses any SpO<sub>2</sub> INOPs while the cuff is inflated.

### Extd. Auto OnOff

The default for the **Extd. Auto OnOff** setting is **Disabled**. If **Enabled**, the SpO<sub>2</sub> measurement will be automatically switched off when the SpO<sub>2</sub> sensor comes off the patient's finger, and the Global Setting **Sensor Disconnect** is set to **Auto Off** (see "Sensor Disconnect" on page 248), and at least one of the following criteria is met:

- the resulting **SpO<sub>2</sub> Sensor Off** INOP is silenced,
- alarms are paused or switched off. This also applies if alarms are remotely paused from a connected Information Center,
- both the SpO<sub>2</sub> alarm and the Pulse(SpO<sub>2</sub>) alarms are switched off.

If the sensor is reapplied, the SpO<sub>2</sub> measurement is automatically turned on.

#### NOTE

The setting **Extd. Auto OnOff** has no effect if a telemetry device or a CL SpO<sub>2</sub> pod is connected to the monitor via a short range radio connection.

---

#### WARNING

Never set **Extd. Auto On/Off** to **Enabled** if continuous SpO<sub>2</sub> monitoring is intended, because the SpO<sub>2</sub> measurement may be inadvertently turned off, when

- the SpO<sub>2</sub> sensor is off the patient's finger and the user silences other alarms, or
  - all alarms are off when the sensor comes off the finger, or
  - the Pulse (SpO<sub>2</sub>) and the SpO<sub>2</sub> alarms are switched off when the sensor comes off the finger, or
  - the user switches all alarms off while the sensor is off the finger, or
  - the user switches off the Pulse (SpO<sub>2</sub>) and the SpO<sub>2</sub> alarms, while the sensor is off the finger.
-

**CAUTION**

Consider the implications when you configure Extd. Auto On/Off differently for different Measurement Settings Blocks and Profiles.

**Aging Time**

The setting **Aging Time** determines the time after which the SpO<sub>2</sub> numeric is aged. An aged numeric is presented as defined in the setting **Aged Numerics**, see “Aged Numerics” on page 195.

Choices are from **1 min** to maximum **240.0 min**.

**Configuring Pulse from SpO<sub>2</sub>**

Measurement Settings: Main Setup > Measurements > SpO<sub>2</sub> <Label> > Pulse

**Settings Common to all Monitor Models**

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP2-MP90, MP5T, MP5SC, X2</b>					
High Limit	C, M	not applicable, “Configuring ECG/Pulse Alarms” on page 50.			
Low Limit	C, M				
Pulse Alarms	C, M				
AlarmSrc (ECG)	C, M				
Pulse SpO <sub>2</sub> <Label>	C, M	On	On	On	On
System Pulse	C, M	not applicable, “Configuring System Pulse” on page 54			
QRS Volume	C, M	not applicable, “Configuring User Interface Settings” on page 182			
Δ ExtrTachy	C	not applicable, “Configuring ECG/Pulse Alarms” on page 50.			
Tachy Clamp	C				
Δ ExtrBrady	C				
Brady Clamp	C				
Alarms Off	C				
AlarmSource Sel.	C				
PulseAlarms Tele	C				

**Pulse from SpO<sub>2</sub> Configuration Implications**

This setting lets you switch the Pulse from the related SpO<sub>2</sub> label **On** or **Off**. If you switch **Off** a Pulse that is currently selected as the source for the System Pulse (see “Configuring System Pulse” on page 54), the monitor will use the next available Pulse from the list of possible pulse sources as system pulse.

## Configuring Delta SpO<sub>2</sub>

Delta SpO<sub>2</sub> ( $\Delta$  SpO<sub>2</sub>), also called Oxygen Saturation Difference, is a derived measurement.

**Measurement Settings: Main Setup > Measurements >  $\Delta$ SpO<sub>2</sub>**

### Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>MX600-MX800, MP40-MP90</b>				
First SpO <sub>2</sub>	C, M	SpO <sub>2</sub>	SpO <sub>2</sub>	SpO <sub>2</sub>
Second SpO <sub>2</sub>	C, M	SpO <sub>2</sub> r	SpO <sub>2</sub> r	SpO <sub>2</sub> r
$\Delta$ SpO <sub>2</sub>	C, M	Off	Off	Off
Measurement	C	Enabled	Enabled	Enabled
Color	C	Green	Green	Green

### Delta SpO<sub>2</sub> Configuration Implications

#### First SpO<sub>2</sub> / Second SpO<sub>2</sub>

This setting is only available when **Measurement** is **Enabled**. The formula used to calculate the  $\Delta$ SpO<sub>2</sub> value is:

$$\Delta\text{SpO}_2 = \text{First SpO}_2 - \text{Second SpO}_2.$$

Possible sources are:

- SpO<sub>2</sub>
- SpO<sub>2</sub>pr
- SpO<sub>2</sub>po
- SpO<sub>2</sub> r
- SpO<sub>2</sub> l

#### Measurement

Set **Measurement** to **Enabled**, if you want the monitor to automatically switch the  $\Delta$ SpO<sub>2</sub> measurement **On** when both configured SpO<sub>2</sub> sources are available. The user can still switch **Off**  $\Delta$ SpO<sub>2</sub> in monitoring mode.

Set **Measurement** to **Disabled**, if you want the  $\Delta$ SpO<sub>2</sub> measurement to be permanently disabled, which means that in monitoring mode it will not be possible to switch  $\Delta$ SpO<sub>2</sub> On.



# Configuring NBP

Measurement Settings: Main Setup > Measurements > NBP

## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP2-MP90, MP5T, MP5SC, X2</b>					
Alarms from	C, M	Sys.	Sys.	Sys.	Sys.
Alarms	C, M	On	On	On	On
NBP	C, M	On	On	On	On
Pulse(NBP)	C, M	On	On	On	On
Unit	C	mmHg	mmHg	mmHg	mmHg
Measurement Time	C	not applicable, this setting is only visible and stored in the Monitor Settings block, see “Measurement Time” on page 194			
Aging Time	C	10 min	10 min	10 min	10 min

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

<b>Factory Defaults for Profiles</b>					
Setting	Mode	Adult	Pedi	Neo	
<b>Option #H10, #H20, #H40 (for MX600-MX800, MP20-MP90)</b>					
Sys. High	C,M	160	120	90	
Sys. Low	C,M	90	70	40	
Dia. High	C,M	90	70	60	
Dia. Low	C,M	50	40	20	
Mean High	C,M	110	90	70	
Mean Low	C,M	60	50	24	
Repeat Time	C,M	15 min	15 min	15 min	
Mode	C,M	Auto	Auto	Manual	
Phase A <sup>1</sup>	C,M	4 Times	4 Times	5 Times	
every <sup>1</sup>	C,M	5 min	5 min	15 min	
Phase B <sup>1</sup>	C,M	4 Times	4 Times	5 Times	
every <sup>1</sup>	C,M	10 min	10 min	15 min	
Phase C <sup>1</sup>	C,M	4 Times	4 Times	5 Times	
every <sup>1</sup>	C,M	15 min	15 min	15 min	
Phase D <sup>1</sup>	C,M	4 Times	4 Times	5 Times	
every <sup>1</sup>	C,M	30 min	30 min	15 min	
Done Tone	C	Off	Off	Off	

## 6 Measurement Settings

Factory Defaults for Profiles				
Setting	Mode	Adult	Pedi	Neo
Start Time	C	Synchronized	Synchronized	Synchronized
VP Pressure	C	60 mmHg	40 mmHg	30 mmHg
Reference	C	Auscultatory	Auscultatory	Invasive
Color	C	Red	Red	Red

<sup>1</sup> Settings are only visible when **Mode** is set to **Sequence**.

Factory Defaults for Profiles				
Setting Item	Mode	Adult	Pedi	Neo
<b>Option #H30 (for MX600-MX800, MP5-MP90)</b>				
Sys. High	C,M	180	120	90
Sys. Low	C,M	70	70	40
Dia. High	C,M	90	70	60
Dia. Low	C,M	50	40	20
Mean High	C,M	110	90	70
Mean Low	C,M	65	50	24
Repeat Time	C,M	3 min	3 min	3 min
Mode	C,M	Auto	Auto	Manual
Phase A <sup>1</sup>	C,M	4 Times	4 Times	5 Times
every <sup>1</sup>	C,M	5 min	5 min	15 min
Phase B <sup>1</sup>	C,M	4 Times	4 Times	5 Times
every <sup>1</sup>	C,M	10 min	10 min	15 min
Phase C <sup>1</sup>	C,M	4 Times	4 Times	5 Times
every <sup>1</sup>	C,M	15 min	15 min	15 min
Phase D <sup>1</sup>	C,M	4 Times	4 Times	5 Times
every <sup>1</sup>	C,M	30 min	30 min	15 min
Done Tone	C	On	On	On
Start Time	C	NotSynchron.	NotSynchron.	NotSynchron.
VP Pressure	C	60 mmHg	40 mmHg	30 mmHg
Reference	C	Auscultatory	Auscultatory	Invasive
Color	C	Magenta	Magenta	Magenta

<sup>1</sup> Settings are only visible when **Mode** is set to **Sequence**.

Factory Defaults for Profiles					
Setting Item	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>Option #H10, #H20, #H40 (for MP5)</b>					
<b>MP5SC, MP2, X2</b>					
Sys. High	C,M	160	120	90	160
Sys. Low	C,M	90	70	40	90
Dia. High	C,M	90	70	60	90
Dia. Low	C,M	50	40	20	50
Mean High	C,M	110	90	70	110
Mean Low	C,M	60	50	24	60
Repeat Time	C,M	10 min	10 min	10 min	10 min
Mode	C,M	Auto	Auto	Manual	Auto
Phase A <sup>1</sup>	C,M	4 Times	4 Times	5 Times	4 Times
every <sup>1</sup>	C,M	5 min	5 min	15 min	5 min
Phase B <sup>1</sup>	C,M	4 Times	4 Times	5 Times	4 Times
every <sup>1</sup>	C,M	10 min	10 min	15 min	10 min
Phase C <sup>1</sup>	C,M	4 Times	4 Times	5 Times	4 Times
every <sup>1</sup>	C,M	15 min	15 min	15 min	15 min
Phase D <sup>1</sup>	C,M	4 Times	4 Times	5 Times	4 Times
every <sup>1</sup>	C,M	30 min	30 min	15 min	30 min
Done Tone	C	Off	Off	Off	Off
Start Time	C	Synchronized	Synchronized	Synchronized	Synchronized
VP Pressure	C	60 mmHg	40 mmHg	30 mmHg	60 mmHg
Reference	C	Auscultatory	Auscultatory	Invasive	Auscultatory
Color	C	Red	Red	Red	White

<sup>1</sup> Settings are only visible when **Mode** is set to **Sequence**.

Factory Defaults for Profiles				
Setting Item	Mode	Adult	Pedi	Neo
<b>MP5T</b>				
<b>Option #B10, #B11, #B14 (for MP5)</b>				
Sys. High	C,M	160	120	90
Sys. Low	C,M	90	70	40
Dia. High	C,M	90	70	60
Dia. Low	C,M	50	40	20
Mean High	C,M	110	90	70
Mean Low	C,M	60	50	24
Repeat Time	C,M	10 min	10 min	10 min
Mode	C,M	Manual	Manual	Manual
Phase A <sup>1</sup>	C,M	4 Times	4 Times	5 Times

## 6 Measurement Settings

Factory Defaults for Profiles				
Setting Item	Mode	Adult	Pedi	Neo
every <sup>1</sup>	C,M	5 min	5 min	15 min
Phase B <sup>1</sup>	C,M	4 Times	4 Times	5 Times
every <sup>1</sup>	C,M	10 min	10 min	15 min
Phase C <sup>1</sup>	C,M	4 Times	4 Times	5 Times
every <sup>1</sup>	C,M	15 min	15 min	15 min
Phase D <sup>1</sup>	C,M	4 Times	4 Times	5 Times
every <sup>1</sup>	C,M	30 min	30 min	15 min
Done Tone	C	On	On	On
Start Time	C	Synchronized	Synchronized	Synchronized
VP Pressure	C	60 mmHg	40 mmHg	30 mmHg
Reference	C	Auscultatory	Auscultatory	Invasive
Color	C	Red	Red	Red

<sup>1</sup> Settings are only visible when **Mode** is set to **Sequence**.

Factory Defaults for Profiles								
Setting	Mode	EWS Scoring	Frequent Vitals	RRT	Resus	SpotCheck	Single Pat.EWS	Single Pat.SC
<b>MP5SC, Option #P05 (for MP5)</b>								
Sys. High	C,M	160	160	160	160	160	160	160
Sys. Low	C,M	90	90	90	90	90	90	90
Dia. High	C,M	90	90	90	90	90	90	90
Dia. Low	C,M	50	50	50	50	50	50	50
Mean High	C,M	110	110	110	110	110	110	110
Mean Low	C,M	60	60	60	60	60	60	60
Repeat Time	C,M	10 min	15 min	5 min	5 min	10 min	10 min	10 min
Mode	C,M	Manual	Auto	Auto	Auto	Manual	Manual	Manual
Phase A <sup>1</sup>	C,M	4 Times	4 Times	4 Times	4 Times	4 Times	4 Times	4 Times
every <sup>1</sup>	C,M	5 min	5 min	5 min	5 min	5 min	5 min	5 min
Phase B <sup>1</sup>	C,M	4 Times	4 Times	4 Times	4 Times	4 Times	4 Times	4 Times
every <sup>1</sup>	C,M	10 min	10 min	10 min	10 min	10 min	10 min	10 min
Phase C <sup>1</sup>	C,M	4 Times	4 Times	4 Times	4 Times	4 Times	4 Times	4 Times
every <sup>1</sup>	C,M	15 min	15 min	15 min	15 min	15 min	15 min	15 min
Phase D <sup>1</sup>	C,M	4 Times	4 Times	4 Times	4 Times	4 Times	4 Times	4 Times
every <sup>1</sup>	C,M	30 min	30 min	30 min	30 min	30 min	30 min	30 min
Done Tone	C	Off	Off	Off	Off	Off	Off	Off

Factory Defaults for Profiles								
Setting	Mode	EWS Scoring	Frequent Vitals	RRT	Resus	SpotCheck	SinglePat.EWS	SinglePat.SC
<b>MP5SC, Option #P05 (for MP5)</b>								
Start Time	C	Synchroni zed	Synchroni zed	Synchroni zed	Synchroni zed	Synchroni zed	Synchroni zed	Synchroni zed
VP Pressure	C	60 mmHg	60 mmHg	60 mmHg	60 mmHg	60 mmHg	60 mmHg	60 mmHg
Reference	C	Auscultato ry	Auscultato ry	Auscultato ry	Auscultato ry	Auscultato ry	Auscultato ry	Auscultato ry
Color	C	Red	Red	Red	Red	Red	Red	Red

<sup>1</sup> Settings are only visible when **Mode** is set to **Sequence**.

## NBP Configuration Implications

### Phase A, Phase B, Phase C, Phase D, every

These settings are only visible if **Mode** is set to **Sequence** and you select **Setup Sequence** in the Setup NBP menu. You can then define up to four measurement cycles which will run consecutively. For each cycle you can set the number of measurements and the interval between them. If you want to run less than four cycles in a sequence, set the number of measurements for one or more cycles to **Off**.

### Pulse (NBP)

This lets you enable (**On**) or disable (**Off**) display of the Pulse numeric derived from the NBP measurement. If the NBP numeric area on the monitor screen is configured large enough, the Pulse(NBP) numeric will be displayed next to the NBP label in the NBP segment.

### Start Time

If you set **Start Time** to **Synchronized**, the monitor will time the second and subsequent measurements in a series to coincide with the next easy-to-document time. For example, if you start the first measurement at 08:23, and the **Repetition Time** is set to **10 minutes**, the monitor will automatically perform the next measurement at 8:30, then 8:40 and so on.

### Done Tone

Set **Done Tone** to **On** if you want to hear a short prompt tone and see a prompt message at completion of each NBP measurement.

### VP Pressure

This setting determines the cuff pressure used during a Veni Puncture inflation. The cuff deflates automatically after a set time (adult/pediatric: 170 seconds, neonatal: 85 seconds) if it is not manually deflated beforehand.

### Reference

The NBP measurement reference method can be **Auscultatory** or **Invasive**.

- **Auscultatory** delivers NBP values that very closely approximate values measured using the manual cuff method.
- **Invasive** delivers NBP values that very closely approximate values measured intra-arterially.

The two references can exhibit a difference of 20 to 30 mmHg in patients with elevated pressures, with the auscultatory reference registering the lower values. Note that when **Patient Category** is set to **Neo**, the setting **Reference** is not shown. For the Neo patient category, the **Reference** used will always be **Invasive**. For further information, see the Application Note on NBP supplied on the monitor documentation DVD.

### Measurement Time

If **Measurement Time** is set to **Timestamp**, the time shown beside the numeric will show the time stamp of the most recent measurement. If set to **Time to Next**, and mode of a measurement is set to **Auto** or **Sequence**, the time until the next automatic measurement is shown, along with a graphic representation of the remaining time.

#### NOTE

If the numeric area on the monitor screen is configured large enough, the **Timestamp** or **Time to Next** will be displayed in the NBP segment. If this area is too small, the numeric may be shown without the time.

This setting affects at the same time the aperiodic measurements in Automatic or Sequence mode of **NBP**, **SpO<sub>2</sub>**, and **NMT** measurements.

### Aging Time

The setting **Aging Time** determines the time after which the NBP numeric is aged. An aged numeric is presented as defined in the setting **Aged Numerics**, see “Aged Numerics” on page 195.

Choices are from **1 min** to maximum **24 h**.

## Configuring Invasive Pressure

The configuration settings for Invasive Pressure can be set individually for each Pressure label. The selection of labels depends on the configured Label Set, see “Global Settings” on page 14.

- When an **Measurement Module (MMS)** is connected to the monitor **for the first time**, it uses the default Pressure label **ABP**.
- When a **Measurement Extension Module** is connected **for the first time**, the Pressure label used for the combined Pressure/Temp connector is **CVP**, the label used for the single Pressure connector is **PAP**.
- When a **Plug-in Pressure Module** is connected **for the first time**, it uses the label **P**.

If you then change the pressure label in monitoring mode, each device will remember the new label the next time they are reconnected.

## P, ABP, ART, Ao, UAP, FAP, BAP, P1, P2, P3, P4 Settings

Measurement Settings: Main Setup > Measurements > <Pressure Label>

### NOTE

**PIIC only** The label **P** will be interpreted as **P1** by the IntelliVue Information Center. It is therefore not recommended to use **P** and **P1** simultaneously on the IntelliVue patient monitor when connected to an IntelliVue Information Center.

### Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP5-MP90, MP5T, MP2, X2</b>					
Alarms from	C, M	Sys.	Sys.	Sys.	Sys.
Dia. High	C, M	90	70	60	90
Dia. Low	C, M	50	40	20	50
Mean High	C, M	110	90	70	110
Mean Low	C, M	70	50	36	70
Alarms	C, M	On	On	On	On
ABP, or other <Pressure Label>	C, M	not applicable, the Pressure On/Off state is not a setting, see “Invasive Pressure Configuration Implications” on page 83.			
Pulse <Pressure Label>	C, M	not applicable, see “Configuring Pulse from Invasive Pressure” on page 86.			
PPV	C	not applicable, see “Configuring PPV” on page 88.			
Scale	C, M	150	100	100	150
Mean Only	C, M	No	No	No	No
Filter	C	12 Hz	12 Hz	12 Hz	12 Hz
Mercury Cal	C	Yes	Yes	Yes	Yes
Artifact Suppr.	C	60 sec	60 sec	60 sec	60 sec
Unit	C	mmHg	mmHg	mmHg	mmHg
Color	C	Red	Red	Red	White
Extreme Alarms	C	Disabled	Disabled	Disabled	Disabled
Δ Extreme High	C	15	10	5	15
Δ Extreme Low	C	15	10	5	15
Sys. High Clamp	C	190	140	105	190
Dia. High Clamp	C	100	80	75	100
Dia. Low Clamp	C	45	35	15	45
Mean High Clamp	C	125	100	75	125
Mean Low Clamp	C	65	45	30	65

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Factory Defaults for Profiles					
Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>Option #H10, #H20, #H40 (for MX600-MX800, MP5-MP90)</b>					
<b>MP2, X2</b>					
Sys. High	C, M	160	120	90	160
Sys. Low	C,M	90	70	55	90
Sys. Low Clamp	C	80	60	45	80
<b>Option #H30 (for MX600-MX800, MP5-MP90)</b>					
Sys. High	C, M	180	120	90	n/a
Sys. Low	C,M	70	70	55	n/a
Sys. Low Clamp	C	65	60	45	n/a

## CVP, RAP, LAP, UVP Settings

Measurement Settings: Main Setup > Measurements > <Pressure Label>

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP5-MP90, MP5T, MP2, X2</b>					
Alarms from	C, M	Mean	Mean	Mean	Mean
Sys. High	C, M	14	10	10	14
Sys. Low	C, M	6	2	2	6
Dia. High	C, M	6	2	2	6
Dia. Low	C, M	-4	-4	-4	-4
Mean High	C, M	10	4	4	10
Mean Low	C, M	0	0	0	0
Alarms	C, M	On	On	On	On
CVP, or other <Pressure Label>	C, M	not applicable, the Pressure On/Off state is not a setting, see “Invasive Pressure Configuration Implications” on page 83.			
Scale	C, M	30	30	30	30
Mean Only	C, M	Yes	Yes	Yes	Yes
Filter	C	12 Hz	12 Hz	12 Hz	12 Hz
Mercury Cal	C	Yes	Yes	Yes	Yes
Artifact Suppr.	C	60 sec	60 sec	60 sec	60 sec
Unit	C	mmHg	mmHg	mmHg	mmHg
Extreme Alarms	C	Disabled	Disabled	Disabled	Disabled
Δ Extreme High	C	5	5	5	5



Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
Δ Extreme Low	C	5	5	5	5
Sys. High Clamp	C	20	15	15	20
Sys. Low Clamp	C	0	0	0	0
Dia. High Clamp	C	10	5	5	10
Dia. Low Clamp	C	-5	-5	-5	-5
Mean High Clamp	C	15	10	10	15
Mean Low Clamp	C	-5	-5	-5	-5

### Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Factory Defaults for Profiles					
Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>Option #H10, #H20, #H40 (for MX600-MX800, MP5-MP90)</b>					
<b>MP2, X2</b>					
Color	C	Cyan	Cyan	Cyan	White
<b>Option #H30 (for MX600-MX800, MP5-MP90)</b>					
Color	C	Blue	Blue	Blue	n/a

### PAP Settings

Measurement Settings: Main Setup > Measurements > <PAP>

### Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP5-MP90, MP5T, MP2, X2</b>					
Alarms from	C, M	Dia.	Dia.	Dia.	Dia.
Sys. High	C, M	34	60	60	34
Sys. Low	C, M	10	24	24	10
Dia. High	C, M	16	4	4	16
Dia. Low	C, M	0	-4	-4	0
Mean High	C, M	20	26	26	20
Mean Low	C, M	0	12	12	0
Alarms	C, M	On	On	On	On
PAP	C, M	not applicable, the Pressure On/Off state is not a setting, see “Invasive Pressure Configuration Implications” on page 83.			
Pulse PAP	C, M	not applicable, see “Configuring Pulse from Invasive Pressure” on page 86.			

## 6 Measurement Settings

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
Scale	C, M	30	30	30	30
Mean Only	C, M	No	No	No	No
Filter	C	12 Hz	12 Hz	12 Hz	12 Hz
Mercury Cal	C	Yes	Yes	Yes	Yes
Artifact Suppr.	C	60 sec	60 sec	60 sec	60 sec
Unit	C	mmHg	mmHg	mmHg	mmHg
Color	C	Yellow	Yellow	Yellow	White
Extreme Alarms	C	Disabled	Disabled	Disabled	Disabled
Δ Extreme High	C	5	5	5	5
Δ Extreme Low	C	5	5	5	5
Sys. High Clamp	C	45	65	65	45
Sys. Low Clamp	C	5	15	15	5
Dia. High Clamp	C	20	5	5	20
Dia. Low Clamp	C	-5	-5	-5	-5
Mean High Clamp	C	25	35	35	25
Mean Low Clamp	C	-5	5	5	-5

## ICP, IC1, IC2 Settings

Measurement Settings: Main Setup > Measurements > <Pressure Label>

### Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP5-MP90, MP5T, MP2, X2</b>					
Alarms from	C, M	Mean	Mean	Mean	Mean
Sys. High	C, M	14	10	10	14
Sys. Low	C, M	6	2	2	6
Dia. High	C, M	6	2	2	6
Dia. Low	C, M	-4	-4	-4	-4
Mean High	C, M	10	4	4	10
Mean Low	C, M	0	0	0	0
Alarms	C, M	On	On	On	On
ICP	C, M	not applicable, the Pressure On/Off state is not a setting, see “Invasive Pressure Configuration Implications” on page 83			
Scale	C, M	30	30	30	30
Mean Only	C, M	Yes	Yes	Yes	Yes
Filter	C	12 Hz	12 Hz	12 Hz	12 Hz
Mercury Cal	C	Yes	Yes	Yes	Yes
Artifact Suppr.	C	60 sec	60 sec	60 sec	60 sec

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
Unit	C	mmHg	mmHg	mmHg	mmHg
Color	C	Magenta	Magenta	Magenta	White
Extreme Alarms	C	Disabled	Disabled	Disabled	Disabled
Δ Extreme High	C	10	10	10	10
Δ Extreme Low	C	10	10	10	10
Sys. High Clamp	C	20	15	15	20
Sys. Low Clamp	C	0	0	0	0
Dia. High Clamp	C	10	5	5	10
Dia. Low Clamp	C	-5	-5	-5	-5
Mean High Clamp	C	15	10	10	15
Mean Low Clamp	C	-5	-5	-5	-5

## Invasive Pressure Configuration Implications

### Alarms From

This setting lets you choose the pressure alarm source. You can monitor for alarm conditions in systolic, diastolic and mean pressure, either singly or in parallel:

- **Sys.**
- **Dia.**
- **Mean**
- **Sys & Dia**
- **Dia & Mean**
- **Sys & Mean**
- **Sys&Dia&Mean**

#### NOTE

Depending on the setting **Alarms From**, one, two or all three limit alarms are active in parallel. Limit alarms for systolic, diastolic and mean values are available in parallel but only one alarm is displayed at the same time. When **Extreme Alarms** is **enabled**, no high/low limit alarm will be displayed if an extreme high/extreme low limit alarm is active at the same time.

### Pressure Label

The **On / Off** state of a <Pressure Label> cannot be pre-configured. A pressure is automatically switched **On** when a pressure transducer is connected to a pressure socket on the monitor.

### Mean Only

If you configure **Mean Only** to **Yes**, only the mean pressure numeric will be displayed.

### Filter

This setting lets you apply a **12 Hz** or a **40 Hz** filter to the pressure signal.

## 6 Measurement Settings

- Use the **12 Hz** filter when the pressure transducer is connected to the intra-arterial catheter via a fluid filled tubing system (pressure line). The **12 Hz** filter reduces resonant effects that can be introduced by the tubing system.
- The **40 Hz** filter should only be selected when using special pressure transducers, such as catheter-tip pressure transducers, or transducers that are directly connected to the intra-arterial catheter without the need for a fluid filled tubing system.

### Mercury Cal

This setting determines whether the menu entries **Cal. Press** and **Cal. Factor** are shown in the pressure's setup menu. If you want users to be able to perform a mercury calibration while in monitoring mode, set **Mercury Cal** to **Yes**. For detailed information about performing a mercury calibration, see the monitor's Instructions for Use.

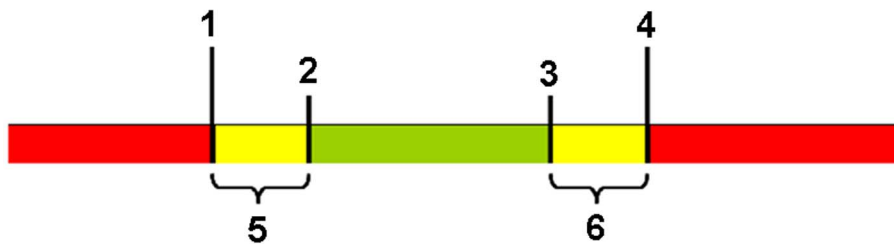
### Artifact Suppr.

Some clinical procedures may affect blood pressure, for example, a flush procedure or a blood sample. The setting **Artifact Suppr.** lets you suppress the monitor's normal response (alarming) to these non-physiological artifacts for a specified duration (**30 sec**, **60 sec**, or **90 sec**, or **Off**). During artifact suppression, the monitor shows the INOP message “<Pressure Label> **ARTIFACT**”, and a question mark is shown beside the pressure numerics. Pressure alarms and the “<Pressure Label> **No Pulse**” INOP are suppressed during the configured period.

### Extreme Alarms

This setting let you enable or disable the extreme pressure alarms.

The extreme pressure alarms, Extreme High and Extreme Low are additional to the standard High and Low limit alarms. They are generated by the active pressure alarm source, and are setup by adding a set value (the  $\Delta$  value) to the high and low alarm limits. This value can be set for each pressure label individually.



- 1 Extreme Low Limit
- 2 Low Limit
- 3 High Limit
- 4 Extreme High Limit
- 5  $\Delta$  Extreme Low
- 6  $\Delta$  Extreme High

You need to know which values have been configured for your monitor. Changing the high and low alarm limits automatically changes the extreme alarm limits within the allowed range.

- To see the extreme pressure alarms set for your monitor, in the **Setup <Press Label>** menu, see the menu items **Δ Extreme High** and **Δ Extreme Low**.
- The extreme pressure alarms are high priority, red alarms, marked **\*\*\*** in the alarm message.
- Depending on the setting **Alarms From**, one, two or all three limit alarms are active in parallel. Limit alarms for systolic, diastolic and mean values are available in parallel but only one alarm is displayed at the same time. When **Extreme Alarms** is **enabled**, no high/low limit alarm will be displayed if an extreme high/extreme low limit alarm is active at the same time.

### Delta Extreme High, Delta Extreme Low

Extreme High and Low pressure alarms are based on the pressure limit alarms. Use the **Δ Extreme High** and **Δ Extreme Low** setting to define the difference between the pressure limit and the corresponding extreme limit.

For example, if the High Limit for a pressure is 160 mmHg and **Δ Extreme High** is 15 mmHg, the resulting Extreme High limit is 175 mmHg.

#### NOTE

The **Δ Extreme High** and **Δ Extreme Low** settings are the same for all pressure alarm sources: systolic, diastolic, and mean.

### Sys. High Clamp, Sys. Low Clamp

The **Sys.High Clamp** and **Sys.Low Clamp** allow you to configure a safety threshold for the Extreme Low and Extreme High **systolic** pressure alarms.

For example, if the High Limit for the systolic pressure is 180 mmHg and the **Δ Extreme High** setting is 15 mmHg ( $180 + 15 = 195$ ) with a **Sys. High Clamp** set at **190**, the resulting extreme high systolic pressure alarm would be announced at 190 mmHg instead of 195 mmHg.

If the clinician sets the high or low systolic pressure alarm limits above or below the limit clamps, the normal yellow alarm limits become extreme pressure limits and a red alarm is announced when the limit is violated. Be sure to set the clamps beyond the configured pressure limits.

### Dia. High Clamp, Dia. Low Clamp

The **Dia. High Clamp** and **Dia. Low Clamp** allow you to configure a safety threshold for the Extreme Low and Extreme High **diastolic** pressure alarms.

For example, if the Low Limit for the diastolic pressure is 60 mmHg and the **Δ Extreme Low** setting is 15 mmHg ( $60 - 15 = 45$ ) with a **Dia. Low Clamp** set at **50**, the resulting extreme low diastolic pressure alarm would be announced at 50 mmHg instead of 45 mmHg.

If the clinician sets the high or low diastolic pressure alarm limits above or below the limit clamps, the normal yellow alarm limits become extreme pressure limits and a red alarm is announced when the limit is violated. Be sure to set the clamps beyond the configured pressure limits.

### Mean High Clamp, Mean Low Clamp

The **Mean High Clamp** and **Mean Low Clamp** allow you to configure a safety threshold for the Extreme Low and Extreme High **mean** pressure alarms.

For example, if the High Limit for the mean pressure is 120 mmHg and the **Δ Extreme High** setting is 15 mmHg ( $120 + 15 = 135$ ) with a **Mean High Clamp** set at 125 mmHg, the resulting extreme high mean pressure alarm would be announced at 125 mmHg instead of 135 mmHg.

If the clinician sets the high or low mean pressure alarm limits above or below the limit clamps, the normal yellow alarm limits become extreme pressure limits and a red alarm is announced when the limit is violated. Be sure to set the clamps beyond the configured pressure limits.

## Configuring Pulse from Invasive Pressure

Measurement Settings: Main Setup > Measurements > <Pressure Label> > Pulse <Pressure Label>

### Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP2-MP90, X2</b>					
High Limit	C, M	not applicable, see “Configuring ECG/Pulse Alarms” on page 50			
Low Limit	C, M				
Pulse Alarms	C, M				
AlarmSrc (ECG)	C, M				
Pulse <Pressure Label>	C, M	On	On	On	On
System Pulse	C, M	not applicable, see “Configuring System Pulse” on page 54			
QRS Volume	C, M	not applicable, see “Configuring User Interface Settings” on page 182.			
Δ ExtrTachy	C	not applicable, see “Configuring ECG/Pulse Alarms” on page 50			
Tachy Clamp	C				
Δ ExtrBrady	C				
Brady Clamp	C				
Alarms Off	C				
AlarmSource Sel.	C				
PulseAlarms Tele	C				
Pulse NotAl INOP	C				

### Pulse from Invasive Pressure Configuration Implications

#### Pulse <Pressure Label>

This setting lets you switch the Pulse from the related Invasive Pressure label **On** or **Off**. If you switch **Off** a Pulse that is currently selected as the source for the System Pulse (see “Configuring System Pulse” on page 54), the monitor will use the next available Pulse from the list of possible pulse sources as system pulse.

# Configuring CPP

Measurement Settings: Main Setup > Measurements > CPP

CPP (Cerebral Perfusion Pressure) is a derived measurement. The measurement unit used for the CPP calculation depends on the unit setting for arterial source and ICP.

## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP2-MP90, X2, MP5T</b>					
High Limit	C,M	130	100	90	130
Low Limit	C,M	50	40	30	50
Alarms	C,M	On	On	On	On
Measurement	C	Enabled	Enabled	Enabled	Enabled
Arterial Source	C,M	ABPm	ABPm	ABPm	ABPm
Scale	C	105 mmHg	105 mmHg	105 mmHg	105 mmHg
Color	C	Magenta	Magenta	Magenta	White

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

<b>Factory Defaults for Profiles</b>					
Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP2-MP90, MP2, X2</b>					
Measurement	C	Off	Off	Off	Off
<b>MP5T</b>					
<b>Option #B10, #B11, #B14 (for MP5)</b>					
Measurement	C	Disabled	Disabled	Disabled	Disabled

## CPP Configuration Implications

### Measurement

Set **Measurement** to **Enabled**, if you want the monitor to automatically switch the CPP measurement **On** when both the ICP and the set arterial source are available. The user can still switch **Off** CPP in monitoring mode.

Set **Measurement** to **Disabled**, if you want the CPP measurement to be permanently disabled, which means that in monitoring mode it will not be possible to switch CPP **On**.

## Arterial Source

This setting is only available when **Measurement** is **Enabled**. The formula used to calculate CPP is:

$$\text{CPP} = \text{Arterial Source} - \text{ICP}$$

Possible sources are:

- **ABPm**
- **ARTm**
- **AoM**
- **FAPm**
- **BAPm**

## Configuring IAP

### IAP as Manual Data Entry

When an **IAP** (Intra-Abdominal Pressure) is configured as Manual Data Entry the user can manually enter an **IAP** value.

**IAP** is not in the list of the pre-configured Manual Data Entry labels. To add it to the list, and to customize for example the **Unit** or **Color**, follow the procedure listed under “Manual Data Entry Settings Configuration Implications” on page 264.

## Configuring PPV

### Measurement Settings: Main Setup > Measurements > PPV

PPV (Pulse Pressure Variation) is a derived measurement. Pulse Pressure Variation can be calculated in two different ways on this monitor - directly from the pressure measurement or in conjunction with the continuous cardiac output (CCO) measurement.

### NOTE

PPV settings made here do not apply to the PPV calculated by the continuous cardiac output measurement. Only one PPV can be active at a time. See “Configuring CCO” on page 91.

## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>MX600-MX800, MP5-MP90, MP5T</b>				
Arterial Source	C,M	ABP	ABP	ABP
PPV	C,M	Off	Off	Off
Measurement	C	Disabled	Disabled	Disabled



## PPV Configuration Implications

### Measurement

If you set **Measurement** to **Enabled**, the user can switch the PPV measurement **On** in monitoring mode, provided the set arterial source is available.

#### NOTE

If **Enabled**, the derived PPV may generate a label conflict with the PPV calculated by the CCO measurement, see “Configuring CCO” on page 91.

If set to **Disabled**, the PPV measurement is permanently disabled, which means that in monitoring mode it will not be possible to switch PPV **On**.

### Arterial Source

This setting is only available when **Measurement** is **Enabled**.

Possible sources are:

- P
- ABP
- ART
- Ao
- FAP
- BAP

## Configuring C.O.

**Measurement Settings: Main Setup > Measurements > C.O.**

C.O. refers to the Cardiac Output measurement.

## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>MX600-MX800, MP20-MP90</b>				
Method	C, M	not applicable, this is not a setting, see “C.O. Configuration Implications” on page 90.		
Measuring Mode	C, M	Standard	Standard	Standard
Auto-Calibration <sup>1</sup>	C	On	On	On
RL Shunt <sup>1,2</sup>	C	Off	Off	Off
C.O.	C,M	not applicable, the C.O. On/Off state is not a setting, see “C.O. Configuration Implications” on page 90		
Tblood High Limit	C,M	39.0	39.0	39.0
Tblood Low Limit	C,M	36.0	36.0	36.0
Alarms	C,M	On	On	On
Temperature Unit	C	°C	°C	°C

<sup>1</sup>Setting only available if **Transpulmonary** method is selected.

<sup>2</sup>Setting not available in the U.S.A. or in clinical environments under FDA control.

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Factory Defaults for Profiles				
Setting	Mode	Adult	Pedi	Neo
<b>Option #H10, #H20, #H40 (for MX600-MX800, MP20-MP90)</b>				
Color	C	Green	Green	Green
<b>Option #H30 (for MX600-MX800, MP20-MP90)</b>				
Color	C	Yellow	Yellow	Yellow

## C.O. Configuration Implications

### Method

This lets you choose the C.O. method to configure the settings for each method. If a cardiac output catheter is connected, the correct method is automatically detected from the catheter type connected and cannot be manually changed.

If you use the **Transpulmonary** method, and the PPV derived from an arterial source is **Enabled** (see “Configuring PPV” on page 88, a label conflict with the PPV derived from the continuous cardiac output measurement may be generated.

### Measuring Mode

This setting lets you change the C.O. measurement mode. If set to **Auto**, the clinician will be able to quickly perform a series of injections without further interaction with the monitor. After the clinician has initially started the C.O. measurement, for example by selecting the pop-up key **Start C.O.**, the monitor will prompt the clinician when the measurement is ready for the next injection, and the injection can be performed. If no injection is detected within 30 seconds (Right-Heart method) or 90 seconds (Transpulmonary method), the user is prompted again. If set to **Standard**, the clinician has to select the pop-up key **Start C.O.** again for each new injection.

### Auto-Calibration

This setting is only available if **Method** is set to **Transpulmonary**. Set this to **Off** if you do not want to automatically trigger a CCO calibration every time you save the C.O. value. This results in two separate pop-up keys in the Cardiac Output Procedure window: one labeled **Save C.O.**, the other labeled **Cal CCO**. If **Auto-Calibration** is set to **On**, both functions are combined and only one pop-up key will be available: **Save C.O.&Cal CCO**.

### RL Shunt

This setting is only available if **Method** is set to **Transpulmonary**. Set **RL Shunt** to **On** to enable Right-Left Shunt detection.

This setting is not available in the U.S.A or in clinical environments under FDA control.

**C.O.**

The **On / Off** state of the Cardiac Output measurement cannot be pre-configured. Cardiac Output is automatically switched **On** when a C.O. transducer is connected to the monitor. In Configuration mode, **C.O.** can be manually switched **On**, even if no catheter is connected.

## Configuring CCO

**Measurement Settings: Main Setup > Measurements > CCO**

CCO refers to the Continuous Cardiac Output measurement.

### Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (X2 Only)
<b>MX600-MX800, MP20-MP90, X2</b>					
<b>Settings common to CCO and CCI</b>					
Alarms From	C, M	CCO	CCO	CCO	CCO
CCO From	C, M	ABP	ABP	ABP	ABP
PPV From CCO	C	Off	Off	Off	Off
CCO	C, M	not applicable, the CCO On/Off state is not a setting, see “CCO Configurations Implications” on page 91			
Color	C	Green	Green	Green	White
<b>CCO Settings</b>					
CCO High Limit	C, M	8.5	3.7	1.3	8.5
CCO Low Limit	C, M	4.0	2.6	0.3	4.0
Alarms	C, M	On	On	On	On
<b>CCI Settings</b>					
CCI High Limit	C, M	4.3	3.7	5.2	4.3
CCI Low Limit	C, M	2.0	2.6	1.2	2.0
Alarms	C, M	On	On	On	On

## CCO Configurations Implications

### Alarms From

To set CCO alarms to be triggered by the indexed CCO value, set **Alarms From** to **CCI**.

### CCO High Limit, CCO Low Limit

The measurement unit for **CCO High Limit** and **CCO Low Limit** is 1/min.

### CCI High Limit, CCI Low Limit

The measurement unit for **CCI High Limit** and **CCI Low Limit** is 1/min/m<sup>2</sup>.

## CCO From

The **CCO From** setting defines the arterial pressure source for CCO. The following pressure labels can be used as pressure source for the CCO:

- **ABP**
- **Ao**
- **ART**
- **UAP**

(plus **FAP** and **BAP** if **Full** is selected as the **Label Set**, see “Global Settings” on page 14).

## PPV From CCO

This setting lets you switch the PPV calculated from the CCO measurement **On** or **Off**. Pulse Pressure Variation can be calculated in two different ways on this monitor - in conjunction with the continuous cardiac output measurement, or directly from the invasive pressure measurement.

### NOTE

This setting does not apply to the PPV calculated from the pressure measurement.

## CCO

The **On / Off** state of the CCO measurement cannot be pre-configured. CCO is automatically switched **On** when an appropriate C.O. transducer is connected to the monitor.

# Configuring SVR

**Measurement Settings: Main Setup > Measurements > SVR**

SVR (Systemic Vascular Resistance) is a derived measurement.

## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>MX600-MX800, MP20-MP90</b>				
Label	C, M	SVR	SVR	SVR
Arterial Source	C, M	ABPm	ABPm	ABPm
Set CVP	C, M	0 mmHg	0 mmHg	0 mmHg
SVR	C, M	Off	Off	Off
Measurement	C	Enabled	Enabled	Enabled
Color	C	green	green	green

## SVR Configurations Implications

### Label

This setting is only available when Measurement is Enabled. It lets you select whether the SVR or the SVRI (indexed SVR) is displayed. It is not possible to display both values at one time.

## Arterial Source

This setting is only available when **Measurement** is **Enabled**.

Possible sources are:

**ABPm**

**ARTm**

**AoM**

**UAPm**

**FAPm**

**BAPm**

The formula used to calculate SVR is:

$$SVR = 79,96 \cdot \frac{(\text{Arterial Source}_{mean} - CVP_{mean})}{CCO}$$

## Set CVP

This setting is only available when **Measurement** is **Enabled**. It defines a value to be used in place of CVP to calculate the SVR if no measured CVP is available. It can be set between **0 mmHg** and **30 mmHg**.

## Measurement

If **Measurement** is set to **Enabled**, the monitor automatically switches the SVR measurement **On** when CCO and the set arterial source is available. The user can still switch **Off** SVR in monitoring mode.

Set **Measurement** to **Disabled**, if you want the SVR measurement to be permanently disabled, which means that in monitoring mode it will not be possible to switch SVR **On**.

### NOTE

The settings made here do not affect the SVR calculated in the Hemo Calcs window.

# Configuring SO<sub>2</sub>

Measurement Settings: Main Setup > Measurements > <SO<sub>2</sub> Label>

SO<sub>2</sub> refers to the Intravascular Oxygen Saturation measurement.

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Factory Defaults for Profiles				
Setting	Mode	Adult	Pedi	Neo
<b>SO<sub>2</sub> Module M1011A (for MX600-MX800, MP40-MP90)</b>				
<b>SO<sub>2</sub> Module M1021A (for MX600-MX800, MP60-MP90)</b>				
High Limit	C, M	80%	80%	80%
Low Limit (SvO <sub>2</sub> )	C, M	60%	60%	60%
Low Limit (SO <sub>2</sub> /ScvO <sub>2</sub> )	C, M	70%	70%	70%
Alarms	C, M	On	On	On
SO <sub>2</sub>	C, M	not applicable, the SO <sub>2</sub> On/Off state is not a setting, see “SO <sub>2</sub> Configuration Implications” on page 94		
Light Intensity	C	On	On	On
Calibration Value	C, M	not applicable, this is not a setting, “SO <sub>2</sub> Configuration Implications” on page 94		
Color	C	Yellow	Yellow	Yellow
<b>SO<sub>2</sub> Module M1011A (for MX600-MX800, MP40-MP90)</b>				
Catheter Factor	C, M	not applicable, this is not a setting, “SO <sub>2</sub> Configuration Implications” on page 94		
Hb/Hct Entry	C, M	Hct[%]	Hct[%]	Hct[%]
Hct [%]l	C, M	not applicable, this is not a setting, “SO <sub>2</sub> Configuration Implications” on page 94		

## SO<sub>2</sub> Configuration Implications

### SO<sub>2</sub>

The **On** / **Off** state of the SO<sub>2</sub> measurement cannot be pre-configured. **SO<sub>2</sub>** is automatically switched **On** when an SO<sub>2</sub> transducer is connected to the monitor.

### Light Intensity

Set this to **Off** if you do not want the Light Intensity Indicator to be displayed next to the SO<sub>2</sub> numeric.

### Label

This setting lets you select the SO<sub>2</sub> label. You can monitor the following labels:

- **SO<sub>2</sub>**
- **SvO<sub>2</sub>**

- **ScvO<sub>2</sub>**

The configuration settings can be set individually for each label.

## Catheter Factor

Depending on the probe/catheter in use, you may need to enter a catheter correction factor. The appropriate correction factor is indicated in the 'Accessories' chapter of the IntelliVue Instructions for Use or in the catheter documentation. The **Catheter Factor** can only be entered during an in-vivo calibration and is stored in the Optical Module.

### NOTE

This is not a measurement setting that can be permanently stored in the monitor configuration.

## Hb/Hct Entry

This setting determines the lab value that should be used for the in-vivo calibration. Available choices are:

**Hct[%]**

**Hb[g/dl]**

**Hb[mmol/l]**

## Hct or Hb

Depending on the configuration of the setting **Hb/HCT Entry**, this lets you enter either the **Hct** or the **Hb** value obtained from the laboratory analysis. **Hct**(or **Hb**) can only be entered during an in-vivo calibration and is stored in the Optical Module.

### NOTE

This is not a measurement setting that can be permanently stored in the monitor configuration.

## Calibration Val

This shows the calibration value resulting from the last in-vivo calibration. It is stored in the Optical Module.

### NOTE

This is not a measurement setting that can be permanently stored in the monitor configuration.

# Configuring Sp-vO<sub>2</sub>

## Measurement Settings: Main Setup > Measurements > Sp-vO<sub>2</sub>

Sp-vO<sub>2</sub> (Oxygen Extraction) is a derived measurement. Oxygen extraction is the difference between the measured SpO<sub>2</sub> and SvO<sub>2</sub> values. To calculate the Sp-vO<sub>2</sub>, the monitor needs an SO<sub>2</sub> source (must be labeled SvO<sub>2</sub>) and an SpO<sub>2</sub> source which can be set to any of the available SpO<sub>2</sub> labels except %SpO<sub>2</sub>T.

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Factory Defaults for Profiles				
Setting	Mode	Adult	Pedi	Neo
<b>MX600-MX800, MP40-MP90</b>				
SpO <sub>2</sub> Source	C, M	SpO <sub>2</sub>	SpO <sub>2</sub>	SpO <sub>2</sub>
Sp - vO <sub>2</sub>	C, M	Off	Off	Off
Measurement	C	Enabled	Enabled	Enabled
Color	C	Green	Green	Green

## Sp-vO<sub>2</sub> Configuration Implications

### SpO<sub>2</sub> Source

This setting is only available when **Measurement** is **Enabled**.

The formula used to calculate Oxygen Extraction is:

$$\text{Sp-vO}_2 = \text{SpO}_2 \text{ Source} - \text{SvO}_2.$$

SpO<sub>2</sub> Source determines the SpO<sub>2</sub> source used for the calculation. Possible sources are:

**SpO<sub>2</sub>**

**SpO<sub>2</sub>pr**

**SpO<sub>2</sub>po**

**SpO<sub>2</sub> r**

**SpO<sub>2</sub> l**

### Sp-vO<sub>2</sub> / Measurement

If **Measurement** is set to **Enabled**, the monitor automatically switches the Sp-vO<sub>2</sub> measurement **On** when the set SpO<sub>2</sub> source and the SvO<sub>2</sub> value are available. The user can still switch **Off** Sp-vO<sub>2</sub> in monitoring mode.

Set **Measurement** to **Disabled**, if you want the Sp-vO<sub>2</sub> measurement to be permanently disabled, which means that in monitoring mode it will not be possible to switch Sp-vO<sub>2</sub> **On**.



# Configuring tcpO<sub>2</sub>, tcpCO<sub>2</sub>

Measurement Settings: Main Setup > Measurements > tcGas

This chapter covers the tcGas measurement from the IntelliVue Measurement Module M1018A.

## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>MX600-MX800, MP40-MP90</b>				
TcpO <sub>2</sub> High Limit	C, M	80	80	80
TcpO <sub>2</sub> Low Limit	C, M	50	50	50
TcpO <sub>2</sub> Alarms	C, M	On	On	On
TcpCO <sub>2</sub> HighLimit	C, M	50	50	50
TcpCO <sub>2</sub> Low Limit	C, M	30	30	30
TcpCO <sub>2</sub> Alarms	C, M	On	On	On
TcpO <sub>2</sub>	C, M	not applicable, this is not a setting, see “tcpO <sub>2</sub> , tcpCO <sub>2</sub> ” on page 97		
TcpCO <sub>2</sub>	C, M			
Site Time	C, M	4.0 hours	4.0 hours	4.0 hours
Site Timer	C	Enabled	Enabled	Enabled
Ambient Pressure	C, M	not applicable, this is not a setting, see “Ambient Pressure” on page 98		
HeatPowerDisplay	C, M	not applicable, this is not a setting, see “HeatPowerDisplay” on page 98		
Disable Timer	C	Not Allowed	Not Allowed	Not Allowed
Heat Switch Off	C	No	No	No
Transducer Temp.	C, M	43.0 °C	43.0 °C	43.0 °C
CO <sub>2</sub> Correction	C	On	On	On
MetabolismFactor	C	8 mmHg	8 mmHg	8 mmHg
TcGas Unit	C	mmHg	mmHg	mmHg
Temperature Unit	C	°C	°C	°C
TcpO <sub>2</sub> Color	C	Blue	Blue	Blue
TcpCO <sub>2</sub> Color	C	Green	Green	Green

## tcpO<sub>2</sub>, tcpCO<sub>2</sub> Configuration Implications

Prolonged continuous monitoring may increase the risk of undesirable changes in skin characteristics, such as irritation, reddening, blistering or burns. If the site timer is disabled, the transducer will heat indefinitely while on a patient.

### tcpO<sub>2</sub>, tcpCO<sub>2</sub>

The **On** / **Off** state of the TcpO<sub>2</sub>/TcpCO<sub>2</sub> measurement cannot be pre-configured. TcGas measurements are automatically switched **On** when a tcGas transducer is connected to the monitor.

### Site Time

This setting defines the period after which the clinician is reminded by the monitor to change the sensor site. When the time expires, the monitor sounds a tone and displays a change site INOP. Depending on how **Heat Switch Off** is configured, the monitor either switches off the transducer heating or continues monitoring. Choose the time you want the transducer to remain on the measurement site. The optimum time depends on the transducer temperature and your patient's skin sensitivity.

### Site Timer

This setting is only available if **Disable Timer** is configured to **Allowed**. To disable the site timer, set **Site Timer** to **Disabled**.

### Ambient Pressure

This is not a setting that can be stored in the configuration. It uses the Global Setting **Altitude** (see "Global Settings" on page 14) to determine the default **Ambient Pressure**. **Ambient Pressure** can be adjusted in both Monitoring and Configuration mode. The monitor remembers this pressure setting until a new one is entered.

### HeatPowerDisplay

This is not a setting that can be stored in the configuration, it automatically defaults to **Absolute**. When a tcGas transducer is connected, **HeatPowerDisplay** lets you change the way the heating power of the tcGas sensor is displayed. Choices are **Absolute** and **Relative**. For more detail, see the IntelliVue Instructions for Use.

### Disable Timer

If **Disable Timer** is set to **Allowed**, the user can disable the site timer in monitoring mode so that the Change Site reminder message is not shown.

### Heat Switch Off

If **Heat Switch Off** is set to **Yes**, the transducer heater is automatically switched off when the site time period has elapsed. If **Heat Switch Off** is set to **No**, the transducer will remain at operating temperature while it is attached to the patient, and tcGas monitoring will not be interrupted when the site time period is over.

### Transducer Temp.

Lets you select the temperature to heat the patient's skin under the tcGas transducer. This temperature should be selected according to the patient's age, weight and physical condition, and in accordance with the hospital policy. Usually, a higher transducer temperature gives a better correlation and a quicker response time. However, higher temperatures also increase the risk of skin burns. Most physicians prefer a temperature between 42°C (107° F) and 44°C (111° F), and a site time of four hours or less. Usually, the higher the transducer temperature, the less the site time should be. Whenever you change the temperature setting, the monitor forces you to make a new calibration.

### CO2 Correction, MetabolismFactor

Transcutaneous pCO<sub>2</sub> values tend to be higher than arterial values due to the metabolic processes of the skin and the effect of heating on the blood under the transducer.

The transducer temperature causes an increase in partial CO<sub>2</sub> pressure. If **CO<sub>2</sub> Correction** is set to **On**, the monitor automatically corrects the measured tcpCO<sub>2</sub> for this increase.

CO<sub>2</sub> production in the epidermis increases the CO<sub>2</sub> value. If **CO<sub>2</sub> Correction** is set to **On**, this metabolic effect is corrected according to the value configured for **MetabolismFactor**. The monitor automatically deducts the set value from the measured tcpCO<sub>2</sub> value.

## Configuring TcG10

**MX600-800** The default settings for the transcutaneous gas measurement IntelliVue TcG10 in combination with  
**MP40-90** the IntelliBridge EC10 module and their configuration implications are specific to individual IntelliVue  
**only** TcG10 and IntelliBridge drivers. They are stored in the IntelliBridge EC10 module and cannot be stored in the monitor configuration. See the documentation supplied with the IntelliVue TcG10 Instructions for Use and IntelliBridge EC10 module.

## Configuring CO<sub>2</sub> from Capnometry

**Measurement Settings: Main Setup > Measurements > CO<sub>2</sub>**

CO<sub>2</sub> refers to the Carbon Dioxide measurement, it is also called Capnometry.

CO<sub>2</sub> can be measured by an anesthetic gas analyzer (AGM, G1, or G5), measurement extension modules (Microstream, Sidestream, or Mainstream), or the integrated CO<sub>2</sub> measurement in the MP5. The settings listed in this section do not apply to CO<sub>2</sub> measured by an anesthetic gas analyzer.

Most settings apply to all supported CO<sub>2</sub> extensions. Where a setting only applies to a particular device, this is indicated.

The algorithm with which the CO<sub>2</sub> measurement is calculated, changes according to the configured altitude setting. Make sure that the correct altitude setting is entered before the CO<sub>2</sub> measurement is used. Altitude can be configured as a Global Setting, see “Configuring General Global Settings” on page 240.

## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP2-MP90, X2</b>					
imCO <sub>2</sub> High	C, M	4	4	4	4
CO <sub>2</sub> Alarms	C, M	On	On	On	On
CO <sub>2</sub>	C, M	not applicable, this is not a setting, see “CO <sub>2</sub> Configuration Implications” on page 100			
Unit	C	mmHg	mmHg	mmHg	mmHg
Max Hold	C	Off	Off	Off	Off
HumidityCorr	C	BTPS	BTPS	BTPS	BTPS

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Factory Defaults for Profiles					
Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>Option #H10, #H20, #H40 (for MX600-MX800, MP5-MP90)</b>					
<b>MP2, X2</b>					
etCO <sub>2</sub> High	C, M	50	50	50	50
etCO <sub>2</sub> Low	C, M	30	30	30	30
imCO <sub>2</sub>	C	On	On	On	On
Scale	C, M	40 mmHg	40 mmHg	40 mmHg	40 mmHg
Color	C	Yellow	Yellow	Yellow	White
<b>Option #H30 (for MX600-MX800, MP5-MP90)</b>					
etCO <sub>2</sub> High	C, M	60	60	60	n/a
etCO <sub>2</sub> Low	C, M	25	25	25	n/a
imCO <sub>2</sub>	C	Off	Off	Off	n/a
Scale	C, M	50 mmHg	50 mmHg	50 mmHg	n/a
Color	C	White	White	White	n/a
<b>Measurement Extension Modules M3015A, M3016A (connected to MX600-MX800, MP20-MP90, MP2, X2)</b>					
<b>MP5 with Microstream CO<sub>2</sub></b>					
N <sub>2</sub> O Corr.	C, M	Off	Off	Off	Off
<b>Measurement Extension Module M3014A (connected to MX600-MX800, MP20-MP90, MP2, X2)</b>					
Oxygen Corr.	C, M	16%	16%	16%	16%
Gas Corr.	C, M	Off	Off	Off	Off
Agent Corr.	C, M	0%	0%	0%	0%

## CO<sub>2</sub> Configuration Implications

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

The **On** / **Off** state of the CO<sub>2</sub> measurement cannot be pre-configured. CO<sub>2</sub> is automatically switched **On** when a CO<sub>2</sub> transducer is connected to the monitor.

### imCO<sub>2</sub>

This setting lets you switch the inspired minimum CO<sub>2</sub> (imCO<sub>2</sub>) numeric **On** or **Off**. The imCO<sub>2</sub> value is the smallest CO<sub>2</sub> concentration measured during inspiration. This helps you to detect unphysiological CO<sub>2</sub> concentrations in the inspired gas.

The **imCO<sub>2</sub> High** limit defines the alarm limit for the imCO<sub>2</sub> numeric.

**N<sub>2</sub>O Corr.**

This settings lets you correct the CO<sub>2</sub> reading for proportions of N<sub>2</sub>O. If N<sub>2</sub>O is present in the ventilation gas mixture, you must turn this on.

If this setting is not available in the **Setup CO<sub>2</sub>** menu, the CO<sub>2</sub> measurement in your Measurement Extension Module does not require N<sub>2</sub>O correction or it is setup with **Gas Corr.** (see below).

**Gas Corr.**

This settings allows correction of CO<sub>2</sub> reading for proportions of Helium or N<sub>2</sub>O. If Helium or N<sub>2</sub>O is present in the ventilation gas mixture, you must make the appropriate selection.

If this setting is not available in the **Setup CO<sub>2</sub>** menu, the CO<sub>2</sub> measurement in your Measurement Extension Module does not require N<sub>2</sub>O or Helium correction, or the N<sub>2</sub>O correction is setup with **N<sub>2</sub>O Corr.** (see above).

**Agent Corr.**

This setting lets you correct the CO<sub>2</sub> reading for proportions of the following anesthetic agents:

- Halothane
- Enflurane
- Isoflurane
- Sevoflurane
- Desflurane

Corrections can be applied between 0.0% and 20.0%. If any of the specified anesthetic agents is present in the ventilation gas mixture, you must select the appropriate concentration.

**Oxygen Corr.**

This settings lets you correct the CO<sub>2</sub> reading for proportions of O<sub>2</sub> in the gas mixture. If this setting is not available in the **Setup CO<sub>2</sub>** menu, the CO<sub>2</sub> measurement in your Measurement Extension Module does not require O<sub>2</sub> correction.

**Max Hold**

If **Max Hold** is configured to **10 sec** or **20 sec**, the etCO<sub>2</sub> numeric shows the highest CO<sub>2</sub> value measured within the previous 10 or 20 seconds. If set to **Off** the etCO<sub>2</sub> numeric shows breath-to-breath value.

**HumidityCorr**

This setting determines the method used to correct the influence of water vapor in the patient's breath on the CO<sub>2</sub> reading. The options are Body Temperature Pressure Saturated (**BTPS**) or Standard Temperature Pressure Dry (**STPD**). Setting **HumidityCorr** to **BTPS** takes the partial pressure contributed by the water vapor into consideration and therefore results in lower CO<sub>2</sub> readings when compared to **STPD**. For an exact definition and the formula used, see the section on "Measurement Specifications" in the "Installation and Specifications" chapter of the monitor's Instructions for Use.

## Configuring awRR from Capnometry

### Measurement Settings: Main Setup > Measurements > awRR

Airway Respiration Rate (awRR) can be derived from the CO<sub>2</sub> measured by an anesthetic gas analyzer (AGM, G1, or G5), or by any of the CO<sub>2</sub> measurement extension modules (Microstream, Sidestream, or Mainstream), or by the integrated CO<sub>2</sub> measurement in the MP5. The settings listed in this section do **not** apply for the awRR derived from an anesthetic gas analyzer.

### Settings Common to all Monitors

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP2-MP90, X2</b>					
High Limit	C, M	30	30	100	30
Low Limit	C, M	8	8	30	8
Apnea Time	C, M	20 sec	20 sec	20 sec	20 sec
Alarms	C, M	On	On	On	On
awRR	C, M	On	On	On	On
Color	C	Yellow	Yellow	Yellow	White

### awRR Configuration Implications

#### Apnea Time

The apnea alarm is a high priority red alarm used to detect apnea. The **Apnea Time** defines the time period between the point where the monitor cannot detect any respiration activity and the indication of the apnea alarm. Choices are **10 sec** to **40 sec** in increments of 5 sec.

#### awRR

This setting lets you switch the **awRR** measurement from CO<sub>2</sub> **On** or **Off**.

# Configuring Resp

Measurement Settings: Main Setup > Measurements > Resp

**Resp** refers to the impedance respiration measurement.

## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP2-MP90, X2</b>					
High Limit	C, M	30	30	100	30
Low Limit	C, M	8	8	30	8
Apnea Time	C, M	20 sec	20 sec	20 sec	20 sec
Alarms	C, M	On	On	On	On
Detection	C, M	Auto	Auto	Auto	Auto

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Factory Defaults for Profiles					
Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>Option #H10, #H20, #H40 (for MX600-MX800, MP5-MP90)</b>					
<b>MP2, X2</b>					
Resp	C, M	On	On	On	On
Color	C	Yellow	Yellow	Yellow	White
<b>Option #H30 (for MX600-MX800, MP5-MP90)</b>					
Resp	C, M	Off	Off	Off	n/a
Color	C	White	White	White	n/a

## Resp Configuration Implications

### Apnea Time

The apnea alarm is a high priority red alarm used to detect apnea. The **Apnea Time** defines the time period between the point where the monitor cannot detect any respiration activity and the indication of the apnea alarm. Choices are **10 sec** to **40 sec** in increments of 5 sec.

### Resp

This setting lets you switch the **Resp** measurement **On** or **Off**. If **Resp** is switched **Off**, the small current applied to the Resp electrodes to enable the impedance measurement is switched off.

## Detection

The respiration detection level can be configured to be set either automatically or manually. For further information, see the section on “Changing Resp Detection Modes” in your patient monitor’s Instructions for Use.

# Configuring Spirometry

## Spirometry - General Settings

**Measurement Settings: Main Setup > Measurements > Spirometry**

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>MX600-MX800, MP40-MP90</b>				
Spirometry	C, M	not applicable, the Spirometry On/Off state is not a setting, see “Spirometry Configuration Implications” on page 106		
No Altil Breath	C	On	On	On
Color	C	White	White	White

## Spirometry - AWF Settings

**Measurement Settings: Main Setup > Measurements > Spirometry > AWF**

**AWF** refers to the Airway Flow measurement.

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>MX600-MX800, MP40-MP90</b>				
Scale	C,M	150	100	20
Color	C	White	White	White

## Spirometry - AWP Settings

**Measurement Settings: Main Setup > Measurements > Spirometry > AWP**

**AWP** refers to the Airway Pressure measurement.

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>MX600-MX800, MP40-MP90</b>				
PIP High	C,M	40	25	20
PIP Alarms	C,M	On	On	On
PEEP High	C,M	25	25	25
PEEP Low	C,M	0	0	0
PEEP Alarms	C,M	On	On	On
Scale	C,M	40	40	20
Color	C	White	White	White



## Spirometry - AWW Settings

Measurement Settings: Main Setup > Measurements > Spirometry > AWW

AWW refers to the Airway Volume measurement.

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>MX600-MX800, MP40-MP90</b>				
MVexp High	C,M	8.0	4.0	0.8
MVexp Low	C,M	4.0	2.5	0.4
MVExp Alarms	C,M	On	On	On
MV	C,M	exp + in	exp + in	exp + in
TV	C,M	exp + in	exp + in	exp + in
Scale	C,M	800	200	50
Color	C	White	White	White

## Spirometry - Gas Compensation Settings

Measurement Settings: Main Setup > Measurements > Spirometry > Gas Compensation

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>MX600-MX800, MP40-MP90</b>				
Mode	C, M	Manual	Manual	Manual
Balance Gas	C, M	N <sub>2</sub>	N <sub>2</sub>	N <sub>2</sub>
Inspired O <sub>2</sub>	C, M	30%	30%	30%
Inspired Agent	C, M	0.0%	0.0%	0.0%
Inspired Temp	C, M	25 °C	25 °C	25 °C
Unit	C	°C	°C	°C

## Spirometry - RRspir Settings

Measurement Settings: Main Setup > Measurements > Spirometry > RRspir

RRspir refers to the Respiration from Spirometry measurement.

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>MX600-MX800, MP40-MP90</b>				
High Limit	C,M	30	30	60
Low Limit	C,M	8	8	30
Apnea Time	C,M	20 sec	20 sec	20 sec
RRspir Alarms	C,M	On	On	On
RRspir	C,M	On	On	On

## Spirometry Configuration Implications

### Spirometry

The **On** / **Off** state of the Spirometry measurement cannot be pre-configured. **Spirometry** is automatically switched **On** when a Spirometry flow sensor is connected to the monitor.

### No Al.til Breath

If set to set **On**, the monitor suppresses alarms from the Spirometry module until it detects that a patient has been connected to the module (when breathing is detected).

### MV

**MV** refers to the Minute Volume measurement.

This setting lets you choose the measured components for minute volume. The choices are:

- **in** (inspiratory)
- **exp** (expiratory)
- **exp + in** (expiratory + inspiratory)
- **Off**

If set to **Off**, there will be no alarming for minute volume.

### TV

**MV** refers to the Tidal Volume measurement.

This setting lets you choose the measured components for tidal volume. The choices are:

- **in** (inspiratory)
- **exp** (expiratory)
- **exp + in** (expiratory + inspiratory)
- **Off**

If set to **Off**, there will be no alarming for tidal volume.

### Mode

Use this setting to choose the gas compensation mode. Select **Manual** to manually enter gas concentrations or **Gas Analyzer** to derive gas concentrations from the Philips gas analyzer.#

#### NOTE

Gas concentrations from the gas analyzer are only available for Philips gas analyzers, not for devices connected via a Vuelink or IntelliBridge plug-in module. If gas concentrations from the gas analyzer are selected but not all data is available, the missing data is taken from manually entered values. In case of invalid data or no data at all, the INOP message **SPIRO GAS COMPENS?** is displayed.

### Balance Gas

This setting lets you select the type of balance gas used. Choices are **N<sub>2</sub>**, and **N<sub>2</sub>O**.

## Inspired O<sub>2</sub>, Inspired Agent, Inspired Temp

These settings can be adjusted to match the concentration of inspired O<sub>2</sub> and anesthetic agent, as well as the temperature of the inspired gas.

## Apnea Time

The apnea alarm is a high priority red alarm used to detect apnea. The Apnea Time defines the time period between the point where the monitor cannot detect any respiration activity and the indication of the apnea alarm. Choices are **10 sec** to **40 sec** in increments of 5 sec.

## RRspir

This setting lets you switch the RRspir measurement **On** or **Off**.

# Configuring EEG

**Measurement Settings: Main Setup > Measurements > EEG**

EEG refers to the electroencephalogram measurement.

## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>MX600-MX800, MP40-MP90</b>				
TP	C, M	On	On	On
SEF	C, M	On	On	On
MDF	C, M	Off	Off	Off
PPF	C, M	Off	Off	Off
Delta	C, M	Off	Off	Off
Theta	C, M	Off	Off	Off
Alpha	C, M	Off	Off	Off
Beta	C, M	Off	Off	Off
SEF Threshold	C	90%	90%	90%
Numeric Average	C	8 sec	8 sec	8 sec
Wave Scale	C, M	100µV	100µV	100µV
Show Gridlines	C	No	No	No
Low Filter	C, M	0.5 Hz	0.5 Hz	0.5 Hz
High Filter	C, M	30 Hz	30 Hz	30 Hz
Buffer A	C	not applicable, this setting is stored in the Monitor Settings block, see “Configuring CSA Reports” on page 179		
Buffer B	C			
Buffer C	C			

Setting	Mode	Adult	Pedi	Neo
Smoothing CSA	C	On	On	On
Impedance Limit	C, M	5 kOhm	5 kOhm	5 kOhm
Color	C	Yellow	Yellow	Yellow
EEG	C, M	not applicable, the EEG On/Off state is not a setting, see “EEG Configuration Implications” on page 108		

## EEG Configuration Implications

### SEF

The **SEF** (Spectral Edge Frequency) is the frequency below which a configurable percentage (set by the **SEF Threshold**) of the **Total Power** is measured.

This setting lets you switch the **SEF** numeric **On** or **Off**.

### TP

The **TP** (Total Power) numeric indicates the power in the measured frequency band.

This setting lets you switch the **TP** numeric **On** or **Off**.

### MDF

The **MDF** (Mean Dominant Frequency) is the mean value of the frequency which dominates the measured EEG.

This setting lets you switch the **MDF** numeric **On** or **Off**.

### PPF

The **PPF** (Peak Power Frequency) is the frequency with the highest measured amplitude.

This setting lets you switch the **PPF** numeric **On** or **Off**.

### Delta

The **Delta** numeric is the percentage of total power in the Delta wave frequency band (0.5 Hz to 4 Hz).

This setting lets you switch the **Delta** numeric **On** or **Off**.

### Theta

The **Theta** numeric is the percentage of total power in the Theta wave frequency band (4Hz to 8 Hz).

This setting lets you switch the **Theta** numeric **On** or **Off**.

### Alpha

The **Alpha** numeric is the percentage of total power in the Alpha wave frequency band (8 Hz to 13 Hz)

This setting lets you switch the **Alpha** numeric **On** or **Off**.

### Beta

The **Beta** numeric is the percentage of total power in the Beta wave frequency band (13 Hz to 30 Hz).

This setting lets you switch the **Beta** numeric **On** or **Off**.

### SEF Threshold

This setting defines the percentage of the **TP** for which the **SEF** is calculated.

### Numeric Average

This setting lets you define the averaging time used for all EEG numerics.

### Wave Scale, Show Gridlines

When **Show Gridlines** is set to **No**, you can choose from the available **Wave Scale** values. Scaling information is displayed as a size bar beside the EEG wave.

When **Show Gridlines** is set to **Yes**, scales are defined as a range, such as  $\pm 50$  mV or  $\pm 250$  mV. Gridlines and the current wave scale values are shown with the EEG wave.

#### NOTE

This only changes the visual appearance of the wave. It does not affect the signal analyzed by the monitor or printed in reports or recordings.

### Low Filter, High Filter

Set the low and high pass filters to screen out undesirable interference from the raw EEG wave display.

### Smoothing CSA

This setting defines whether smoothing of the CSA lines is **On** or **Off**.

### Impedance Limit

Allows you to set the **Impedance Limit** for all electrodes simultaneously. If the limit is exceeded during monitoring, an INOP will appear and the graphic impedance indicator will change.

### EEG

EEG

The **On** / **Off** state of the EEG measurement cannot be pre-configured. EEG measurements are automatically switched **On** when an EEG transducer is connected to the monitor.

## Configuring EEG Montages

**Measurement Settings: Main Setup > Measurements > EEG > Show Montage**

- 1 In the **Setup EEG** menu, select **Show Montage** to enter the **EEG Impedance / Montage** window.
- 2 From the drop-down list, select the name of the montage you want to configure.
- 3 Select **Change Electrds** and follow the instructions given in the window.
- 4 **Confirm** when finished.
- 5 For each other montage, repeat steps 2 to 4.

## Renaming EEG Montages

- 1 In the **Setup EEG** menu, select **Show Montage** to enter the **EEG Impedance / Montage** window.
- 2 Select the pop-up key **Change Name** and use the on-screen keyboard to enter the new name.
- 3 Select **Enter** to save your changes.

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>MX600-MX800, MP40-MP90</b>				
Select Montage	C, M	Montage A	Montage A	Montage A
Montage A				
Electrode 1+	C	Fp1	Fp1	Fp1
Electrode 1-	C	T3	T3	T3
Electrode 2+	C	Fp2	Fp2	Fp2
Electrode 2-	C	T4	T4	T4
Montage B				
Electrode 1+	C	O1	O1	O1
Electrode 1-	C	T3	T3	T3
Electrode 2+	C	O2	O2	O2
Electrode 2-	C	T4	T4	T4
Montage C				
Electrode 1+	C	F3	F3	F3
Electrode 1-	C	C3	C3	C3
Electrode 2+	C	F4	F4	F4
Electrode 2-	C	C4	C4	C4
Montage D				
Electrode 1+	C	C3	C3	C3
Electrode 1-	C	P3	P3	P3
Electrode 2+	C	C4	C4	C4
Electrode 2-	C	P4	P4	P4
Montage E				
Electrode 1+	C	Fp1	Fp1	Fp1
Electrode 1-	C	T5	T5	T5
Electrode 2+	C	Fp2	Fp2	Fp2
Electrode 2-	C	T6	T6	T6

## EEG Montages Configurations Implications

### Select Montage

This setting lets you select the default montage the monitor uses when the EEG measurement is started.

# Configuring BIS

Measurement Settings: Main Setup > Measurements > BIS

BIS refers to the Bispectral Index measurement.

## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>MX600-MX800, MP20-MP90</b>				
SQI	C, M	On	On	On
EMG	C, M	On	On	On
SR	C, M	On	On	On
SEF	C, M	Off	Off	Off
TP	C, M	Off	Off	Off
Scale	C, M	100 $\mu$ V	100 $\mu$ V	100 $\mu$ V
Show Gridlines	C	No	No	No
Filters	C, M	On	On	On
Low Filter	C	2 Hz	2 Hz	2 Hz
High Filter	C	70 Hz	70 Hz	70 Hz
Notch Filter	C	On	On	On
High Limit	C, M	70	70	70
Low Limit	C, M	20	20	20
Alarms	C, M	On	On	On
Cyclic Check	C, M	not applicable, this is not a setting, see "BIS Settings Configuration Implications" on page 112		
Cont. Imp. Check	C, M			
Show ImpedValues	C	On	On	On
BIS	C,M	not applicable, this is not a setting, see "BIS Settings Configuration Implications" on page 112		

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

<b>Factory Defaults for Profiles</b>				
Setting	Mode	Adult	Pedi	Neo
<b>Option #H10, #H20, #H40 (for MX600-MX800, MP20-MP90)</b>				
Bursts <sup>1</sup>	C, M	On	On	On
Smoothing Rate	C, M	30 sec	30 sec	30 sec
Color	C	Yellow	Yellow	Yellow
<b>Option #H30 (for MX600-MX800, MP20-MP90)</b>				
Bursts <sup>1</sup>	C, M	Off	Off	Off
Smoothing Rate	C, M	15 sec	15 sec	15 sec
Color	C	Magenta	Magenta	Magenta

<sup>1)</sup> Numeric available with BISx module used with the Extend Sensor only.

# BIS Settings Configuration Implications

## EMG

The **EMG** (Electromyographic Activity) numeric reflects the electrical power of muscle activity and high frequency artifacts.

This setting lets you switch the **EMG** numeric **On** or **Off**.

## Bursts

The **Bursts** numeric helps you quantify suppression by measuring the number of EEG bursts per minute, where an EEG burst is defined as a period of activity followed and preceded by inactivity (at least 0.5 second).

This setting lets you switch the **Bursts** numeric **On** or **Off**.

### NOTE

Disconnect the BISx / BIS Engine from the BIS module to configure this setting.

## SR

The **SR** (Suppression Ratio) is the percentage of time over the last 63-second period during which the EEG is considered to be in a suppressed state.

This setting lets you switch the **SR** numeric **On** or **Off**.

## SEF

The **SEF** (Spectral Edge Frequency) is the frequency below which 95% of the Total Power is measured.

This setting lets you switch the **SEF** numeric **On** or **Off**.

## TP

The **TP** (Total Power) numeric indicates the power in the frequency band 0.5 to 30 Hz.

This setting lets you switch the **TP** numeric **On** or **Off**.

## Scales, Gridlines

When **Gridlines** are set to **No**, you can choose from the available scale values:

- 50  $\mu\text{V}$
- 100  $\mu\text{V}$
- 200  $\mu\text{V}$
- 500  $\mu\text{V}$

Scaling information is displayed as a vertical bar on the EEG wave together with its height equivalent in  $\mu\text{V}$ .

When **Gridlines** are set to **Yes**, scales are defined as a range:

- $\pm 25 \mu\text{V}$



- $\pm 50 \mu\text{V}$
- $\pm 100 \mu\text{V}$
- $\pm 250 \mu\text{V}$

Scaling information is shown in the form of gridlines.

### Low Filter, High Filter, Notch Filter

These settings let you apply filters to the raw EEG wave. The **Low Filter** and the **High Filter** screen out undesirable interference from the raw EEG wave display. The **Notch Filter** removes line frequency interference. Filter settings affect the EEG wave and the **SEF** and **TP** values, but they do not affect the **BIS**, **EMG**, **SR**, and **SQI** values.

### Cyclic Check

**Cyclic Check** is not a setting, and is grayed-out as long as no sensor is attached to the module. If you select **On**, one single cyclic impedance check is started. The state is **On** while the check is running and switches automatically back to **Off** when it is finished.

### Cont. Imp. Check

This setting can be temporarily changed in monitoring mode, but the changes cannot be permanently stored in configuration mode. The default is **On**. The current setting is kept in the monitor's buffered memory and retained for a maximum of 60 seconds after the monitor is switched off. If the monitor is switched off for more than 60 seconds, **Cont. Imp. Check** will be reset to **On**.

### Smoothing Rate

This setting lets you define how the monitor averages the BIS value. Set this to **15 sec** to increase responsiveness to changes in the patient's state. If set to **30 sec**, the BIS trend will be smoother with decreased variability and sensitivity to artifacts.

### Show ImpedValues

Use the **Show ImpedValues** setting to switch the display of the impedance values in the impedance window **On** or **Off**.

### BIS

The **On** / **Off** state of the **BIS** measurement cannot be pre-configured. BIS measurements are automatically switched **On** when the BIS transducer is connected to the monitor.

# Configuring NMT

Measurement Settings: Main Setup > Measurements > NMT

NMT refers to the Neuro Muscular Transmission measurement.

## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo <sup>1</sup>
<b>MX600-MX800, MP40-MP90</b>				
TOFcnt High Lim	C, M	3	3	3
Alarms	C, M	Off	Off	Off
NMT	C, M	not applicable, this is not a setting, see “NMT Settings Configuration Implications” on page 114		
Stimulation	C, M	TOF	TOF	TOF
Mode <sup>2</sup>	C, M	Manual	Manual	Manual
Repeat Time <sup>3</sup>	C, M	30 sec	30 sec	30 sec
Repeat Time <sup>4</sup>	C, M	12 sec	12 sec	12 sec
Current	C, M	50 mA	50 mA	50 mA
Pulse Width	C, M	200 μsec	200 μsec	200 μsec
NMT Tone Volume	C, M	not applicable, this is a User Interface setting, see “NMT Tone Volume” on page 186		
Suppress Alarms	C	On	On	On
Stimul. Modes	C	TOF/PTC	TOF/PTC	TOF/PTC
Value Lifetime	C	5 min	5 min	5 min
Measurement Time	C	not applicable, this is a User Interface > Display setting, see “Measurement Time” on page 194		
Color	C	Light Green	Light Green	Light Green

<sup>1</sup> The NMT measurement may not be used for neonatal patients and is therefore not supported in Profile Neo.

<sup>2</sup> Only available in stimulation mode **TOF** or **Twitch**.

<sup>3</sup> Only available in stimulation mode **TOF** if **Mode** is set to **Auto**.

<sup>4</sup> Only available in stimulation mode **Twitch** if **Mode** is set to **Auto**.

## NMT Settings Configuration Implications

### TOFcnt High Lim

The **TOFcnt High Lim** setting lets you select the TOFcnt high alarm limit. Choices are **0**, **1**, **2**, or **3**.

### Alarms

Use the **Alarms** setting to switch the alarm capability **On** or **Off**.

## NMT

The **On / Off** state of the NMT measurement cannot be pre-configured. **NMT** is automatically switched **On** when an NMT cable is connected to the monitor.

## Stimulation

This setting lets you select the NMT stimulation mode. You can select the following modes:

- **TOF** (Train-of-Four stimulation mode)
- **PTC** (Post-Tetanic-Count stimulation mode)
- **Twitch** (Single-Twitch stimulation mode)
- **DBS** (Double-Burst stimulation mode)

### NOTE

The stimulation mode choices **Twitch** and **DBS** are only available if the **Stimul. Modes** setting is set to **All**.

## Mode

Use the **Mode** setting in the stimulation modes **TOF** or **Twitch** to define if the NMT measurement is operated manually (**Manual**) or automatically (**Auto**).

## Repeat Time

Use the **Repeat Time** setting in the stimulation modes **TOF** or **Twitch** to define the repetition time of the automatic measurement mode.

Choices for these modes are:

TOF	Twitch
12 sec	1 sec
30 sec	12 sec
1 min	30 sec
5 min	
10 min	
15 min	
30 min	
60 min	

## Current

Use the **Current** setting to define the default stimulation current. Choices are from **5 mA** to **60 mA**.

If the NMT module contains calibration data, the supramaximal stimulation **Current**, determined during calibration, is shown instead of the actual user default setting. The **Current** setting is grayed out.

In order to access and modify the user default **Current** setting, you must clear the calibration reference first.

To clear the stimulation current and reference twitch, and reset to default values:

In the Setup NMT menu:

- 1 Select **Clear Reference**.

- 2 Select the **Confirm** key to reset the stored calibration reference.

### Pulse Width

Use the **Pulse Width** setting to define the stimulation pulse width.

Choices are:

- **100  $\mu$ sec**
- **200  $\mu$ sec**
- **300  $\mu$ sec**

If the NMT module contains old calibration data, the **Pulse Width** that was used during calibration is shown instead of the actual user default setting. The **Pulse Width** setting is grayed out.

In order to access and modify the user default **Pulse Width** setting, you must clear the calibration reference first.

The **Pulse Width** setting is accessible as soon as you clear the stimulation current and reference twitch to default values by selecting **Clear Reference** as described in the previous paragraph.

### NMT Tone Volume

The **NMT Tone Volume** setting is a Monitor Setting in **User Interface**, see “NMT Tone Volume” on page 186.

Use the **NMT Tone Volume** setting to adjust the audio volume of the NMT stimulation tone to indicate each NMT stimulation pulse with a short beep tone.

Choices are **0** (switched off), and **1 - 10**.

### Suppress Alarms

Toggle this setting to set the automatic alarm suppression mode to on or off.

Set the **Suppress Alarms** setting to **On** to suppress the TOFcnt high alarm until the TOFcnt value has reached **0** for the first time.

### Stimul. Modes

Use the **Stimul. Modes** setting to define the pre-selection of the Stimulation Modes. The selected choices are available for the user in the **Stimulation** operation selection.

Choices are:

- **All**  
All four stimulation modes are available: **TOF**, **PTC**, **Twitch**, **DBS**
- **TOF/PTC**  
**TOF** and **PTC** are available only.

### Value Lifetime

Use the **Value Lifetime** setting to define the time after which an aperiodic NMT numeric value disappears out of the system.

Choices are:

- **1 min**

- 2 min
- 3 min
- 5 min
- 10 min
- 15 min
- 30 min

#### NOTE

Individual NMT numerics may appear on the screen in numerics fields that are configured to “Any Numeric”. For NMT a special application is available that shows the TOF numeric and a graphic representing the twitches. For more information about how to display the NMT application on the Main Screen, see “Displaying the NMT application on the Main Screen” on page 31.

## Measurement Time

The **Measurement Time** setting is a Monitor Setting in **User Interface**, see “Measurement Time” on page 194.

If **Measurement Time** is set to **Timestamp**, the time shown beside the numeric will show the time stamp of the most recent measurement. If set to **Time to Next**, and mode of a measurement is set to **Auto** or **Sequence**, the time until the next automatic measurement is shown, along with a graphic representation of the remaining time.

#### NOTE

If the numeric area on the monitor screen is configured large enough, the **Timestamp** or **Time to Next** will be displayed in the NBP segment. If this area is too small, the numeric may be shown without the time.

This setting affects at the same time the aperiodic measurements in Automatic or Sequence mode of **NBP**, **SpO<sub>2</sub>**, and **NMT** measurements.

## Color

Use the **Color** setting to define the appearance color of the NMT measurement on the screen.

## Configuring Temperature

### Measurement Settings: Main Setup > Measurements > <Temperature Label>

- When a **Measurement Module (MMS)** is connected to the monitor **for the first time**, it uses the default Temperature label **Temp**.
- When a **Measurement Extension Module** is connected **for the first time**, the Temp label used for the combined Pressure/Temp connector is **Trect**, the label used for the single Temp connector is **Tskin**.
- When a **Plug-in Temperature Module** is connected **for the first time**, it uses the label **Temp**.

If you then change the **Temp** label, the information will be automatically stored and each device will remember the new label the next time they are reconnected.

The configuration settings for Temperature can be set individually for each **Temp** label.

Available temperature labels are:

- **Temp**
- **Trect**
- **Tcore**
- **Tskin**
- **Tesoph**
- **Tnaso**
- **Tart**
- **Tven**
- **Tvesic**
- **Ttymp**
- **Tcereb**
- **Tamb**
- **T1, T2, T3, T4**

### NOTE

- The selection of labels depends on the configured Label Set, see “Configuring General Global Settings” on page 240.
- For **Tblood** settings, see “Configuring C.O.” on page 89. **Tinj** has no settings.
- **Taway** is sourced from a VueLink or IntelliBridge plug-in module, therefore no settings can be changed.

## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP2-MP90, X2</b>					
High Limit	C, M	39	39	39	39
Alarms	C, M	On	On	On	On
<temperature label>	C, M	not applicable, the <temp label> On/Off state is not a setting, see “Temperature Configuration Implications” on page 119.			
Unit	C	°C	°C	°C	°C
Range	C	35...43	35...43	35...43	35...43

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Factory Defaults for Profiles					
Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>Option #H10, #H20, #H40 (for MX600-MX800, MP5-MP90)</b>					
<b>MP2, X2</b>					
Low Limit	C, M	36	36	36	36
Color	C	Green	Green	Green	White
<b>Option #H30 (for MX600-MX800, MP5-MP90)</b>					
Low Limit	C, M	35	35	35	n/a
Color	C	Light Green	Light Green	Light Green	n/a

## Temperature Configuration Implications

### Temperature Label

The **On / Off** state of a <Temperature Label> cannot be pre-configured. The temperature measurement is automatically switched **On** when a temperature probe is connected to the monitor.

### Unit

This setting lets you select the temperature unit for the temperature label.

### Range

This setting defines the measurement range for the temperature label. Available choices are:

- **1...45**
- **11...45**
- **35...43**

The configured **Range** is used for the horizon screen trend application. When a temperature is viewed as horizon trend,

- the high end of the **Range** defines the maximum temperature that can be selected in the related Screen Trend menu under **Set High Horizon**,
- the low end of the **Range** defines the minimum temperature that can be selected in the related Screen Trend menu under **Set Low Horizon**.

# Configuring Predictive Temperature

Measurement Settings: Main Setup > Measurements > <Predictive Temperature Label>

Available Predictive Temperature labels are:

- pToral
- pTaxil
- pTrect

## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>MP5, MP5T, MP5SC</b>				
Label	C, M	not applicable, this is not a setting, see “Predictive Temperature Configuration Implications” on page 120		
Value Lifetime	C, M	1 h	1 h	1 h
Mode	C, M	not applicable, this is not a setting, see “Predictive Temperature Configuration Implications” on page 120		
Prompt Tones	C	On	On	On
Unit	C	°C	°C	°C
Color	C	Yellow	Yellow	Yellow
Preferred Label	C	pToral	pToral	pToral
pToral (or other label)	C, M	not applicable, the Predictive Temperature On/Off state is not a setting, see “Predictive Temperature Configuration Implications” on page 120		

## Predictive Temperature Configuration Implications

### Label

This item lets you select the label you want to configure. This is not a setting and cannot be pre-configured.

### Value Lifetime

This setting lets you configure the life time of a predicted temperature value. After the configured life time, a predictively measured temperature value disappears from the monitor screen, as well as from the screen of a connected Information Center. This setting applies to all predictive temperature labels.

### Mode

This item lets you switch between **Continuous** and **Predictive** measurement mode. This switch only applies during monitoring, it is not a setting and cannot be pre-configured. See the IntelliVue Instructions for Use for more detail.

### Measmt. Prompts

Prompt Tones



Set this to **On** if you want the monitor to indicate when it is ready for a new measurement and when a measurement is finished by a prompt message and a prompt tone.

## Unit

This setting lets you select the temperature unit.

## Preferred Label

This setting lets you configure which predictive temperature label the monitor will use when one of the following circumstances occurs:

- an oral or axillary probe is connected after a rectal probe has been used before
- the patient is discharged
- a coldstart is performed

## Predictive Temperature Label

The **On / Off** state of the a <Predictive Temperature Label> cannot be pre-configured. It is automatically switched **On** when a predictive temperature sensor is connected to the monitor.

# Configuring Delta Temperature

**Measurement Settings: Main Setup > Measurements > ΔTemp**

Delta Temperature (ΔTemp) refers to the temperature difference measurement, and is a derived measurement.

## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP2-MP90, X2</b>					
First Temp	C, M	Trect	Trect	Trect	Trect
Second Temp	C, M	Tblood	Tblood	Tblood	Tblood
ΔTemp	C, M	Off	Off	Off	Off
Color	C	Green	Green	Green	White

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Factory Defaults for Profiles					
Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP2-MP90, X2</b>					
Measurement	C	Enabled	Enabled	Enabled	Enabled
<b>MP5T</b>					
<b>Option #B10, #B11, #B14 (for MP5)</b>					
Measurement	C	Disabled	Disabled	Disabled	n/a

## Delta Temperature Configuration Implications

### First Temp, Second Temp

This setting is only available when **Measurement** is **Enabled**. It lets you select two temperature labels to calculate the temperature difference.

#### NOTE

None of Predictive Temperature labels can be selected for the  $\Delta$ Temp calculation.

The formula used to calculate DTemp is:

$$\Delta\text{Temp} = \text{First Temp} - \text{Second Temp}$$

### Delta Temp, Measurement

If **Measurement** is set to **Enabled**, the monitor automatically switches the  $\Delta$ Temp measurement **On** when both configured temperature sources are available. The user can still switch **Off  $\Delta$ Temp** in monitoring mode.

Set **Measurement** to **Disabled**, if you want the  $\Delta$ Temp measurement to be permanently disabled, which means that in monitoring mode it will not be possible to switch  $\Delta$ Temp **On**.

# Configuring VueLink

Measurement Settings: Main Setup > Measurements > VueLink X (or device name)

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Factory Defaults for Profiles				
Setting	Mode	Adult	Pedi	Neo
<b>Option #H10, #H20, #H40 (for MX600-MX800, MP40-MP90)</b>				
Default Alarms	C	Accepted	Accepted	Accepted
Default Colors	C	Green	Green	Green
<b>Option #H30 (for MX600-MX800, MP40-MP90)</b>				
Default Alarms	C	Ignored	Ignored	Ignored
Default Colors	C	Green	Green	Green

## VueLink Configuration Implications

### Device Alarms

The VueLink module itself generates INOPs, but does not generate alarms. If the external device's alarms are on, the module transmits these to the monitor. **Device Alarms** lets you select whether these alarms are indicated on the monitor (**Accepted**) or **Ignored**.

#### NOTE

The setting **Device Alarms** is not cloned between monitors. If you clone configurations between IntelliVue monitors with VueLink plug-in modules, you must check that these settings are correct and adjust them according to customer specifications, if needed.

### Default Color

The default color is the color used for any numerics that are not linked to a particular wave, and for any waves for which no color is specifically configured.

#### NOTE

This setting is not cloned between monitors. If you clone configurations between IntelliVue monitors with VueLink plug-in modules, you must check that these settings are correct and adjust them according to customer specifications, if needed.

### Other Settings

All other VueLink settings are specific to the individual driver. They are stored in the VueLink module and cannot be stored in the monitor configuration. See the documentation supplied with the VueLink module for configuration information.

## Configuring IntelliBridge

**MX600-800** The default settings for the IntelliBridge (EC10) plug-in module and their configuration implications are specific to individual IntelliBridge drivers. They are stored in the IntelliBridge EC10 module and cannot be stored in the monitor configuration. See the documentation supplied with the IntelliBridge EC10 module and the related IntelliBridge Device Driver Instructions for Use.

**MP40-90 only**

## Configuring the Gas Analyzer

### Gas Analyzer - General Settings

**Measurement Settings: Main Setup > GM or AGM**

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>Option #H30 (for MX600-MX800, MP5-MP90)<sup>1</sup></b>				
Agent <sup>2</sup>	C, M	ISO	ISO	ISO
CO <sub>2</sub>	C, M	not a setting, see “Configuring the Gas Analyzer” on page 124		
awRR	C, M	not a setting, see “Configuring awRR from Capnometry” on page 102		
O <sub>2</sub>	C, M	not a setting, see “Gas Analyzer - O2 Settings”		
N <sub>2</sub> O	C, M	not a setting, see “Gas Analyzer - N2O Settings” on page 126		
ISO <sup>2</sup>	C, M	not a setting, see “Gas Analyzer - ISO Settings” on page 128		
AGT <sup>3</sup>	C, M	not a setting, see “Gas Analyzer - AGT, AGT1, AGT2 Settings” on page 126		
AGT1 <sup>4</sup>	C, M			
AGT2 <sup>4</sup>	C, M			
MAC	C, M	not a setting, see “Gas Analyzer - MAC Settings” on page 127		
No Al. til Breath	C	On	On	On
AutoStandbyAfter	C	120 min	120 min	120 min
Setup Agent <sup>2,4</sup>	C	not a setting, see “Gas Analyzer Configuration Implications” on page 129		

<sup>1</sup> All gas analyzer settings are available on monitors with option H30 only.

- MP5 - MP30 do not support the AGM (M1026A/B)
- MP5 - MP30 do not support the G5 (M1019A) outside the USA.
- MX800, MP60-MP90 do not support the G1 (M1013A)

<sup>2</sup> Setting only available when using a G1 (M1013A).

<sup>3</sup> Setting only available when using an AGM (M1026A/B).

<sup>4</sup> Setting only available when using a G5 (M1019A).

### Gas Analyzer - CO<sub>2</sub> Settings

**Measurement Settings: Main Setup > GM or AGM > CO<sub>2</sub>**

CO<sub>2</sub> refers to the Carbon Dioxide measurement.

**NOTE**

CO<sub>2</sub> can be measured by an anesthetic gas analyzer (AGM, G1, or G5), measurement extension modules (Microstream, Sidestream, or Mainstream), or the integrated CO<sub>2</sub> measurement in the MP5. The settings listed in this section only apply to CO<sub>2</sub> measured by an anesthetic gas analyzer.

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>Option #H30 (for MX600-MX800, MP5-MP90)</b>				
etCO <sub>2</sub> High	C, M	60	60	60
etCO <sub>2</sub> Low	C, M	25	25	25
etCO <sub>2</sub> Alarms	C, M	On	On	On
imCO <sub>2</sub> High	C, M	4	4	4
imCO <sub>2</sub> Alarm	C, M	Off	Off	Off
CO <sub>2</sub>	C, M	et + in	et + in	et + in
Scale	C, M	50	50	50
Unit	C	mmHg	mmHg	mmHg
Color	C	White	White	White
Humidity Corr.	C	Wet	Wet	Wet

## Gas Analyzer - awRR Settings

**Measurement Settings: Main Setup > GM or AGM > awRR**

**awRR** refers to the Airway Respiration Rate measurement.

**NOTE**

AwRR can be derived from the CO<sub>2</sub> measured by an anesthetic gas analyzer (AGM, G1, or G5), or by any of the CO<sub>2</sub> measurement extension modules (Microstream, Sidestream, or Mainstream), or by the integrated CO<sub>2</sub> measurement in the MP5. The settings listed in this section only apply for the awRR derived from an anesthetic gas analyzer.

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>Option #H30 (for MX600-MX800, MP5-MP90)</b>				
High Limit	C, M	40	40	60
Low Limit	C, M	8	8	30
Apnea Time	C, M	40 sec	40 sec	40 sec
Alarms	C, M	On	On	On
awRR	C, M	On	On	On

## Gas Analyzer - O<sub>2</sub> Settings

Measurement Settings: Main Setup > GM or AGM > O<sub>2</sub>

O<sub>2</sub> refers to the Oxygen measurement.

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>Option #H30 (for MX600-MX800, MP5-MP90)</b>				
inO <sub>2</sub> High	C, M	100	100	100
inO <sub>2</sub> Low	C, M	18	18	18
inO <sub>2</sub> Alarms	C, M	On	On	On
O <sub>2</sub>	C, M	et + in	et + in	et + in
Scale	C, M	100	100	100
Unit	C	%	%	%
Color	C	Green	Green	Green

## Gas Analyzer - N<sub>2</sub>O Settings

Measurement Settings: Main Setup > GM or AGM > N<sub>2</sub>O

N<sub>2</sub>O refers to the Nitrous Oxide measurement.

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>Option #H30 (for MX600-MX800, MP5-MP90)</b>				
inN <sub>2</sub> O High	C, M	80	80	80
inN <sub>2</sub> O Alarms	C, M	On	On	On
N <sub>2</sub> O	C, M	et + in	et + in	et + in
Scale	C, M	60	60	60
Unit	C	%	%	%
Color	C	Blue	Blue	Blue

## Gas Analyzer - AGT, AGT1, AGT2 Settings

Measurement Settings: Main Setup > GM or AGM > AGT or AGT1 or AGT2

AGT refers to any anesthetic gas agent measurement.

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>Option #H30 (for MX600-MX800, MP5-MP90)</b>				
Agent Channel	C, M	et + in	et + in	et + in
Agent Id <sub>1</sub>	C, M	Automatic	Automatic	Automatic

<sup>1</sup> Setting only available when using an AGM (M1026A/B).

## Gas Analyzer - MAC Settings

Measurement Settings: Main Setup > GM or AGM > MAC

MAC refers to the Minimum Alveolar Concentration measurement.

- The **MAC** value of an anesthetic gas or agent denotes the concentration at which 50% of a population of anesthetized patients do not respond with movement to a painful stimulus.
- The **MACawk** (MAC awake) represents the concentration at which 50% of a population of anesthetized patients responds to verbal command.

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>Option #H30 (for MX600-MX800, MP5-MP90)</b>				
MAC	C, M	Off	Off	Off
MACawk <sup>1</sup>	C, M	Off	Off	Off
Correction	C	Off	Off	Off
Color	C	White	White	White

<sup>1</sup> Setting not available in the U.S.A. or in clinical environments under FDA control. MAC correction is switched off and MACawk value is not available.

## Gas Analyzer - HAL Settings

Measurement Settings: Main Setup > GM > Setup Agent > HAL

Measurement Settings: Main Setup > AGM > HAL

HAL refers to the Halothane measurement.

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>Option #H30 (for MX600-MX800, MP5-MP90)</b>				
inHAL High	C, M	2.0	2.0	2.0
inHAL Low	C, M	0.0	0.0	0.0
inHAL Alarms	C, M	On	On	On
etHAL High	C, M	1.6	1.6	1.6
etHAL Low	C, M	0.0	0.0	0.0
etHAL Alarms	C, M	On	On	On
Scale	C, M	2.0	2.0	2.0
Unit	C	%	%	%
Color	C	Red	Red	Red

## Gas Analyzer - ISO Settings

Measurement Settings: Main Setup > GM > Setup Agent > ISO

Measurement Settings: Main Setup > AGM > ISO

ISO refers to the Isoflurane measurement.

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>Option #H30 (for MX600-MX800, MP5-MP90)</b>				
inISO High	C, M	3.0	3.0	3.0
inISO Low	C, M	0.0	0.0	0.0
inISO Alarms	C, M	On	On	On
etISO High	C, M	2.5	2.5	2.5
etISO Low	C, M	0.0	0.0	0.0
etISO Alarms	C, M	On	On	On
Scale	C, M	3.0	3.0	3.0
Unit	C	%	%	%
Color	C	Magenta	Magenta	Magenta

## Gas Analyzer - ENF Settings

Measurement Settings: Main Setup > GM > Setup Agent > ENF

Measurement Settings: Main Setup > AGM > ENF

ENF refers to the Enflurane measurement.

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>Option #H30 (for MX600-MX800, MP5-MP90)</b>				
inENF High	C, M	4.0	4.0	4.0
inENF Low	C, M	0.0	0.0	0.0
inENF Alarms	C, M	On	On	On
etENF High	C, M	3.3	3.3	3.3
etENF Low	C, M	0.0	0.0	0.0
etENF Alarms	C, M	On	On	On
Scale	C, M	4.0	4.0	4.0
Unit	C	%	%	%
Color	C	Orange	Orange	Orange

## Gas Analyzer - SEV Settings

Measurement Settings: Main Setup > GM > Setup Agent > SEV

Measurement Settings: Main Setup > AGM > SEV

SEV refers to the Sevoflurane measurement.



The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>Option #H30 (for MX600-MX800, MP5-MP90)</b>				
inSEV High	C, M	6.0	6.0	6.0
inSEV Low	C, M	0.0	0.0	0.0
inSEV Alarms	C, M	On	On	On
etSEV High	C, M	5.0	5.0	5.0
etSEV Low	C, M	0.0	0.0	0.0
etSEV Alarms	C, M	On	On	On
Scale	C, M	6.0	6.0	6.0
Unit	C	%	%	%
Color	C	Yellow	Yellow	Yellow

## Gas Analyzer - DES Settings

Measurement Settings: Main Setup > GM > Setup Agent > DES

Measurement Settings: Main Setup > AGM > DES

DES refers to the Sevoflurane measurement.

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo
<b>Option #H30 (for MX600-MX800, MP5-MP90)</b>				
inDES High	C, M	15.0	15.0	15.0
inDES Low	C, M	0.0	0.0	0.0
inDES Alarms	C, M	On	On	On
etDES High	C, M	10.0	10.0	10.0
etDES Low	C, M	0.0	0.0	0.0
etDES Alarms	C, M	On	On	On
Scale	C, M	15.0	15.0	15.0
Unit	C	%	%	%
Color	C	Cyan	Cyan	Cyan

## Gas Analyzer Configuration Implications

### Agent

This setting is available when using the M1013A IntelliVue G1 only. It lets you select the agent that will be analyzed by the M1013A.

### Setup Agent

This operation is available when using the M1013A IntelliVue G1 and the M1019A IntelliVue G5 only. To configure the individual settings for each anesthetic gas for the IntelliVue G1 and G5, select **Setup Agent**, and then in the Setup Agent menu, select the agent and adjust the settings as needed.

### No Al. til Breath

If set to set **On**, the monitor suppresses alarms from the Gas Analyzer until it detects that a patient has been connected to the gas analyzer (when breathing is detected).

### AutoStandbyAfter

This setting defines the time after which the gas analyzer automatically goes into Standby when no breath is detected. During Standby, the gas analyzer's gas sample intake pump and other internal components are automatically switched off to increase the lifetime of the device. The message **GM** (or **AGM**) **STANDBY** is shown on the monitor.

### Humidity Corr.

This setting determines the method used to correct the influence of water vapor in the patient's breath on the CO<sub>2</sub> reading. The options are **Wet** or **Dry**. Setting **HumidityCorr** to **Wet** takes the partial pressure contributed by the water vapor into consideration and therefore results in lower CO<sub>2</sub> readings when compared to **DRY**. For an exact definition and the formula used, see the section on "Measurement Specifications" in the "Installation and Specifications" chapter of the Gas Analyzer Instructions for Use.

### Apnea Time

The apnea alarm is a high priority red alarm used to detect apnea. The **Apnea Time** defines the time period between the point where the monitor cannot detect any respiration activity and the indication of the apnea alarm.

### awRR

This setting lets you switch the awRR measurement from the Gas Analyzer **On** or **Off**.

### Agent Channel

This setting lets you define which numerics are displayed with any anesthetic agent waveform on the screen. The choices are:

- **et** displays the end-tidal numerics,
- **in** displays the inspiratory numerics,
- **et+in** displays both end-tidal and inspiratory numerics.
- **Off** switches off the anesthetic gas measurement. No waveforms or numerics will be shown for anesthetic gases, and no alarms will be generated.

### Agent Id

This setting is available for the M1026A/B AGM only.

- Setting **Agent Id** to **Manual** requires that the user manually chooses the correct anesthetic agent during monitoring.
- If set to **Automatic**, the gas analyzer automatically identifies the predominant anesthetic agent in the breathing circuit.
- To configure the individual settings for each anesthetic gas for the M1026A/B AGM, you must first set Agent ID to **Manual**. This allows you to select the individual gases.

- If you use Manual agent identification, the agent that was selected last will become the default agent.
- If you want to use Automatic agent identification, make sure to switch **Agent ID** back to **Automatic** when you are done.

## MAC

This setting determines whether the MAC numeric is displayed or not.

## Correction

The IntelliVue monitor offers three methods of MAC calculation:

- **Uncorrected MAC:** If **Correction** is set to **Off**, the uncorrected MAC is calculated, i.e the MAC value is not corrected for ambient pressure, age, temperature or any other individual factors influencing the effect of volatile anesthetic agents.
- **Ambient Pressure corrected MAC** (not available in the U.S.A or in clinical environments under FDA control): If **Correction** is set to **Amb.Pressure**, the MAC is corrected for the ambient pressure measured during the last zero calibration.
- **Enhanced MAC Correction** (not available in the U.S.A. or in clinical environments under FDA control): If **Correction** is set to **Enhanced**, the MAC value is corrected for the patient's age and temperature, and the ambient pressure measured during the last zero calibration.

The age is derived from the Date Of Birth entry in the Patient Demographics window.

The temperature is taken from the currently measured value for one of the following temperature labels: Tcore, or Tblood.

## MACawk

Determines whether the MAC awake numeric is displayed or not. The **MACawk** numeric can only be calculated if **Correction** is configured to **Enhanced**.



# Monitor Settings

This section lists all the settings grouped in the Monitor Settings Block. Read any information on configuration implications at the end of the relevant tables before you make any configuration changes.

## Understanding Monitor Settings

What sets monitor settings apart from measurement settings is that they are not specific to one measurement. Monitor settings affect the general behavior of the monitor.

Alarm settings are a good example to help you understand the difference between monitor and measurement settings: general alarm settings, such as Alarm Volume or the Alarms Off time are monitor settings. They determine the monitor's general alarming behavior. Individual alarm limits that can be set individually for each measurement are measurement settings. They only affect the selected measurement.

The IntelliVue patient monitor uses two categories of monitor settings: **normal** and **unique monitor settings**. Normal monitor settings can be configured differently for different monitor settings blocks (e.g. Monitor A, Monitor B). Unique monitor settings cannot be configured differently. They are the same in each monitor settings block and are automatically included in all monitor settings blocks when you store them to one block. The following table provides an overview of normal vs. unique monitor settings:

Normal Monitor Settings	Page
"Configuring Alarm Recordings"	144
"Configuring Alarms"	135
"Configuring Auto Alarm Limits"	145
"Configuring Auto Reports"	177
"Configuring Calculations" (except Drug Calculator)	170
"Configuring Capture 12 Lead"	166
"Configuring CSA Reports"	179
"Configuring ECG"	164
"Configuring ECG Reports"	178
"Configuring Horizon Trend Settings"	148
"Configuring INOP Severity"	146
"Configuring Network Settings"	195
"Configuring Other Report Settings"	176

## 7 Monitor Settings

<b>Normal Monitor Settings</b>	<b>Page</b>
“Configuring ProtocolWatch”	156
“Configuring Reports”	171
“Configuring Screen Trend Settings”	147
“Configuring SpotCheck Monitoring”	158
“Configuring ST Map”	156
“Configuring the Cardiac Output Window”	161
“Configuring the CSA Window”	163
“Configuring the Loops Window”	162
“Configuring the Wedge Window”	162
“Configuring Trend Reports”	180
“Configuring Trend Windows”	150
“Configuring User Interface Settings” (except Keys)	182
“Configuring Vital Signs Recording”	154

<b>Unique Monitor Settings</b>	<b>Page</b>
“Configuring CSA Buffers”	237
“Configuring Event Annotations”	218
“Configuring Event Surveillance”	211
“Configuring Guardian Early Warning Scoring”	221
“Configuring Recordings” (except Vital Signs Recordings)	222
“Configuring SSC Sepsis Protocol”	219
“Configuring the Drug Calculator”	238
“Configuring Timers”	229
“Configuring Trend Groups”	203
“Configuring Trend Priorities”	205
“Configuring User Interface Settings - Keys” (Global SmartKeys, Function Keys, Remote Control Keys)	233
“Trend Scales and Trend Unit Settings Configuration Implications”	211

# Configuring Alarms

Monitor Settings: Main Setup > Alarms > Alarm Settings

## Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP2-MP90, MP5T, MP5SC, X2
Alarm Volume	C, M	5 (7 for Profile Outdoor only)
Alarms Off Prio	C	Red & Yellow
Pause Al. 5Min	C	Enabled
Pause Al. 10Min	C	Enabled
Auto Alarms Off	S	Disabled
AlarmOffReminder	C	Off
Alarms Off Key	C	Enabled
Alarm Reminder	C	On
Reminder Time	C	3 min
Alarm Sounds	C	Traditional
RedAlarmInterval	C	10 sec
Yel. Al. Interval	C	20 sec
Red Alarm Volume	C	AlarmVol. +2
Yell. Alarm Volume	C	AlarmVol. +0
Inop Volume	C	AlarmVol. +0
AutoIncrease Vol.	C	2 Steps
IncreaseVolDelay	C	20 sec
Keep Blinking	C	No
Relay1 Sensitiv.	C	R&Y&C
Relay2 Sensitiv.	C	Red&Yellow
Relay3 Sensitiv.	C	Red
CyanRelayLatency	C	5 sec
Yel. RelayLatency	C	2 sec
NoCentrMonMinVol	C	4

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	Option #H10, #H20, #H40 (for MX600-MX800, MP5-MP90) MP5SC, MP2, X2
Alarms Off	C	2 min
AlarmOffAtStart	C	No
Visual Latching	C	Red&Yellow

## 7 Monitor Settings

Setting	Mode	Option #H10, #H20, #H40 (for MX600-MX800, MP5-MP90) MP5SC, MP2, X2
Audible Latching	C	Red&Yellow
Alarm Low	C	4
Alarm Text	C	Standard
LED Brightness	C	High

Setting	Mode	Option #H30 (for MX600-MX800, MP5-MP90)
Alarms Off	C	2 min
AlarmOffAtStart	C	No
Visual Latching	C	Red
Audible Latching	C	Off
Alarm Low	C	2
Alarm Text	C	Standard
LED Brightness	C	High

Factory Defaults for Profiles								
Setting	Mode	EWS Scoring	Frequent Vitals	RRT	Resus	SpotCheck	SinglePat.EWS	SinglePat.SC
<b>MP5SC</b>								
Alarms Off	C	Infinite	2 min	2 min	2 min	Infinite	Infinite	Infinite
AlarmOffAtStart	C	Yes	No	No	No	Yes	Yes	Yes
Visual Latching	C	Red&Yellow	Red&Yellow	Red&Yellow	Red&Yellow	Red&Yellow	Red&Yellow	Red&Yellow
Audible Latching	C	Red&Yellow	Red&Yellow	Red&Yellow	Red&Yellow	Red&Yellow	Red&Yellow	Red&Yellow
Alarm Low	C	4	4	4	4	4	4	4
Alarm Text	C	Enhanced	Enhanced	Enhanced	Enhanced	Enhanced	Enhanced	Enhanced
LED Brightness	C	Low	High	High	High	Low	Low	Low



Factory Defaults for Profiles						
Setting	Mode	EWS Scoring	Frequent Vitals	RRT	Resus	SpotCheck
<b>Option #P05 (for MP5)</b>						
Alarms Off	C	2 min	2 min	2 min	2 min	2 min
AlarmOffAtStart	C	No	No	No	No	No
Visual Latching	C	Red&Yellow	Red&Yellow	Red&Yellow	Red&Yellow	Red&Yellow
Audible Latching	C	Red&Yellow	Red&Yellow	Red&Yellow	Red&Yellow	Red&Yellow
Alarm Low	C	4	4	4	4	4
Alarm Text	C	Standard	Standard	Standard	Standard	Standard
LED Brightness	C	High	High	High	High	High

## Alarm Settings Configuration Implications

### Alarm Volume

Use this setting to define the base volume of the red and yellow audible alarm indicators and the INOP tones.

### Alarms Off Prio

The setting **Alarms Off Prio** defines the level of alarms that are suppressed in case main alarms are switched off or paused via the permanent Alarms Off/Pause Alarms key or the alarms off hard key.

Possible choices are:

- **Red & Yellow**
- **Yellow Only**
- **Not Allowed**

The following table applies:

Setting	Alarm Type	Visual Alarm	Audible Alarm
<b>Red &amp; Yellow</b>	Red Alarm	no	no
	Yellow Alarm	no	no
	Short Yellow Alarm	no	no
	Red INOP	yes	no
	Yellow INOP	yes	no
	Hard INOP	yes	no
	Soft INOP	yes	no

Setting	Alarm Type	Visual Alarm	Audible Alarm
<b>Yellow Only</b>	Red Alarm	yes	yes
	Yellow Alarm	no	no
	Short Yellow Alarm	no	no
	Red INOP	yes	yes
	Yellow INOP	yes	no
	Hard INOP	yes	no
	Soft INOP	yes	no
<b>Not Allowed</b>	No possibility to turn main alarms <b>Off</b> .		

### NOTE

- The **Alarms Off Prio** settings **Yellow Only** takes effect in standalone monitors, and monitors connected to a **PIIC iX**. It does not take effect if the monitor is connected to a **PIIC**.
- The **Alarms Off Prio** settings **Yellow Only** or **Not Allowed** do not take effect, if the setting **Auto Alarms Off** is **Enabled** (see “Auto Alarms Off” on page 139), for example in French monitors (see “Alarm Behavior for Assistance Publique in France Only” on page 143).

## Alarms Off

Use this setting to determine how long the monitor’s alarm capabilities will be switched off when the user selects the **Alarms Off** or **Pause Alarms** key. Possible choices are:

- **1 min**
- **2 min**
- **3 min**
- **Infinite**

Be aware that if you configure **Alarms Off** to **Infinite**, all of the monitor’s alarming capabilities will be permanently switched off when the user selects the **Alarms Off** key.

### NOTE

It is not recommended to configure **Alarms Off** to **Infinite** in monitors that can be used as companion devices to a host monitor, such as the X2 or MP5.

## Pause Al. 5Min, Pause Al. 10Min

If these settings are enabled, the user can extend the alarm pause to 5 minutes or to 10 minutes. If **Alarms Off** is set to **Infinite**, these settings are automatically disabled.

## Alarm Low

Use this setting to define a minimum value for the alarm volume. The alarm volume cannot be set lower than this value.

## Red Alarm Volume, Yell.AlarmVolume, Inop Volume

Use these settings to set the alarm volume level for each alarm type relative to the (base) volume selected under **Alarm Volume**. Available choices are:

- **AlarmVol. +0**
- **AlarmVol. +1**
- **AlarmVol. +2**

## Auto Alarms Off

This setting can be configured in Service Mode only. It can be used to switch off the monitor's alarming capabilities if no vital parameters are left with alarms switched **On**. The recommended value for this settings is **Disabled**.

---

### WARNING

If you configure the setting **Auto Alarms Off** to **Enabled**, the monitor will automatically switch off its alarming capabilities if the user turns **Off** the individual alarms for all vital parameters (see below) that are currently activated and switched **On**.

The following measurements are considered vital parameters:

- ECG, Pulse
  - RR, awRR
  - All invasive blood pressure (for example ABP, ART, CVP, PAP)
  - SpO<sub>2</sub>
  - etCO<sub>2</sub>
- 

## AlarmOffReminder

If this setting is enabled, the monitor issues a short reminder tone every three minutes when all alarms have been switched off (by selecting the **Alarms Off** or **Pause Alarms** SmartKey), or if the alarms for the following measurements have been switched off individually:

- ECG, Pulse
- RR, awRR
- all invasive blood pressures
- SpO<sub>2</sub>
- etCO<sub>2</sub>

## AlarmsOffAtStart

If **AlarmsOffAtStart** is enabled, alarms will be initially paused or off the next time the monitor is switched on. Even if it is enabled, this setting only takes effect if the power down time is more than one minute, and the Global Setting **Automat Default** is set to **Yes**.

In order for alarms to be paused or switched off initially,

- the monitor must be switched off for more than one minute
- the last main alarm state was set to off or paused.

## Alarms Off Key

The setting **Alarms Off Key** defines:

## 7 Monitor Settings

- the visibility of the permanent **Alarms Off** or **Pause Alarms** key
- the function of the **Alarms Off** hard key
- the menu entry **Alarms Off** or **Pause Alarms** in **Main Setup > Alarms**

Two choices are available:

- **Enabled**
  - the permanent **Alarms Off** or **Pause Alarms** key is visible on the monitor screen
  - the **Alarms Off** hard key function is enabled
  - the menu entry **Alarms Off** or **Pause Alarms** in **Main Setup > Alarms** is grayed out
- **Disabled**
  - the **Silence** key on the monitor screen is enlarged to double width, and occupies the space of the **Alarms Off** or **Pause Alarms** permanent key
  - the **Alarms Off** hard key function is disabled. If you press the hard key a prompt tone is issued.
  - the menu entry **Alarms Off** or **Pause Alarms** in **Main Setup > Alarms** is enabled

### Visual Latching, Audible Latching

The visual and audible latching settings can affect the arrhythmia alarm sounds.

The choices for **Visual Latching** and **Audible Latching** are:

- **Red&Yellow**
- **Red Only**
- **Off**
- The choices can be combined to give the following settings:

Setting Combinations	Visual Latching	Audible Latching
	<b>Red&amp;Yellow</b>	<b>Red&amp;Yellow</b>
	<b>Red&amp;Yellow</b>	<b>Red Only</b>
	<b>Red&amp;Yellow</b>	<b>Red Only</b>
	<b>Red Only</b>	<b>Red Only</b>
	<b>Red Only</b>	<b>Off</b>
	<b>Off</b>	<b>Off</b>

#### NOTE

Both **Visual Latching** and **Audible Latching** should be set to **Red Only** or **Red&Yellow** if arrhythmia is on.

If the monitor is connected to an Information Center, both **Visual Latching** and **Audible Latching** should be set to **Red&Yellow** to enable alarms to be silenced at the Information Center.

## Alarm Latching Behavior

Red & Yellow Measurement Alarms		Non-latching alarms	Visual and audible latching	Visual latching, audible non-latching
Alarm has not been acknowledged.	Alarm condition still present.	Alarm tone on. Alarm lamp on. Alarm message. Flashing numerics.	Alarm tone on. Alarm lamp on. Alarm message. Flashing numerics.	Alarm tone on. Alarm lamp on. Alarm message. Flashing numerics.
	Alarm condition no longer present.	All audible and visual alarm indicators automatically stop.	Alarm tone on. Alarm lamp on. Alarm message. Flashing numerics.	Alarm message. Flashing numerics. Audible alarm indicators automatically stop.
Alarm has been acknowledged.	Alarm condition still present.	Alarm tone off. Alarm lamp off. Alarm message. Flashing numerics. Audible alarm reminder (if configured).	Alarm tone off. Alarm lamp off. Alarm message. Flashing numerics. Audible alarm reminder (if configured).	Alarm tone off. Alarm lamp off. Alarm message. Flashing numerics. Audible alarm reminder (if configured).
	Alarm condition no longer present.	Audible and visual alarm indicators automatically stop.	Audible and visual alarm indicators automatically stop.	Audible and visual alarm indicators automatically stop.

## Alarm Reminder

Use this setting to define how alarm indications behave if alarm conditions remain active after they have been acknowledged:

- **On:** After the configured **Reminder Time**, the alarm tone is repeated for a limited time (6 seconds).
- **ReAlarm:** After the **Reminder Time** the alarm tone is repeated continuously (this is the same as a new alarm).
- **Off:** No Alarm Reminder is issued.

## Reminder Time

Use this setting to define the interval between acknowledging an alarm and issuing an alarm reminder. The choices available are:

- 1 min
- 2 min
- 3 min

## Alarm Sounds

Use this setting to change the alarm sound of the monitor to suit the alarm standards valid in your hospital.

- **Traditional:** The traditional ("Caret") sounds used in previous HP/Agilent/Philips patient monitor generations.
- **ISO:** A new set of alarm sounds that complies with the alarm standard IEC 60601-1-8 (referencing ISO 9703-2).

### RedAlarmInterval, Yel.AI. Interval

Use this setting to define the interval between alarm sounds (ISO alarm sounds only). The choices available are:

- **5 sec, 10 sec, 15 sec** for red alarms
- **10 sec, 20 sec, 30 sec** for yellow alarms

### AutoIncrease Vol

Use this setting to define how the alarm volume of unacknowledged alarms behaves.

- **1 Step:** After the time defined by **IncreaseVolDelay**, the alarm volume is increased by one volume step.
- **2 Steps:** After the time defined by **IncreaseVolDelay**, the alarm volume is increased by two volume steps.
- **Off:** The Alarm Volume of unacknowledged alarms does not change.

### IncreaseVolDelay

Use this setting to define the interval after which the alarm volume increases in steps.

### Keep Blinking

Use this setting to specify whether the numerics that are in an active alarm condition keep flashing even if all alarms are off or paused, or if individual alarms are switched off.

### Relay1 Sensitiv., Relay2 Sensitiv. Relay3 Sensitiv

The Relay1 to 3 Sensitivity setting define the alarm or INOP conditions that will trigger an alarm on **nurse call relays**. Only serious INOPs (that are indicated with an INOP tone at the monitor) are indicated on the nurse call relay. The nurse call relay follows the status of the alarm lamps. When the alarms are switched off at the monitor, no alarms will be indicated on the nurse call relay.

When you use a nurse call relay that is connected to the traditional nurse call connector (phone jack), only **Relay1 Sensitiv.** must be specified.

### CyanRelayLatency, Yel.RelayLatency

Use this setting to define how long a yellow alarm or INOP condition must be active before an alarm is issued on any device connected to the alarm relay. These settings are valid for all serious INOP conditions/all yellow alarms respectively.

### Alarm Text

Use this setting to define how alarm messages are presented on the monitor screen:

- **Standard:** Alarm texts are displayed in text form, for example **\*\* SpO<sub>2</sub> Low**
- **Extended:** Alarm texts are displayed as numeric values, for example, **\*\* SpO<sub>2</sub> 94 < 96**, where the second number shows the current alarm limit, and the first number shows the maximum amount by which this limit was exceeded.

## NoCentrMonMinVol

If your monitor is connected to an IntelliVue Information Center, and the connection is interrupted, the INOP message **No Central Monit.** will appear, accompanied by an INOP tone. To help ensure that this INOP, and any other active alarm, is not overlooked, the INOP and alarm tones may be configured to have a minimum volume. In this case, INOP and alarm tones will sound even if the monitor alarm volume is set to zero.

## LED Brightness

This setting lets you configure the brightness of the alarm lamps. Three choices are available:

- **High**
- **Medium**
- **Low**

## Alarm Behavior for Assistance Publique in France Only

To achieve the behavior required by the **Assistance Publique** in France, you must configure the settings listed below to the values given in the table:

Setting	Setting for French Patient Monitors	Comment
Alarm Source	ECG	See “Configuring ECG/Pulse Alarms” on page 50
Alarm Source Selection	Disabled	
Alarms Off	Disabled, by setting to 1 min, 2 min, or 3 min (not infinite)	See “Configuring Alarms” on page 135
Pause Al. 5Min	Disabled	
Pause Al. 10Min	Disabled	
Auto Alarms Off	Enabled	
AlarmOffReminder	On	
Visual Latching	Red&Yellow	
Audible Latching	Red&Yellow	
Alarm Reminder	ReAlarm or On	
Reminder Time	1 min, 2 min, or 3 min	
Alarm Low	≥ 1	
Keep Blinking	Yes	

# Configuring Alarm Recordings

Monitor Settings: Main Setup > Alarms > Alarm Recording

## Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP2-MP90, MP5T, MP5SC, X2
ST	C, M	Off
QT	C, M	Off
SpO <sub>2</sub>	C, M	Off
Pulse	C, M	Off
Press	C, M	Off
NBP	C, M	Off
CCO	C, M	Off
CO <sub>2</sub>	C, M	Off
awRR	C, M	Off
O <sub>2</sub>	C, M	Off
Resp	C, M	Off
tcGas	C, M	Off
Temp	C, M	Off
N <sub>2</sub> O	C, M	Off
Agent	C, M	Off
VueLnk	C, M	Off

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	Option #H10, #H20, #H40 (for MX600-MX800, MP5-MP90) MP5T, MP5SC, MP2, X2
HR	C, M	Off
PVC	C, M	Off

Setting	Mode	Option #H30 (for MX600-MX800, MP5-MP90)
HR	C, M	Red Only
PVC	C, M	Red Only

## Alarm Recording Settings Configuration Implications

### Measurement Label

If you set a <Measurement Label> to **Red Only**, an alarm recording will automatically be triggered when the measurement enters a red alarm condition. If you set it to **Red&Yellow**, both yellow and red alarms will trigger an alarm recording for that measurement.



# Configuring Auto Alarm Limits

Monitor Settings: Main Setup > Alarms > Setup AutoLimits

## Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP2-MP90, MP5T, MP5SC, X2
All	C	Enabled
HR	C	Enabled
ST	C	Enabled
SpO <sub>2</sub>	C	Enabled
Pulse	C	Enabled
Press	C	Enabled
NBP	C	Enabled
CO <sub>2</sub>	C	Enabled
awRR	C	Enabled
O <sub>2</sub>	C	Enabled
RR	C	Enabled
tcGas	C	Enabled
Temp	C	Enabled
N <sub>2</sub> O	C	Enabled
Agent	C	Enabled

## Alarm AutoLimits Settings Configuration Implications

### All

Set this to **Disabled** if you do not want the user to be able to apply **AutoLimits** to all enabled measurements at once by using the **All Lim. Narrow** or **All Lim. Wide** pop-up keys in the Alarm Limits window.

### Measurement Label

If you set a <Measurement Label> to **Disabled**, **AutoLimits** cannot be applied to this measurement.

# Configuring INOP Severity

Monitor Settings: Main Setup > Alarms > INOP Severity

## Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP2-MP90, MP5T, MP5SC, X2
ECG Leads Off	C	Cyan
Battery Empty	C	Yellow
Tele Disconnect.	C	Cyan
Cuff Overpress	C	Cyan
Cuff NotDeflated	C	Cyan
Occlusion	C	Cyan
No Pulse	C	Cyan

## INOP Severity Settings Configuration Implications

### CAUTION

- When you permanently change the **INOP Severity** settings, always ensure that the monitor users are aware of the actual configuration settings.
- It is strongly recommended that these settings are the same in all monitors within a unit.

### ECG Leads Off

Set **ECG Leads Off** to **Yellow** or **Red** if you want the “**ECG Leads Off**” INOP to be signaled as a yellow or red INOP. This INOP alerts the clinician when not all required leads for ECG monitoring are attached to the patient. If, after a discharge, no ECG has been measured yet, the INOP severity will be **Cyan** regardless of the configuration. Once a valid ECG has been received, the severity will behave as configured.

### Battery Empty

Set **Battery Empty** to **Cyan** or **Red** if you want the “**Battery Empty**” INOP to be signaled as a cyan or red INOP. This INOP alerts the clinician when a device battery is almost empty and must be replaced.

### Tele Disconnect.

Set **Tele Disconnect.** to **Yellow** or **Red** if you want the “**Tele Disconnect.**” INOP to be signaled as a yellow or red INOP. This INOP alerts the clinician when the connection between the monitor and the telemetry device is interrupted.

### Cuff Overpress

Set **Cuff Overpress** to **Yellow** or **Red** if you want the “**Cuff Overpress**” INOP to be signaled as a yellow or red INOP. This INOP alerts the clinician when the NBP cuff pressure exceeds the overpressure safety limits.

## Cuff NotDeflated

Set **Cuff NotDeflated** to **Yellow** or **Red** if you want the “Cuff NotDeflated” INOP to be signaled as a yellow or red INOP. This INOP alerts the clinician when the NBP cuff pressure has exceeded 15 mmHg (2 kPa) for more than 3 minutes for Adult or pediatric patients, or the cuff pressure has exceeded 5 mmHg (0.7 kPa) for more than 90 seconds (for neonatal patients).

## Occlusion

Set **Occlusion** to **Yellow** or **Red** if you want the INOPs “CO2 Occlusion” and “<Gas Analyzer> Occlusion” to be signaled as a yellow or red INOP. These INOPs alert the clinician when the sample line or exhaust line tubing is blocked.

## No Pulse

Set **No Pulse** to **Yellow** or **Red** if you want the INOPs <SpO<sub>2</sub> Lbl> No Pulse, or <Press Lbl> No Pulse" to be signaled as a yellow or red INOP.

# Configuring Screen Trend Settings

Monitor Settings: Main Setup > Trends

## Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP2-MP90, MP5T, MP5SC, X2
ScreenTrend Time	C, M	30 min
HorizonArrowTime	C, M	10 min
Global Style	C, M	Band

## Screen Trend Configuration Implications

### ScreenTrend Time

Use this setting to set the Screen Trend Time for all graphical and horizon screen trends. Choices are:

- 30 min
- 1 hours
- 2 hours
- 4 hours
- 8 hours
- 12 hours

This is the Global screen trend time. This setting can be overridden by the Change TrendTime configuration (see “Configuring Screen Trends” on page 33) which lets the user set a different ScreenTrend Time for a particular screen trend channel or a group of aligned screen trends.

### HorizonArrowTime

This setting determines the time period used for calculating the direction of the Horizon Trend Indicator, which shows how the patient trend has developed in the set time period. Choices are:

- 10 min
- 5 min
- 2 min

### Global Style

The **Global Style** setting affects the presentation of measurements with compound (multiple) values (for example ABP or CO<sub>2</sub>) in the Graphical Trends window and on screen trends. If you set this to **Band**, the area between the trend lines, for example, between the systolic and diastolic pressures, is filled with color. If you set it to **Line**, the trends are displayed as separate continuous lines.

This setting applies to the graphical trends displayed in the GraphTrends window and the screen trends. This setting can be overridden for individual parameters displayed in the GraphTrends window by changing the Style setting for these parameters to **Band** or **Line** in the Trend Group Parameters menu (see “Configuring Trend Groups” on page 203).

## Configuring Horizon Trend Settings

### Monitor Settings: Main Setup > Trends > Horizon Settings

The horizon view presents trend information superimposed over a defined baseline or base range. This helps you visualize changes in your patient’s condition since the baseline or base range was set.

The position of the horizon baseline and the scale used when a certain measurement is first displayed in horizon trend view, is defined by the settings **Horizon High**, **Horizon Low**, **Scale Delta** and **Unit**. The defaults for **Horizon High**, **Horizon Low**, and **Scale Delta** are based on clinical considerations, the default for **Unit** follows the measurement unit defined for the corresponding measurement label. These default are stored invisibly in the IntelliVue patient monitor software. The user can adapt **Horizon High**, **Horizon Low**, and **Scale Delta** during monitoring.

If you are not satisfied with the default settings, you can modify the defaults for up to 25 measurement labels.

To modify Horizon Trend default settings,

- 1 In configuration mode, select **Main Setup > Trends > Horizon Settings**.
- 2 Select the pop-up key **Add** to bring up the Setup Measurement menu.
- 3 Select **Label** and choose the measurement label for which you want to define changed default Horizon Trend Settings. A **maximum of 25 labels** can be added.
- 4 Adjust each setting as required, and close the menu.

## Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP2-MP90, MP5T, MP5SC, X2
Label	C,	<none>
Horizon High	C	<none>
Horizon Low	C	<none>
Scale Delta	C	<none>
Unit	C,	<none>

## Horizon Trend Settings Configuration Implications

Make sure the values for **Horizon High**, **Horizon Low** and **Scale Delta** match the **Unit** you enter.

Be aware that the master unit of a label is defined in its measurement setup menu. For example, for the label **Temp** this would be the Setup Temp menu (**Main Setup > Measurements > Temp**).

If for a label, the unit defined in the **Horizon Settings > Setup Measurement** menu differs from the master unit defined in the related measurement setup menu, the values defined for **Horizon High**, **Horizon Low** and **Scale Delta** will be automatically converted when you close the **Horizon Settings > Setup Measurement** menu to match the unit defined in the measurement setup menu.

### Example

In the Horizon Settings window, you add the label **Temp**. You set the **Unit** to **°C**, and **Horizon High** and **Horizon Low** to **35.0 °C**. If you then change the **Unit** in the **Setup Temp** menu to **°F**, the **Horizon High** and **Horizon Low** will be automatically converted to the equivalent of 35 °C in Fahrenheit which would be **95.0 °F**.

## Unit

Choose the measurement unit that you will use to define the values for **Horizon High**, **Horizon Low** and **Scale Delta**.

## Horizon High, Horizon Low

Set **Horizon High** to select the upper horizon value. Set **Horizon Low** to select the lower horizon value.

### NOTE

If the high and low horizon values are the same, the horizon is a baseline, if the values are different, the horizon is a range.

## Scale Delta

This setting defines the distance between the horizon and the upper and lower scale limits.

### NOTE

The upper and lower scale limits may also be restricted by the measurement ranges defined for a label.

# Configuring Trend Windows

## Vital Sign Window Settings for Specific Monitor Models

Monitor Settings: Main Setup > Trends > Setup Vital Signs

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	MX600-MX800, MP2-MP90, MP5T, MP5SC, X2
Trend Group	C, M	Standard
Show Unit	C	Off
Color	C	On

Setting	Mode	Option #H10, #H20, #H40 (for MX600-MX800, MP20-MP90)
Column	C, M	Interval
Interval	C, M	30 min
Timeline	C, M	Bottom

Setting	Mode	Option #H30 (for MX600-MX800, MP5-MP90)
Column	C, M	Interval
Interval	C, M	5 min
Timeline	C, M	Bottom

Setting	Mode	Option #H10, #H20, #H40 (for MP5) MP5T, MP2/X2
Column	C, M	Interval
Interval	C, M	10 min
Timeline	C, M	Bottom

Setting	Mode	MP5SC, Option #P05 (for MP5)
Column	C, M	NBP
Interval	C, M	10 min
Timeline	C, M	Top

## Graphical Trend Window Settings for Specific Monitors

Monitor Settings: Main Setup > Trends > SetupGraphTrends

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	MX600-MX800, MP2-MP90, MP5T, MP5SC, X2
Trend Group	C, M	Standard
Timeline	C, M	Bottom

Setting	Mode	Option #H10, #H20, #H40 (for MX600-MX800, MP20-MP90)
Interval	C, M	30 min

Setting	Mode	Option #H30 (for MX600-MX800, MP5-MP90)
Interval	C, M	5 min

Setting	Mode	Option #H10, #H20, #H40 (for MP5) MP5SC, MP5 #P05, MP5T, MP2/X2
Interval	C, M	10 min

## Histogram Window Settings Common for all Monitor Models

### Monitor Settings: Main Setup > Trends > Setup Histogram

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP5-MP90
Data Source	C, M	SpO <sub>2</sub> <Realtime Data>
Realtime Data	C	<all realtime data labels>
Realtime Data	M	<all currently-monitored realtime data labels>
Trended Data	C	<all trend data labels>
Trended Data	M	<all currently-monitored trend data labels>
Period	C, M	12 h
Unit	C, M	%
Cumulative Curve	C, M	On
Range	C, M	80.0 .. 100.0
Column Value	C, M	Off
Column Width	C, M	1.0
Cursor	C, M	Off
Cursor Range	C, M	85.0 .. 95.0

## Trend Window Settings Configuration Implications

### Vital Sign Window, Graphical Trend Window

#### Trend Group

Use this setting to define the default trend group that is displayed each time a trend window is opened.

#### Column

Use this setting to define how often a column is created. To view the trend with one column for the set Interval, select **Interval**. To view it with one column for each NBP measurement, select **NBP**.

#### Interval

Use this setting to define the default time interval (resolution of the trend data) that is displayed each time a trend window is opened.

### Show Unit

If **Show Unit** is configured to **On**, the measurements in the Vital Signs window are shown together with their units.

### Timeline

With this setting you define whether the timeline is shown on the **Top** or the **Bottom** of the table.

### Vital Sign Window

#### Color

If **Color** is configured to **On**, the measurements in the Vital Signs window are displayed in their individual parameter colors. If set to **Off**, all measurements are displayed in white.

### Histogram Window

When viewing a histogram, the data source, the period, the range, the column width, the display of the cumulative value columns and the cursor positions can be changed using the pop-up keys.

#### NOTE

- With the **Upper/Lower** pop-up key you can select the upper or the lower cursor position (indicated by a highlighted cursor).
- The range of the selected cursor can be set with the arrow pop-up keys.
- The **Lock/Unlock** pop-up key locks the interval between the upper and the lower cursor position. If the interval is locked, the **Upper/Lower** pop-up key is grayed-out, and the arrow keys move both cursor positions in parallel.

### Data Source

To configure which data source is displayed each time the histogram window is opened, use the **Data Source** setting by following the procedure below:

- 1 Select **Realtime Data**, or **Trended Data** for data from the trend database.
- 2 In **Configuration mode**: select **one of all**:
  - realtime data labels (SpO<sub>2</sub> labels or **SysPLS**), or
  - trend database labels.
- 3 In **Monitoring mode**: select the **one of the currently-monitored**:
  - realtime data labels (SpO<sub>2</sub> labels or **SysPLS**), or
  - trend database labels.

### Period

Use the **Period** setting to define the default time period that is displayed each time a histogram window is opened. Choices are:

- **30 min**
- **1 h**
- **2 h**



- 4 h
- 8 h
- 12 h
- 24 h

## Unit

Use the **Unit** setting to define the unit. The choices are depending on the selected data unit; the unit list contains the units for the respective label.

### NOTE

If no unit is defined for a label, the list provides all units.

## Range; Upper, Lower

Use the **Upper** and **Lower Range** settings to define the lowest and highest value on the x-axis. The available choices are depending on the selected label.

### NOTE

If no ranges are defined for a label, question marks are displayed, and you can define the ranges with an on-screen keyboard.

## Curve

Toggle the **Cumulative Curve** setting to switch **On** or **Off** the cumulative curve which is drawn behind the columns.

## Column Value

Use the **Column Value** setting to switch the percentage values above (or inside) each column **On** or **Off**.

## Column Width

Use the **Column Width** setting to define the column width. The selected number defines the amount of units that is represented by one column. With that, it also defines the number of columns for this histogram.

The choices are depending on the selected labels and units.

## Cursor

Use the **Cursor** setting to switch the cursor positions and the summary column **On** and **Off**.

## Cursor Range; Upper, Lower

Use the **Upper** and **Lower Cursor Range** settings to configure the position of the "upper" and "lower" cursor. Set the **Upper** and **Lower** cursor range to the same values to display only one cursor. The available choices are depending on the selected label.

**NOTE**

If no ranges are defined for a label, question marks are displayed, and you can define the ranges with an on-screen keyboard.

# Configuring Vital Signs Recording

Monitor Settings: Main Setup > Recordings > Vital Signs

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	MX600-MX800, MP5-MP90
Trend Group	C, M	All
Column	C, M	Interval
Show Unit	C	Off

Setting	Mode	MX600-MX800, MP20-MP90 Option #H30 (for MP5)
End Case Record.	C, M	Off
Period	C, M	6 hours
Interval	C, M	30 min

Setting	Mode	MX600-MX800, MP20-MP90 Option #H10, #H20, #H40 (for MP5) MP5SC, MP2, X2
End Case Record.	C, M	On
Period	C, M	3 hours
Interval	C, M	10 min

## Vital Signs Recording Settings Configuration Implications

### End Case Record

Set this setting to **On** if you want the Vital Signs recording be triggered when a patient is discharged using the End Case function.

### Trend Group

Use this setting to define the default trend group that is recorded each time a Vital Signs recording is triggered.

### Period

Use this setting to define the period of time for which trend data should be printed on the recording. Available choices are:

- 1 hours

- 2 hours
- 3 hours
- 6 hours
- 12 hours
- 24 hours
- 48 hours
- 96 hours

## Column

Use this setting to define in which way the Vital Signs recording is displayed on the recorder paper:

- To display the trended values with the time stamps for the set Interval time on top of the table select **Interval**. Each measurement of the set Trend Group is displayed in one row.
- To display it with the time stamps left of the printed table select **NBP**. Each measurement of the set Trend Group is displayed in one column.

## Interval

Use this setting to determine the default time interval (resolution of the trend data) that is recorded each time a Vital Signs recording is triggered. Available choices are:

- 12 sec
- 1 min
- 5 min
- 10 min
- 15 min
- 30 min
- 1 hours
- 2 hours
- 3 hours

## Show Units

If **Show Units** is configured to **On**, the measurements in the Vital Signs recording are printed together with their units.

# Configuring ST Map

Monitor Settings: Main Setup > ST Map

## Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models

Setting	Mode	MX600-MX800, MP2-MP90, MP5T, MP5SC, X2
Interval	C, M	5 min
Scale	C, M	2 mm
ST View	C, M	Hide Points

## ST Map Settings Configuration Implications

### Interval

In the ST Map window, switch to **Trend View**. Use the pop-up key **Select Interval** to configure the time interval between the trended ST map samples when using ST Map in Trend View. The choices are:

- **12 sec**
- **1 min**
- **5 min**
- **15 min**
- **30 min**

### Scale

In the ST Map window, switch to Trend View. Use the **Size Up** and **Size Down** keys to define the scale that the monitor uses in the ST Map application. Available choices are:

- **1 mm**
- **2 mm**
- **3 mm**
- **5 mm**
- **10 mm**
- **15 mm**

# Configuring ProtocolWatch

Monitor Settings: Main Setup > ProtocolWatch

ProtocolWatch (PW) is a clinical decision support tool. It allows you to run a clinical protocol which can monitor developments in the patient's condition. ProtocolWatch notifies you when certain conditions or combinations of conditions occur and it documents developments in a log which can be printed. For detailed information on how to use this application, see the monitor's Instructions for Use.

## Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP5-MP90, MP5SC
CVP Threshold	C	100 mmHg
CVP Thresh. Unit	C	mmHg

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	MX600-MX800, MP5-MP90, MP5SC
Protocol	C, M	Off

Factory Defaults for Profiles								
Setting	Mode	EWS Scoring	Frequent Vitals	RRT	Resus	SpotCheck	SinglePat.EWS	SinglePat.SC
MP5SC, Option #P05 (for MP5)								
Protocol <sup>1</sup>	C, M	EWS MEWS	EWS MEWS	EWS MEWS	EWS MEWS	SpotCheck	EWS MEWS	SpotCheck

<sup>1</sup> If **Protocol** for MP5SC is set to **On**.

## ProtocolWatch Application Settings Configuration Implications

### CVP Threshold

This setting lets you define the maximum CVP value the monitor will automatically enter into a protocol when CVP is continuously measured. Use this setting to prevent false high CVP values from being entered into a protocol when the CVP is continuously measured. Choices are:

- 20 mmHg
- 30 mmHg
- 40 mmHg
- 50 mmHg
- 60 mmHg
- 70 mmHg
- 80 mmHg
- 90 mmHg
- 100 mmHg

## CVP Thresh. Unit

This setting lets you change the unit used for the CVP Threshold.

## Protocol

This setting lets you preselect the protocol you want to run. Selecting the Protocol also determines which protocol-specific configuration settings are displayed (see below) and can be configured. At this point, the following protocols are available (depending on configuration):

- SSC Sepsis Protocol
- Guardian Early Warning Scoring Protocols:
  - EWS MEWS
  - EWS SPS
  - SpotCheck

If you select **Off**, no protocol will be preselected.

### NOTE

The Protocol can always be changed by the clinician during monitoring.

# Configuring SpotCheck Monitoring

## Monitor Settings: Main Setup > SpotCheck > Automatic VS

Using an MP5SC, or an MP5 - MP50 with the appropriate option, you can collect vital signs at intervals. Each set of data is saved in a SpotCheck record and can be viewed in a SpotCheck trend. The MP5SC can be used to collect vital signs from multiple patients.

## Settings for Specific Options or Monitor Models

These settings are profile dependent monitor settings. They only take effect if currently either SpotCheck (see “Configuring Guardian Early Warning Scoring” on page 221) or EWS protocol (see “Configuring Recordings” on page 222) is executed.

The following table lists the factory defaults for specific options or monitor models:

Factory Defaults for Profiles								
Setting	Mode	EWS Scoring	Frequent Vitals	RRT	Resus	SpotCheck	SinglePat.EWS	SinglePat.SC
<b>MP5SC, Option #P05 (for MP5)</b>								
Interval	C, M	No	No	Yes	Yes	No	No	No
Interval Time	C, M	1 hrs	1 hrs	2 min	2 min	1 hrs	1 hrs	1 hrs
NBP	C, M	No	Yes	No	No	No	No	No
SpO <sub>2</sub>	C, M	No	Yes	No	No	No	No	No
Patient Alarm	C, M	No	Yes	No	No	No	No	No

## SpotCheck Monitoring Settings Configuration Implications

### Interval

This setting lets you switch on the interval for automatic vital signs acquisition.

### Interval time

This setting lets you define the interval time for automatic vital signs acquisition. Choices are:

- 2 min
- 2.5 min
- 3 min
- 5 min
- 10 min
- 15 min
- 20 min
- 30 min
- 45 min
- 1 hrs
- 2 hrs
- 4 hrs
- 8 hrs
- 12 hrs
- 24 hrs

### Patient Alarm

This setting lets you switch on the automatic vital signs acquisition, triggered by a patient alarm.

### SpO<sub>2</sub>

This setting lets you switch on the automatic vital signs acquisition, triggered by the SpO<sub>2</sub> measurement, measured by an IntelliVue CL SpO<sub>2</sub> Pod (not in continuous mode) only.

### NBP

This setting lets you switch on the automatic vital signs acquisition, triggered by the NBP measurement.

# Configuring Workflow

Monitor Settings: Main Setup > Workflow

## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	MX600-MX800, MP2-MP90, X2
Use Model	C	Bedside
Allow Discharge	C	Yes

## Settings for Specific Options or Monitor Models

Not available in this release:

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	MP5, X2
Assign to Patient	C	Yes

## Workflow Settings Configuration Implications

The Workflow setting lets you configure the equipment use model.

### Use Model

The setting **Use Model** defines the basic use model of patient monitors and X2 for use together with a PIIC iX.

Choices are:

- **Bedside**
- **Transport**
- **SpotCheck**
- **MMS**

### Allow Discharge

The setting **Allow Discharge** defines if a patient Discharge function is allowed at this monitor or not.

Choices are:

- **Yes**
- **No**

#### NOTE

Set **Allow Discharge** to **No** in monitors that are solely used in transport and SpotCheck use models.



## Assign to Patient

**MP5, X2 only** Not available in this release:

The setting **Assign to Patient** defines if this monitor is assigned to a patient or not.

Choices are:

- **Yes**
- **No**

### NOTE

Workflow configuration settings of the PIIC iX can override this setting.

## Configuring the Cardiac Output Window

**Monitor Settings: Main Setup > Cardiac Output > Table Contents**

This lets you configure the measurement parameters shown in the results table of the Cardiac Output (C.O.) procedure window.

- 1 To configure the C.O. window settings, you must either have a C.O. transducer connected or manually switch the C.O. measurement **On**. You can do this by turning C.O. **On** in the Setup C.O. menu.

### NOTE

Make sure that while you are configuring without a connected C.O. transducer, you do not pause, switch off or silence alarms.

- 2 Select **Main Setup > Cardiac Output** to open the Cardiac Output window.
- 3 Select the pop-up key **Table Contents** to enter the Table Contents menu. The left column displays the parameters that are already switched on. The right column contains other available parameters.
- 4 Select a parameter in the right column and select the left arrow key to move the selected parameter to the left column. The maximum number of entries that can be moved to the left varies depending on the monitor model and display resolution.
- 5 Close the menu when you are finished.

## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	MX600-MX800, MP20-MP90
C.O.	C, M	On
C.I.	C, M	On
ITBV	C, M	Off
ITBVI	C, M	On
EVLW	C, M	Off
EVLWI	C, M	On
GEDV	C, M	Off
GEDVI	C, M	Off
ETVI	C, M	On

Setting	Mode	MX600-MX800, MP20-MP90
CFI	C, M	On
Tblood	C, M	Off
Tinj	C, M	On
InjVol	C, M	On
CathCt	C, M	On
CompCt	C, M	On
PVPI <sup>1</sup>	C, M	Off
GEF <sup>1</sup>	C, M	Off
RLShnt <sup>1</sup>	C, M	Off

<sup>1</sup> Setting not available in the U.S.A or in clinical environments under FDA control.

## Configuring the Wedge Window

Monitor Settings: Main Setup > Wedge

### Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	MX600-MX800, MP20-MP90
Reference Wave 1	C, M	Primary Lead
Wave Speed	C, M	25 mm/sec

Setting	Mode	Option #H10, #H20, #H40 (for MX600-MX800, MP20-MP90)
Reference Wave 2	C, M	Resp
PAWP Color	C	Green

Setting	Mode	Option #H30 (for MX600-MX800, MP20-MP90)
Reference Wave 2	C, M	CO <sub>2</sub>
PAWP Color	C	Yellow

## Configuring the Loops Window

Monitor Settings: Main Setup > Loops

### Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP40-MP90
Loop Type	C, M	Press/Volume

# Configuring the CSA Window

Monitor Settings: Main Setup > EEG > Setup CSA Window

## Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP40-MP90
Buffer	C, M	A (2 sec)
Trend SEF	C, M	On
Trend MDF	C, M	Off
Trend PPF	C, M	Off
Clipping	C	On
Frequency Scale	C	0 ..30 Hz

## CSA Window Settings Configuration Implications

### Buffer

This setting defines which of the three pre-configured buffers (see “Configuring CSA Buffers” on page 237) is used in the CSA window. This setting can also be changed in monitoring mode.

#### NOTE

The default buffer interval for CSAs viewed in the CSA window is optimized for a quick update of CSA information.

### Trend SEF, Trend MDF, Trend PPF

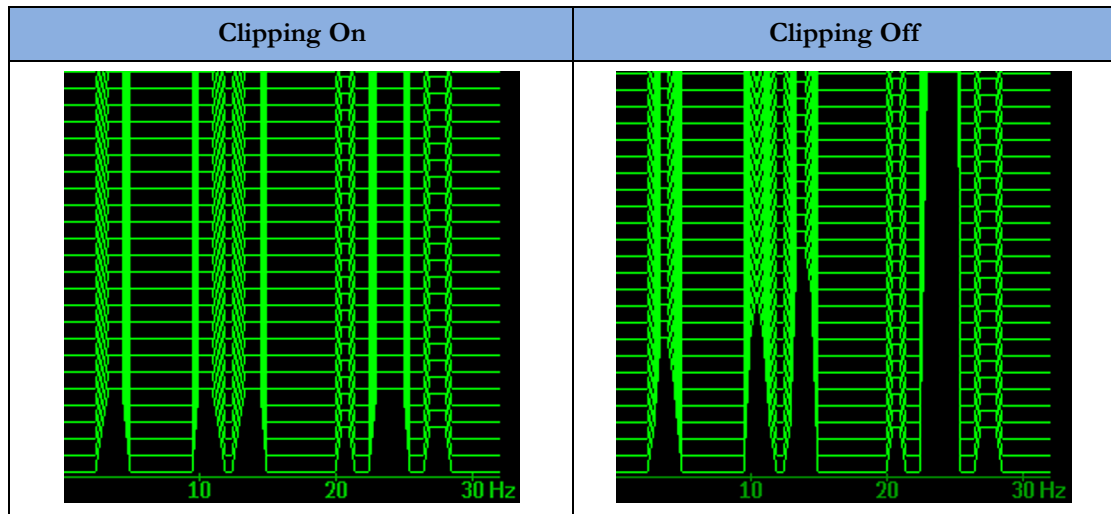
These settings define which of the trend lines (SEF, MDF, PPF) are displayed in the CSA window. These settings can also be changed in monitoring mode.

### Clipping

Set **Clipping** to **On** to improve the 3-D presentation of the embedded CSA and make it more “readable”. When set to **On**, peaks in the spectral lines are artificially clipped at a certain height (see

## 7 Monitor Settings

graphic below). If **Clipping** is **Off**, peaks can be displayed over the full window height which may result in a more cluttered presentation.



### Frequency Scale

This setting defines the bandwidth displayed in the embedded CSA. Choices are:

- 0 ..7.5 Hz
- 0 ..15 Hz
- 0 ..30 Hz

## Configuring ECG

Monitor Settings: Main Setup > Measurements > ECG

Monitor Settings: Main Setup > Measurements > ST Analysis > ST View

### Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	for MX600-MX800, MP2-MP90, X2
Fix Pacer Amplit	C	Off
ST View <sup>1</sup>	C, M	Hide Points
STE View <sup>1</sup>	C, M	Show Points

<sup>1</sup> These settings are only visible in the ST View/STE View window.

Setting	Mode	Option #H10, #H20, #H40 (for MX600-MX800, MP5-MP90) MP5T, MP5SC, MP2, X2
Adjust Size	C	Size X1
AutoFilter	C	Off

Setting	Mode	Option #H30 (for MX600-MX800, MP5-MP90)
Adjust Size	C	Size X2
AutoFilter	C	On

## ECG Settings Configuration Implications

### Adjust Size

This setting lets you pre-configure the default size with which all ECG waves are drawn on the Screen. If you select **Adjust Size**, the **Adjust Size** pop-up key line opens at the bottom of the Screen.

The choices are:

- **Size X0.5**
- **Size X1**
- **Size X2**
- **Size X4**
- **Auto Size**

If you select **Auto Size**, the monitor chooses the optimal adjustment factor for all the ECG waves so that they use the space available to them as efficiently as possible. Use the 1 mV calibration bar as an indicator of the actual signal strength.

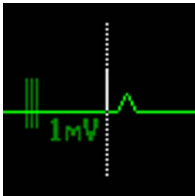
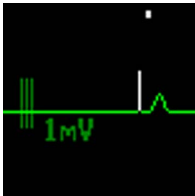
### Auto Filter

If the **AutoFilter** setting is configured to **On** the monitor will automatically switch to the setting **Filter** if electromagnetic interference is detected.

### Fix Pacer Amplit

Set this setting to **On** to configure the pacer spikes to have a fixed size, for ease of identification on the monitor Screen. The spikes are then shown in the background as a dotted line. The length of the dotted line is fixed to the height of the wave channel and is independent of the actual pacer amplitude.

Set this setting to **Off** to display the pacer spikes as a solid line in their original height and the pace pulse markers next to the pacer spikes.

Fix Pacer Amplit On	Fix Pacer Amplit Off
	

### ST View, STE View

In the **ST View/STE View** window, use the **Hide Points** and **Show Points** pop-up key to switch the ST or STE measurement points on or off, and to define this setting.

# Configuring Capture 12 Lead

Measurement Settings: Main Setup > Measurements > ECG > 12 Lead

## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

Setting	Mode	Adult	Pedi	Neo	Outdoor (MP2, X2 Only)
<b>MX600-MX800, MP2-MP90, MP5T, MP5SC, X2</b>					
High Pass Filter	C, M	0.15 Hz	0.15 Hz	0.15 Hz	0.15 Hz
Low Pass Filter	C, M	100 Hz	100 Hz	100 Hz	100 Hz
AC Filter	C, M	On	On	On	On
Gain	C, M	10 mm/mV	10 mm/mV	10 mm/mV	10 mm/mV
Chest Gain	C, M	Full	Full	Full	Full
Paper Speed	C, M	25 mm/sec	25 mm/sec	25 mm/sec	25 mm/sec
Format	C, M	3x4 1 R	3x4 1 R	3x4 1 R	3x4 1 R
Time	C, M	Sequential	Sequential	Sequential	Sequential
Rhythm Lead 1	C, M	Primary	Primary	Primary	Primary
Rhythm Lead 2	C, M	Secondary	Secondary	Secondary	Secondary
Rhythm Lead 3	C, M	V5	V5	V5	V5
Lead Sequence	C	Internat	Internat	Internat	Internat

## High Pass Filter, Low Pass Filter, AC Filter

These settings let you select the **High Pass Filter**, **Low Pass Filter**, and **AC Filter** (line frequency filter) for wave filtering for both the application window and the printout.

Choices are:

- **High Pass Filter**
  - 0.05 Hz
  - 0.15 Hz
  - 0.5 Hz
- **Low Pass Filter**
  - 40 Hz
  - 100 Hz
  - 150 Hz
- **AC Filter**
  - On
  - Off

### NOTE

- During the time the 12-lead waves are running in the **12 Lead ECG** window, the **Setup 12 Lead (Default)** filter settings are applied to the real-time ECG wave on the monitor screen.
- As soon as you capture the wave, the real-time ECG wave filter switches back to its original setting.

- The captured 12-Lead ECG can be filtered individually in the **Setup 12 Lead (Current)** menu. The following table shows the mapping of the realtime filter modes with the three filter settings.

Setup 12-Lead (Defaults)		High Pass Filter		
		0.05Hz	0.15Hz	0.5Hz
Low Pass Filter	40Hz	Monitor	Monitor	AC Filter: On: Filter Off: Monitor
	100Hz	Diag	Diag	Ext. Monitor
	150Hz	Diag	Diag	Ext. Monitor

## Gain

This setting lets you select the limb lead gain for both display and printout.

Choices are:

- 2.5 mm/mV
- 5 mm/mV
- 10 mm/mV
- 20 mm/mV

## Chest Gain

This setting lets you select the chest lead gain (V1 ... V6, MCL) for both display and printout relative to the limb lead gain. Choices are **Full** and **Half**.

If you select **Half**, the 1 millivolt bar of the affected leads shows half of the length, and the 1 millivolt bar is stepped.

## Paper Speed

This setting lets you select the speed for paper printouts. Choices are **25 mm/sec** and **50 mm/sec**.

## Format

This setting lets you select the layout for display and printout.

Choices are:

- 12x1
- 6x2
- 3x4
- 3x4 1R
- 3x4 3R
- 3x4 ST
- 3x4 1R ST

The “R” formats contain one or more rhythm leads.

The “ST” formats contain an ST map.

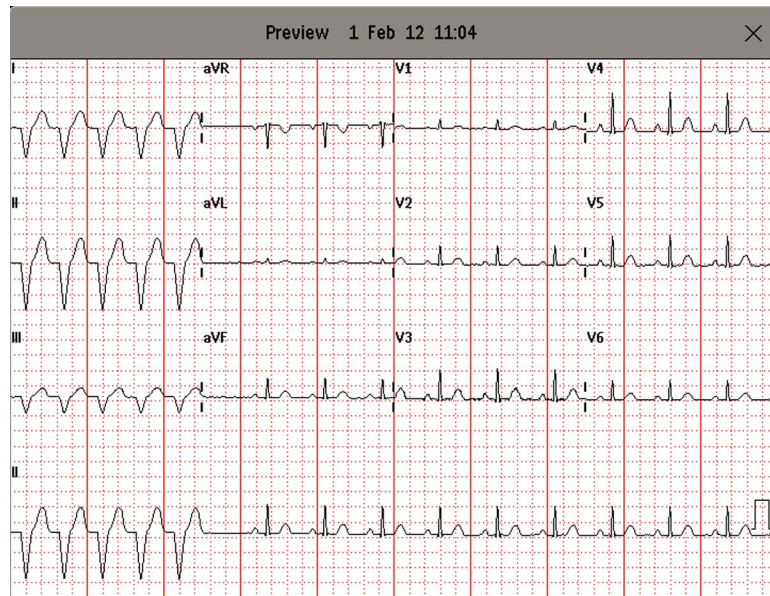
## Time

Use the **Time** setting to define whether all leads show simultaneous or sequential intervals of time, when displaying or printing two or more columns.

Choices are **Sequential** and **Simultaneous**.

## Sequential

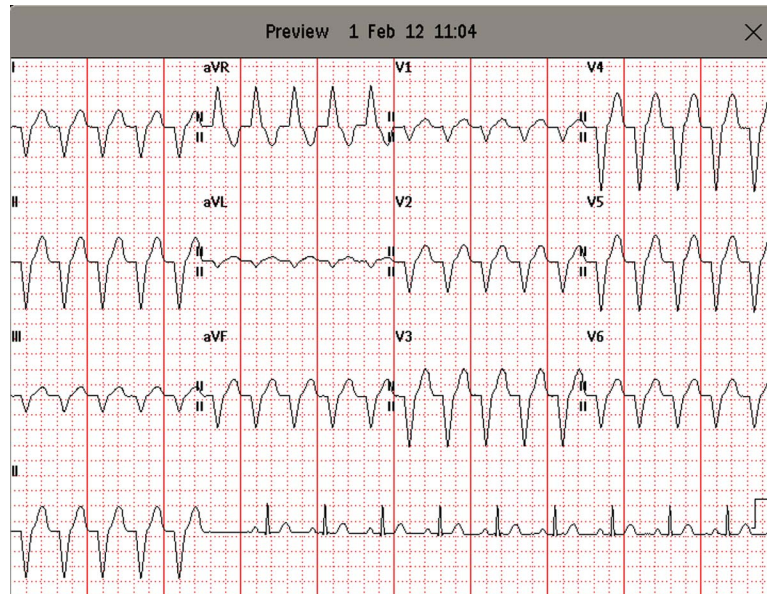
All ECG signals start at 0 seconds in the first column, 2.5 seconds in the second column, 5.0 seconds in the third column, and 7.5 seconds in the fourth column. The ECG sequences are separated by single bars.





## Simultaneous

The ECG starting point of each lead is the same time even though they may appear to start at different times on the ECG. The ECG sequences are separated by double bars.



## Rhythm Lead 1, 2, 3

This setting lets you select which lead will be used as rhythm lead 1, 2 or 3.

Choices are

- **Primary, Secondary**
- **I, II, III, aVR, aVL, aVF**
- **V1, V2, V3, V4, V5, V6**
- **V**
- **MCL**

This setting is only relevant when either **3x4 1R**, **3x4 1R ST**, or **3x4 3R** is selected as **Format**.

## Lead Sequence

This setting lets you define the sequence in which the leads are presented. Choices are **Cabrera** and **Internat**.

# Configuring Calculations

Monitor Settings: Main Setup > Calculations

## Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP20-MP90
Calc. Time Ref.	C	C.O. Time
Height Unit	C	not applicable, these settings are stored as "Global Settings", see "Global Settings" on page 14
Weight Unit	C	
BSA Form. Adult	C	Dubois
BSA Form. Pedi	C	Dubois
BSA Form. Neo	C	Boyd
Hemo Press Unit	C	mmHg
Gas Press Unit	C	mmHg
Hb Unit	C	g/dl
Hemo Calcs	C	On
Oxy Calcs	C	On
Vent Calcs	C	Off

## Calculations Settings Configuration Implications

### Calc Time Ref

#### Hemo Calcs only:

The calculation time reference determines the time stamp of all measurement values that are used for a hemo-dynamic calculation except the C.O. value.

- Select **C.O. Time** if you want to use the values measured at exactly the time of the most recently saved C.O. measurement.
- Select **Current Time** if you want to use the currently measured values (i.e. the values measured at the time you entered the Calculations window). The most recent available C.O. value is used for the calculation.

#### NOTE

Be aware that if **Calc Time Ref.** is set to **Current Time**, and the calculation is performed significantly later than the C.O. value has been saved, the difference in time stamps may reduce the clinical validity of the calculation results.

### BSA Form. Adult, BSA Form. Pedi, BSA Form. Neo

Defines the formula used to calculate the body surface area. The choices are **Dubois** and **Boyd**.

### Hemo Press Unit

Defines the unit used for hemo-dynamic pressures in the calculation window. The choices are **mmHg** and **kPa**.

## Gas Press Unit

Defines the unit used for gas pressures in the calculation window. The choices are **mmHg** and **kPa**.

## Hb Unit

Defines the unit used for hemoglobin in the calculation window. The choices are **g/dl** and **mmol/l**.

## Hemo Calcs

Set **Hemo Calcs** to **On** to make the Hemo Calcs menu entry available in the Calculations menu in monitoring mode.

## Oxy Calcs

Set **Oxy Calcs** to **On** to make the Oxy Calcs menu entry available in the Calculations menu in monitoring mode.

## Vent Calcs

Set **Vent Calcs** to **On** to make the Vent Calcs menu entry available in the Calculations menu in monitoring mode.

# Configuring Reports

Not MP5T, Monitor Settings: Main Setup > Reports > Setup Reports > Report  
MP5SC

### NOTE

For some report types, some of the settings are not shown. This means that they cannot be changed.

## Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP2-MP90, X2
<b>Realtime Rep</b>		
Report Type	C, M	Visible Waves
Report Size	C, M	Unspecified
Orientation	C, M	Unspecified
Target Device	C, M	Unspecified
<b>VitalsReport</b>		
Report Type	C, M	Vital Signs
Report Size	C, M	Unspecified
Orientation	C, M	Unspecified
Target Device	C, M	Unspecified
<b>Graph Report</b>		
Report Type	C, M	Graph Trend
Report Size	C, M	Unspecified
Orientation	C, M	Unspecified
Target Device	C, M	Unspecified

## 7 Monitor Settings

Setting	Mode	MX600-MX800, MP2-MP90, X2
<b>EventEpisode</b>		
Report Type	C, M	Episode
Report Size	C, M	Unspecified
Orientation	C, M	Unspecified
Target Device	C, M	Unspecified
<b>Event Review</b>		
Report Type	C, M	Review
Report Size	C, M	Unspecified
Orientation	C, M	Unspecified
Target Device	C, M	Unspecified
<b>ECG Report A</b>		
Report Type	C, M	ECG3x4
Report Size	C, M	Unspecified
Orientation	C, M	Unspecified
Target Device	C, M	Unspecified
<b>ECG Report B</b>		
Report Type	C, M	ECG12x1
Report Size	C, M	Unspecified
Orientation	C, M	Unspecified
Target Device	C, M	Unspecified
<b>12 Lead Rep.</b>		
Target Device	C, M	Unspecified
<b>ST Map Rep.</b>		
Report Type	C, M	ST Map
Report Size	C, M	Unspecified
Orientation	C, M	Unspecified
Target Device	C, M	Unspecified
<b>ECG QT Rep.</b>		
Report Type	C, M	ECG QT Rep.
Report Size	C, M	Unspecified
Orientation	C, M	Unspecified
Target Device	C, M	Unspecified
<b>EEG Report</b>		
Report Type	C, M	EEG Report
Report Size	C, M	Unspecified
Orientation	C, M	Unspecified
Target Device	C, M	Unspecified
<b>C.O. Report</b>		
Target Device	C, M	Unspecified
<b>Wedge Report</b>		
Target Device	C, M	Unspecified
<b>ProtWatchRep</b>		

Setting	Mode	MX600-MX800, MP2-MP90, X2
Report Type	C, M	Protocol 1
Report Size	C, M	Unspecified
Orientation	C, M	Unspecified
Target Device	C, M	Unspecified
<b>Alarm Limits</b>		
Report Type	C, M	Alarm Limits
Report Size	C, M	Unspecified
Orientation	C, M	Unspecified
Target Device	C, M	Unspecified
<b>Calc. Report</b>		
Target Device	C, M	Unspecified
<b>Calc. Review</b>		
Target Device	C, M	Unspecified
<b>Loops Report</b>		
Target Device	C, M	Unspecified
<b>Drug Calc</b>		
Target Device	C, M	Unspecified
<b>Histogram</b>		
Report Type	C, M	Histogram
Report Size	C, M	Unspecified
Orientation	C, M	Unspecified
Target Device	C, M	Unspecified
<b>System Report</b>		
Report Type	C, M	Test Report
Report Size	C, M	Unspecified
Orientation	C, M	Unspecified
Target Device	C, M	Unspecified
<b>UserReport A</b>		
Report Type	C, M	None
Report Size	C, M	Unspecified
Orientation	C, M	Unspecified
Target Device	C, M	Unspecified
<b>UserReport B</b>		
Report Type	C, M	None
Report Size	C, M	Unspecified
Orientation	C, M	Unspecified
Target Device	C, M	Unspecified

**NOTE**

For information on configuring:

- ECG reports, see “Configuring ECG Reports” on page 178.
- CSA reports, see “Configuring CSA Reports” on page 179.

- Trend reports, see “Configuring Trend Reports” on page 180.

## Reports Configuration Implications

Each time a report is triggered, the monitor looks through the list of printers in the order they appear in the **Setup Printers** menu and prints the report on the first enabled printer that meets the requirements of the triggered report.

### Report Type

Lets you select a template for the report. The selection of templates listed depends on the report selected. The following templates are available:

<b>VisibleWaves</b>	all waves currently visible, in the order they appear on the screen
<b>All Waves</b>	all measured waves
<b>RT Waves</b>	all currently measured realtime waves, according to the monitor’s priority list
<b>HiRes Waves</b>	all measured HiRes waves
<b>OxyCRG Waves</b>	the OxyCRG/Neonatal Event Review waves
<b>Vital Signs</b>	trend information in tabular form
<b>Graph Trend</b>	trend information in graphic form
<b>Episode</b>	the most current event episode
<b>Review</b>	event review report for the event group with the most current episode
<b>EventRev All</b>	summary event review report of all patient events
<b>CAR Report</b>	the last CAR Seat report
<b>ECG3X4, ECG6X2, ECG12X1, ECG4X2, ECG8X1, ECG12X1(2P)</b>	Different formats of ECG reports
<b>12 Lead Rep.<sup>1</sup></b>	ECG 12 Lead report in different formats, specified in the Setup 12 Lead menu of the Capture 12 Lead application
<b>ST Map</b>	ST Map report
<b>ECG QT</b>	QT report
<b>EEG Report</b>	EEG report
<b>Protocol 1, Protocol 2, Protocol 3</b>	ProtocolWatch reports
<b>Alarm Limits</b>	a list of all currently set alarm limits
<b>Histogram</b>	trend information in form of a histogram
<b>Battery Stat</b>	Battery status report
<b>Test Report</b>	System test report

<sup>1</sup> If you print 12-Lead Reports with PIIC iX or Local XDS Printing, make sure to install the fonts for the following languages on the print server of PIIC iX or Local XDS Printing:

- Russian
- Greek
- Japanese
- Simplified Chinese
- Traditional Chinese
- Korean

Refer to the **IntelliVue PIC IX Installation and Configuration Guide** and the **IntelliVue XDS Application Installation and Configuration Guide** for full details about the configuration.

## Report Size

Lets you choose the paper size to be used for the report. The selection of sizes listed depends on the report type selected:

- **Unspecified**
- **Universal**
- **A4**
- **Letter**
- **LrgUniversal**
- **A3**
- **Ledger**

If set to **Unspecified**, the report prints on the first available printer in the list of printers which is enabled and which has a paper size appropriate for the chosen template.

If set to **Universal**, the report prints on the first available printer in the list of printers which is enabled and which offers the paper size A4 or US letter.

If set to **LrgUniversal**, the report prints on the first available printer in the list of printers which is enabled and which offers the paper size A3 or ledger.

## Orientation

This setting lets you set the orientation of the report printout. The selection of orientations listed depends on the report type and report size selected:

- **Unspecified:** the report uses the default orientation for the chosen report type
- **Landscape:** the report uses landscape orientation
- **Portrait:** the report uses portrait orientation

## Target Device

This setting lets you choose which printer the print job will be sent to:

- If set to **Unspecified**, the report prints on the first printer in the list of printers which is enabled and which has a paper size appropriate for the chosen template. If no printer is available when the report is triggered, the report is sent to the print database from where it will be automatically printed, when an appropriate printer becomes available.
- If set to **Local 1** or **Local 2**, the report will be sent to the corresponding local printer. If the printer is not available when the report is triggered, the report is not printed, and the information may be lost.
- If set to **Remote 1**, **Remote 2**, or **Remote 3**, the report will be sent to the corresponding remote printer. If the printer is not available when the report is triggered, the report is not printed, and the information may be lost.
- If set to **Database**, the report will be sent to the print database (provided this is enabled, see “Configuring Print Database” on page 305. The print database is a special section of the monitor database which acts as a buffer for print jobs. Reports stored in the print database will not be

cleared by a discharge or by a power cycle. Reports stored in the print database will be handled depending on how the setting **Auto Print Dbs** is set, see “Configuring Other Report Settings” on page 176.

### NOTE

If you are using an IntelliVue XDS Application print service, you may see XDS printers in the Setup Printers menu that also have "**Local**" or "**Remote**" in their name. Their names and settings can only be configured in the XDS Application. Refer to the **IntelliVue XDS Application Installation and Configuration Guide** for full details about the configuration possibilities.

# Configuring Other Report Settings

Not MP5T, Monitor Settings: Main Setup > Reports  
MP5SC

## Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP2-MP90, X2
Auto Print Dbs	C	Always
Addressograph	C	None

## Other Report Settings Configuration Implications

### Auto Print Dbs

This setting determines how the monitor handles reports stored in the print database.

- If **Auto Print Dbs** is set to **Always**, print jobs stored in the print database are automatically printed when a printer with a paper size matching the template of the report becomes available.
- Set **Auto Print Dbs** to **Host Only** if you connect an X2 or MP5 to a host monitor (companion mode) and want to prevent reports stored in the print database of the companion monitor being sent to a matching printer. This ensures that reports triggered on the companion while disconnected from the host and the network (for example during transport) are not automatically printed when the companion is connected to a host monitor.

### NOTE

If **Auto Print Dbs** is set to **Host Only** reports triggered on the host monitor are still sent to a matching printer.

- Set **Auto Print Dbs** to **Never** if you do not want the monitor to automatically send reports stored in the print database to a matching printer. This enables the clinician to print only selected reports stored in the print database.

### Addressograph

This setting lets you configure an addressograph field at the top of the report. Choices are:

- **Left side**
- **Right side**



- **None**

An addressograph field is an empty field which has a width of 60mm, its height depends on the report. This enables the clinician to label the report with their own patient data.

If you configure **Addressograph** to **Left** or **Right**, only the first character of the patient's middle name (middle initial) may be shown on the report.

## Configuring Auto Reports

Not MP5T, MP5SC  
**Monitor Settings: Main Setup > Reports > Auto Reports**

### Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP5-MP90, MP2, X2
<b>Auto Report &gt; A, B, C, D</b>		
Report	C, M	None
Scheduled Rep.	C, M	On
Start Hour	C, M	7
Start Minute	C, M	0
Rep. Freq. (hrs)	C, M	24
Rep. Freq. (min)	C, M	0

### Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	Option #H10, #H20, #H40 (for MX600-MX800, MP5-MP90) MP2, X2
<b>Auto Report &gt; A, B, C, D</b>		
End Case Report	C, M	On

Setting	Mode	Option #H30 (for MX600-MX800, MP5-MP90)
<b>Auto Report &gt; A, B, C, D</b>		
End Case Report	C, M	Off

### Auto Reports Setting Configuration Implications

Auto Reports print automatically when a specified trigger occurs. There are two types of Auto Reports:

- **Scheduled reports** can be set up to print at predefined intervals, starting at a predefined time of day. The start time you set applies for every following day. For example, if you set a start time of 07:00 and a repeat time of six hours, the first report will print at 07:00 every day, the next at 13:00 and so on.
- **End Case Reports** print when a patient is discharged using the monitor's End Case function.

An Auto Report can include both a **Scheduled Report** and an **End Case Report**.

## Setting Up an End Case Report

- 1 Select **Main Setup > Reports > Auto Reports**
- 2 Select one of the four available Auto Report “slots” (**A, B, C, or D**)
- 3 Select **Report**, then select the type of report you want to be printed when a patient is discharged using the End Case function, for example “**VitalsReport**”.
- 4 Set **End Case Report** to **On**.
- 5 Set **Scheduled Rep.** to **Off**, if do not want the monitor to trigger a Vital Signs Report at predefined intervals.
- 6 If needed, set up the **VitalsReport** or whatever type of report you used for the **End Case Report**.
- 7 If you want more than one report to be printed when using End Case on a patient, repeat steps 2 through 6, selecting a different Auto Report (**A, B, C, or D**) and allocating it a different report type.

## Configuring ECG Reports

Not MP5T, Monitor Settings: Main Setup > Reports > ECG Reports  
MP5SC

### Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP2-MP90, X2
Lead Sequence	C	Internat
ECG Gain	C, M	10 mm/mV
Speed	C, M	25 mm/sec
Annotation	C, M	Off

### ECG Reports Configuration Implications

#### Lead Sequence

The layout of the report can be configured to either **International** or **Cabrera**.

#### ECG Gain

This setting lets you set a defined ECG Gain to determine how ECG waves will appear on the ECG report printouts.

#### Speed

This setting allows you to set the ECG wave speed used on the printout.

#### Annotation

Set **Annotation** to **On** if the printed ECG wave should be annotated with beat labels. Pace pulse marks are automatically printed beside the wave for paced patients.

# Configuring CSA Reports

Monitor Settings: Main Setup > Reports > CSA On EEG Rep.

## Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP40-MP90
Buffer	C, M	A (2 sec)
Trend SEF	C, M	On
Trend MDF	C, M	Off
Trend PPF	C, M	Off
Clipping	C	On
Frequency Scale	C	0 ..30 Hz

## CSA Reports Settings Configuration Implications

### Buffer

This setting defines which of the three pre-configured buffers (see “Configuring CSA Reports” on page 179) is used on a CSA report. This setting can also be changed in monitoring mode.

#### NOTE

The default buffer interval for CSA reports is intended to provide an overview of longer term CSA trends.

### Trend SEF, Trend MDF, Trend PPF

These settings define which of the available trend lines (**SEF**, **MDF**, **PPF**) are printed on the CSA report. These settings can also be changed in monitoring mode.

### Clipping

Set **Clipping** to **On** to improve the 3-D presentation of the CSA and make it more “readable”. When set to **On**, peaks in a spectral line are artificially clipped at a certain height (see graphic under “Configuring CSA Reports” on page 179). If **Clipping** is **Off**, peaks can reach as high as the window allows which may result in a more cluttered presentation.

### Frequency Scale

This setting defines the bandwidth used for the CSA report.

# Configuring Trend Reports

## Vital Signs Report

**Not MP5T** Monitor Settings: Main Setup > Reports > Vital Signs Rep.

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	MX600-MX800, MP20-MP90 Option #H30 (for MP5)
Trend Group	C, M	All
Period	C, M	6 hours
Column	C, M	Interval
Interval	C, M	30 min
Show Units	C	Off

Setting	Mode	MP2, X2 MP5SC, MP5 #P05 Option #H10, #H20, #H30 (for MP5)
Trend Group	C, M	All
Period	C, M	3 hours
Column	C, M	Interval
Interval	C, M	10 min
Show Units	C	Off

## Graphical Trend Report

**Not MP5T** Monitor Settings: Main Setup > Reports > Graph Trend Rep.

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	MX600-MX800, MP20-MP90 Option #H30 (for MP5)
Trend Group	C, M	All
Period	C, M	6 hours
Automatic Period	C, M	Off

Setting	Mode	MP5SC, MP2, X2 Option #H10, #H20, #H40 (for MP5)
Trend Group	C, M	All
Period	C, M	3 hours
Automatic Period	C, M	Off

## Trend Report Settings Configuration Implications

### Trend Group

Use this setting to define the default trend group that is printed each time a trend report is triggered.

### Column

Use this setting to define in which way the Vital Signs Report is displayed on the report paper.

- To display the trended values with the time stamps for the set Interval time on top of the table select **Interval**. Each measurement of the set **Trend Group** is displayed in one row.
- To display it with the time stamps left of the printed table select **NBP**. Each measurement of the set **Trend Group** is displayed in one column.

### Interval

#### Vital Signs Report only:

Use this setting to determine the default time interval (resolution of the trend data) that is printed each time a trend report is triggered.

### Show Units

#### Vital Signs Report only:

If **Show Units** is configured to **On**, the measurements in the Vital Signs report are printed together with their units.

### Period

Use this setting to define the period of time for which trend data should be printed on the report. If **Automatic Period** is configured to **On**, all trend data for the current patient will be printed, irrespective which trend period is selected.

### Automatic Period

#### Graphical Trend Report only:

When **Automatic Period** is set to **Off**, the Period setting defines the period of trend information printed on Graphic Trend Reports.

When **Automatic Period** is **On**, the Period setting is ignored and the Graphic Trend Report shows trend information for the entire period stored in the trend database. The time is shown on the report's horizontal axis, which always extends across one page, and the measurement trends are printed below each other on the vertical axis.

# Configuring User Interface Settings

Monitor Settings: Main Setup > User Interface

## General Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP2-MP90, MP5T, MP5SC, X2
QRS Low	C	0
QRS Type	C	not applicable, this setting is stored as a global setting: see “Configuring General Global Settings” on page 240
Tone Mod. Type	C	Enhanced
Global Speed	C, M	25 mm/sec
RespiratorySpeed	C, M	6.25 mm/sec
EEG Speed	C, M	25 mm/sec
Touch Enable	S	Yes
MMS Keys <sup>1</sup>	C	Enabled
Al.Off Enhanced	C	Overvw only
Meas. Selection	C	Window
Meas. Deactivate	C	Manual
Timer Volume <sup>2</sup>	C	4
NMT Tone Volume	C, M	0
OtherBed Colors	C	not applicable, this setting is stored as a network setting: see “Configuring Network Settings” on page 195
Global SmartKeys	C	not applicable, these settings are stored as unique monitor settings: see “Configuring User Interface Settings - Keys” on page 233
Oper. 1 Fn Keys	C	
Oper. 2 Fn Keys	C	
Oper. 1 RemCtrl	C	
Oper. 2 RemCtrl	C	

<sup>1</sup> Setting not available for MP2, X2, MP5 monitors.

<sup>2</sup> Setting not available for MP2, X2 monitors.

## General Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	Option #H10, #H20, #H40 (for MX600-MX800, MP5-MP90) MP5T
QRS Volume	C, M	1
Prompt Volume	C	8
Tone Modulation	C, M	Yes

Setting	Mode	Option #H10, #H20, #H40 (for MX600-MX800, MP5-MP90) MP5T
Touch ToneVolume	C	1
ArrhyOff Message	C	Yes
Show Sett. Names	C	Both
Profile Name	C	Hide

Setting	Mode	Option #H30 (for MX600-MX800, MP5-MP90)
QRS Volume	C, M	3
Prompt Volume	C	4
Tone Modulation	C, M	Yes
Touch ToneVolume	C	1
ArrhyOff Message	C	No
Show Sett. Names	C	Both
Profile Name	C	Hide

MP2, X2			
Setting	Mode	Adult, Pedi, Neo	Outdoor
QRS Volume	C, M	1	3
Prompt Volume	C	8	10
Tone Modulation	C, M	Yes	Yes
Touch ToneVolume	C	1	3
ArrhyOff Message	C	Yes	Yes
Show Sett. Names	C	Both	Both
Profile Name	C	Hide	Hide

Factory Defaults for Profiles								
Setting	Mode	EWS Scoring	Frequent Vitals	RRT	Resus	SpotCheck	SinglePat.EWS	SinglePat.SC
<b>MP5SC, Option #P05 (for MP5)</b>								
QRS Volume	C, M	0	0	0	3	0	0	0
Prompt Volume	C	8	8	8	8	8	8	8
Tone Modulation	C, M	Off	Off	Off	On	Off	Off	Off
Touch ToneVolume	C	1	1	1	1	1	1	1
ArrhyOff Message	C	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Show Sett. Names	C	Profile	Profile	Profile	Profile	Profile	Profile	Profile
Profile Name	C	Show	Show	Show	Show	Show	Show	Show

Setting	Mode	Adult, Pedi, Neo
<b>MP5SC, Option #P05 (for MP5)</b>		
QRS Volume	C, M	1
Prompt Volume	C	8
Tone Modulation	C, M	Yes
Touch ToneVolume	C	1
ArrhyOff Message	C	Yes
Show Sett. Names	C	Profile
Profile Name	C	Show

## User Interface General Settings Configuration Implications

### QRS Volume

This setting defines the default volume of the QRS tone. The QRS tone is derived from either the ECG or Pulse, depending on which is currently selected as the alarm source.

### QRS Low

This setting defines the minimum QRS tone volume that can be selected by the user while in monitoring mode.

### Prompt Volume

Defines the volume of the tone the monitor emits to draw the user's attention to a prompt message shown in the monitor's prompt/status line.

### Tone Modulation

If you set **Tone Modulation** to **Yes**, the pitch of the SpO<sub>2</sub> tone will change with the measured signal strength. If you are using two SpO<sub>2</sub> sensors simultaneously, you can determine which sensor will serve as the source for the tone modulation pitch, by selecting the corresponding SpO<sub>2</sub> label as the **System Pulse** source. For example, if you measure SpO<sub>2l</sub> and SpO<sub>2r</sub> and want SpO<sub>2r</sub> to be the source for the tone modulation, in the Setup Pulse menu, set **System Pulse** to **SpO<sub>2r</sub>**.

### Tone Mod. Type

This setting lets you choose between **Standard** and **Enhanced**.

- **Standard** is the regular Nellcor behavior. The difference in frequency per % saturation change is small which might make it difficult to hear smaller changes.
- **Enhanced** results in a larger (and therefore more obvious) frequency decrease for each drop in SpO<sub>2</sub> level. Due to the larger steps, when the saturation drops below 70 %, the absolute frequency may become so low that the perceived volume will be low and it will be hard to hear a frequency change per % saturation.



## Global Speed

The **Global Speed** setting defines the speed of all non-respiratory and non-EEG waves on the Screen. The **Global Speed** setting can be overridden by fixed wave channel speeds. See “Configuring the Wave Channel Speed” on page 33.

## RespiratorySpeed

The **Respiratory Speed** setting defines the speed of all respiratory waves (CO<sub>2</sub>, Resp. anesthetic agents and O<sub>2</sub>) on the Screen. The **RespiratorySpeed** setting can be overridden by fixed wave channel speeds. See “Configuring the Wave Channel Speed” on page 33.

## EEG Speed

The **EEG Speed** setting defines the speed of all EEG waves (including BIS) on the Screen. The **EEG Speed** setting can be overridden by fixed wave channel speeds. See “Configuring the Wave Channel Speed” on page 33 .

## Touch Tone Volume

The **Touch Tone Volume** setting defines the volume of the tone you hear every time you select a field on the monitor screen. You may want to set this to 0 if you want to operate the monitor in a quiet environment.

## MMS Keys

To prevent users from using the hard-keys on the Multi-Measurement Module, set **MMS Keys** to **Disabled**. This setting is not available in the MP5, MP2 and X2, and it does not affect the hard-keys of an X2 in Companion Mode. Companion settings are set separately, see “User Interface Companion Settings Configuration Implications” on page 187.

## ArrhyOff Message

If arrhythmia analysis is switched off, the message “Arrhythmia Off” is permanently displayed beside the first ECG wave on both the bedside monitor and on the Information Center. If you do not want this message to appear, you must set **ArrhyOff Message** to **Off**.

## AI.Off Enhanced

**PIIC iX only** Use the setting **AI.Off Enhanced** to define the visibility of the **Alarms Off** or **Paused Alarms** state symbols displayed in front of individual numerics. These alarm symbols are smaller and less prominent as the symbols that are displayed if a measurement alarm is turned off individually.

The following choices are available:

- **No**  
No additional symbols are displayed.
- **Overw Only**  
Additional **Alarms Off** or **Paused Alarms** state symbols are displayed for parameters from remote locations.

### Meas. Selection

The **Meas. Selection** setting defines the behavior of the monitor if a measurement label conflict occurs.

- Set this to **Indicator** to make the measurement selection icon with question marks your only indicator of the label conflict.
- Set it to **Window** to pop up the Measurement Selection window indicating the label conflict.
- Set it to **Auto Select.** to let the monitor resolve the conflict automatically by assigning a new, generic label to the newly connected measurement device. Be aware that this behavior only applies to the following plug-in module measurements:
  - SpO<sub>2</sub>
  - Invasive Pressure
  - Temperature

**Auto Select.** does not work on any MMS or X2 measurements.

### Meas. Deactivate

This setting defines the monitor's behavior when you connect a measurement device (MMS, X2, or plug-in module) to the monitor, and

- a measurement label of the newly connected device duplicates the label of an already connected measurement device, and
- the already connected device is switched off.

If **Meas. Deactivate** is set to **Manual**, the monitor deactivates the newly connected measurement, due to the label conflict.

If **Meas. Deactivate** is set to **Auto**, the monitor deactivates the previously connected measurement device and activates the newly connected device.

### Timer Volume

This setting determines the volume of the notification tone for all timers.

### NMT Tone Volume

Use the **NMT Tone Volume** setting to adjust the audio volume of the NMT stimulation tone. If not set to **0**, each NMT stimulation pulse is indicated by a short beep tone.

Choices are from **0** to **10**.

### Show Sett. Names

Use the setting **Show Sett. Names** to configure which settings names are displayed in the top line of the monitor. Choices are:

- **Profile** displays the Profile name
- **Screen** displays the Screen name
- **Both**

If **Both** is selected, **“Profiles”** or the profile name is displayed in the left half of the settings name field and the screen name in the right half (depending on the setting **Profile Name**). If the settings name field is not wide enough, the Screen name is displayed.

## Profile Name

Use the setting **Profile Name** to configure whether the label “Profiles” or the name of the profile <Profile Name> is displayed in the top line of the monitor.

If you want to change this setting, you must confirm the operation. The confirm text is: “To show the profile name, select Confirm. Settings may be different than implied by the name.”

---

### CAUTION

- Only people authorized to do so by their institution should make changes in configuration mode. They require the configuration mode password.
  - When you permanently change the **Profile Name** setting, always ensure that the monitor users are aware of the actual configuration settings.
  - It is strongly recommended that these settings are the same in all monitors within a unit.
- 

If a complete Measurement and/or Monitor Settings block has been changed under **Profile Details**, this is indicated by an asterisk next to <Profile Name>\*.

---

### WARNING

Always ensure that the monitor users are aware that individual settings might have been changed by the user or by settings synchronization since the profile was loaded. Hence settings may be different than implied by the profile name.

---

## Companion Settings for Specific Options or Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP20-MP90
Operating	C	Enabled
Display	C	Curr. Screen

## User Interface Companion Settings Configuration Implications

### Operating

This setting is only available on host monitors that can support the X2 or MP5 as a multi-measurement module (companion mode). It determines whether the companion monitor (X2 or MP5) can still be operated, when it is connected to a host monitor. If **Enabled**, functions you can operate on an X2 or MP5 are restricted to measurements originating in that device. If **Disabled**, no operation is possible.

### Display

This setting is only available on host monitors that can support the X2 or MP5 as a multi-measurement module (companion mode). It determines which Screen is shown on the companion monitor (X2 or MP5), when it is connected to a host monitor. Choices are:

**Curr. Screen:** shows the Screen that was active before connecting to the host.

**Blank Screen:** shows a special companion mode standby Screen.

## Display Settings for Specific Options or Monitor Models

### Display 1

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	Option #H10, #H20, #H40 (for MX600-MX800, MP5-MP90)
Brightness <sup>1</sup>	C, M	Optimum
Standby Brightn. <sup>1</sup>	C	Optimum
TransportBrightn <sup>2</sup>	C	Optimum
Menu LineSpacing	C	Wide
Display Units	C	No
Alarm Limits	C	Yes
Auto Fill Waves	C, M	Yes
Show ST In Wave	C	No
Measurement Time	C	Timestamp
Wave Style	C	Line
Wave Line Style	C	Thin
OverlapGridStyle	C	Color
Aged Numerics	C	Standard

<sup>1</sup> Setting only affects monitors that have a built-in display.

<sup>2</sup> Setting only available in monitors that can be operated on battery power.

Setting	Mode	Option #H30 (for MX600-MX800, MP5-MP90)
Brightness <sup>1</sup>	C, M	Optimum
Standby Brightn. <sup>1</sup>	C	Optimum
TransportBrightn <sup>2</sup>	C	Optimum
Menu LineSpacing	C	Wide
Display Units	C	No
Alarm Limits	C	No
Auto Fill Waves	C, M	No
Show ST In Wave	C	Yes
Measurement Time	C	Timestamp
Wave Style	C	Filled
Wave Line Style	C	Medium
OverlapGridStyle	C	Color
Aged Numerics	C	Standard

<sup>1</sup> Setting only affects monitors that have a built-in display.

<sup>2</sup> Setting only available in monitors that can be operated on battery power.

Setting	Mode	MP5T, MP5SC
Brightness	C, M	Optimum
Standby Brightn.	C	Optimum
TransportBrightn <sup>1</sup>	C	Optimum
Menu LineSpacing	C	Wide
Display Units	C	No
Alarm Limits	C	Yes
Auto Fill Waves	C, M	Yes
Show ST In Wave	C	No
Measurement Time	C	Timestamp
Wave Style	C	Filled
Wave Line Style	C	Medium
OverlapGridStyle	C	Color
Aged Numerics	C	Standard

<sup>1</sup> Setting only available in monitors that can be operated on battery power.

Setting	Mode	MP2, X2	
		Adult, Pedi, Neo	Outdoor
Brightness	C, M	Optimum	10
Standby Brightn.	C	Optimum	Optimum
TransportBrightn <sup>1</sup>	C	Optimum	10
Menu LineSpacing <sup>2</sup>	C	Wind	Wide
Display Units	C	No	No
Alarm Limits	C	Yes	Yes
Auto Fill Waves	C, M	Yes	Yes
Show ST In Wave	C	No	No
Measurement Time	C	Timestamp	Timestamp
Wave Style	C	Filled	Filled
Wave Line Style	C	Medium	Medium
OverlapGridStyle	C	Color	Color
Aged Numerics	C	Standard	Standard

<sup>1</sup> Setting only available in monitors that can be operated on battery power.

<sup>2</sup> Setting has no effect on an MP2's, or X2's own display.

## Display 2

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	Option #H10, #H20, #H40 (for MX800, MP90)
Menu LineSpacing	C	Wide
Display Units	C	No
Alarm Limits	C	Yes
Auto Fill Waves	C, M	Yes
Show ST In Wave	C	No
Hide Alarm Info <sup>1</sup>	C	No
Hide Keys <sup>1</sup>	C	No
Measurement Time	C	Timestamp
Wave Style	C	Line
Wave Line Style	C	Thin
OverlapGridStyle	C	Color
Aged Numerics	C	Standard

<sup>1</sup> Setting is ignored if display is the XDS Remote Display.

Setting	Mode	Option #H10, #H20, #H40 (for MX600-MX700, MP5-MP70) (XDS Remote Display)
Menu LineSpacing	C	Wide
Display Units	C	No
Alarm Limits	C	Yes
Auto Fill Waves	C, M	Yes
Show ST In Wave	C	No
Measurement Time	C	Timestamp
Wave Style	C	Line
Wave Line Style	C	Thin
OverlapGridStyle	C	Color
Aged Numerics	C	Standard

Setting	Mode	Option #H30 (for MX800, MP90)
Menu LineSpacing	C	Wide
Display Units	C	No
Alarm Limits	C	No
Auto Fill Waves	C, M	No
Show ST In Wave	C	Yes
Hide Alarm Info <sup>1</sup>	C	No
Hide Keys <sup>1</sup>	C	No
Measurement Time	C	Timestamp

Setting	Mode	Option #H30 (for MX800, MP90)
Wave Style	C	Filled
Wave Line Style	C	Medium
OverlapGridStyle	C	Color
Aged Numerics	C	Standard

<sup>1</sup> Setting is ignored if display is the XDS Remote Display.

Setting	Mode	Option #H30 (for MX600-MX700, MP5-MP70) (XDS Remote Display)
Menu LineSpacing	C	Wide
Display Units	C	No
Alarm Limits	C	No
Auto Fill Waves	C, M	No
Show ST In Wave	C	Yes
Measurement Time	C	Timestamp
Wave Style	C	Filled
Wave Line Style	C	Medium
OverlapGridStyle	C	Color
Aged Numerics	C	Standard

Setting	Mode	MP2, X2 (XDS Remote Display)
Display Units	C	No
Alarm Limits	C	Yes
Auto Fill Waves	C, M	Yes
Show ST In Wave	C	No
Measurement Time	C	Timestamp
Wave Style	C	Line
Wave Line Style	C	Thin
OverlapGridStyle	C	Color
Aged Numerics	C	Standard

### Display 3

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	Option #H10, #H20, #H40 (for MX800, D80, MP90)
Menu LineSpacing	C	Wide
Display Units	C	No
Alarm Limits	C	Yes
Auto Fill Waves	C, M	Yes
Show ST In Wave	C	No
Hide Alarm Info <sup>1</sup>	C	No
Hide Keys <sup>1</sup>	C	No

## 7 Monitor Settings

Setting	Mode	Option #H10, #H20, #H40 (for MX800, D80, MP90)
Measurement Time	C	Timestamp
Wave Style	C	Line
Wave Line Style	C	Thin
OverlapGridStyle	C	Color
Aged Numerics	C	Standard

<sup>1</sup> Setting not available if display is the XDS Remote Display.

Setting	Mode	Option #H30 (for MX800, D80, MP90)
Menu LineSpacing	C	Wide
Display Units	C	No
Alarm Limits	C	No
Auto Fill Waves	C, M	No
Show ST In Wave	C	Yes
Hide Alarm Info <sup>1</sup>	C	No
Hide Keys <sup>1</sup>	C	No
Measurement Time	C	Timestamp
Wave Style	C	Filled
Wave Line Style	C	Medium
OverlapGridStyle	C	Color
Aged Numerics	C	Standard

<sup>1</sup> Setting not available if display is the XDS Remote Display.

## User Interface Display Settings Configuration Implications

### Brightness

This setting defines the default brightness for monitoring. For **Brightness**, the choice **Optimum** is equivalent to **8**.

This setting is not applicable for an external display of an MX800, MP80/90 monitor.

### Standby Brightn.

This setting lets you choose a brightness setting for when the monitor is in Standby. For **Standby Brightn.**, the choice **Optimum** is equivalent to **1**.

This setting is not applicable for an external display of an MX800, MP80/MP90 monitor.

### TransportBrightn

This setting is only available on the MP2 - MP50. It defines the display brightness when the monitor is running on battery power. For **TransportBrightn**, the choice **Optimum** is equivalent to **4**.



## Menu LineSpacing

Use this setting to change the line spacing for all menus. **Wide** provides more room between menu entries and is the recommended setting for touchscreen use. **Narrow** lets you see more menu entries on one menu page and is recommended when using mouse or SpeedPoint/Navigation Point as the primary input device.

## Display Units

If **Display Units** is set to **Yes**, the measurement units are displayed next to the measurement numerics, provided that there is enough space.

## Alarm Limits

If **Alarm Limits** is set to **Yes**, the alarm limits are displayed next to the measurement numerics, provided that there is enough space.

## Auto Fill Waves

If **Auto Fill Waves** is set to **Yes**, the monitor automatically assigns available waves that would otherwise not be displayed, to wave channels for which the pre-configured waves are currently not available. Set **Auto Fill Waves** to **No**, if you do not want waves other than the ones pre-configured to automatically appear on the Screen.

For example:

You are viewing a **4 Waves** Screen with the following wave channel configuration:

**ECG > Any SpO<sub>2</sub> > Any Press > CO<sub>2</sub>** (top to bottom):

- With **Auto Fill Waves** set to **Yes**, if you were currently not measuring CO<sub>2</sub> but a second Invasive Pressure, the monitor would automatically assign the second Invasive Pressure to the fourth wave channel.
- With **Auto Fill Waves** set to **No**, the fourth wave channel would be empty.

## Show ST In Wave

If **Show ST in Wave** is set to **Yes**, the current ST value will be shown next to each ECG wave.

## Hide Alarm Info

If you set **Hide Alarm Info** to **Yes**, for example for Display 3, this display will no longer show any alarm related information, such as alarm messages, alarm limits next to the numerics, and Alarm off symbols. Flashing numerics will also be deactivated on this display.

### NOTE

This setting

- only applies to monitors with two or three independent (intelligent) displays.
- only available for Display 2 and Display 3.
- has no effect on the XDS Remote Display. The monitor will behave as if the setting was set to **No**.

### Hide Keys

If you set **Hide Keys** to **Yes**, for example for Display 3, the Operating Area, including permanent keys, SmartKeys, and the Measurement Selection key will be deactivated and invisible on this display.

#### NOTE

This setting

- only applies to monitors with two or three main displays.
- only available for Display 2 and Display 3.
- has no effect on the XDS Remote Display. The monitor will behave as if the setting was set to **No**.

### Measurement Time

If **Measurement Time** is set to **Timestamp**, the time shown beside the numeric will show the time stamp of the most recent measurement. If set to **Time to Next**, and mode of a measurement is set to **Auto** or **Sequence**, the time until the next automatic measurement is shown, along with a graphic representation of the remaining time.

#### NOTE

If the numeric area on the monitor screen is configured large enough, the **Timestamp** or **Time to Next** will be displayed in the NBP segment. If this area is too small, the numeric may be shown without the time.

This setting affects at the same time the aperiodic measurements in Automatic or Sequence mode of **NBP**, **SpO<sub>2</sub>**, and **NMT** measurements.

### Wave Style

This setting lets you change the presentation of certain respiratory waveforms (CO<sub>2</sub>, AWF, AWP, and AWV). If you set **Wave Style** to **Filled**, the area underneath the waves is filled with color. If you set it to **Line**, the waves are displayed in the standard way, as continuous lines.

### Wave Line Style

This setting lets you configure the thickness of all waves and HiRes Trends on display 1 (2,3). For better visibility over a distance you might want to use **Medium** or **Thick**. The choices are:

- **Thin**
- **Medium**
- **Thick**
- **Extra Thick**

### OverlapGridStyle

The setting **OverlapGridStyle** determines the style of the gridlines in overlapping wave presentations on the screen.

The choices are:

- **Color**
- **Thin White**

- **Thick White**

## Aged Numerics

The setting **Aged Numerics** determines the presentation of an aged numeric on the screen.

The choices are:

- **Grayed Out**; an aged numeric is presented grayed out
- **Blanked**; an aged numeric disappears from the screen
- **Standard**; an aged numeric does not change its appearance

## User Interface - XDS Remote Display Settings Configuration Implications

- In an MX600, MX700, MX800, MP2/X2, MP5, MP60/70, MP80, MP90 (with single CPU), the XDS Remote Display will be the second main display. The XDS Remote Display will use the settings made for Display 2.
- In an MX800 with Independent Display Interface, or an MP90 with dual CPU, the XDS Remote Display will be the third main display. The XDS Remote Display will use the settings made for Display 3.

### NOTE

- The User Interface settings **Hide Alarm Info** and **Hide Keys** made for **Display 2** or **Display 3** will have no effect on the XDS Remote Display. The monitor will behave as if the settings are set to **No**.
- If you clone a configuration that was made for a Dual CPU MP90 or MX800 with Independent Display Interface with an XDS Remote Display as the third main display to a smaller monitor with an XDS Remote Display as the second main display, the configuration settings made on the MX800 or MP90 for Display 2 will on the smaller monitor be used for the XDS Remote Display.

## Configuring Network Settings

**Monitor Settings: Main Setup > Network**

**Monitor Settings: Main Setup > Network > Setup IIT**

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	MX600-MX800, MP5-MP90
Auto Window	C, M	not applicable, see “Network Settings Configuration Implications” on page 197
Auto Win Disable	C	Allowed
Auto Window Disp <sup>1</sup>	C	Display 1
CareGroup Status	C	On
Caregroup	C	Standard
Other Dev.Screen	C	on ECG
Return To	C	Previous

## 7 Monitor Settings

Setting	Mode	MX600-MX800, MP5-MP90
TAAP	C	not applicable, this setting is stored as a global setting: see “Configuring General Global Settings” on page 240
OtherBed Colors	C	Enabled
Remote Controls	C	not applicable, this setting is stored as a global setting: see “Configuring General Global Settings” on page 240
Caregroup Tone	C	Standard
IIT	C	enabled
RF Access Code	C	1

<sup>1</sup> Setting available for MX800 or MP90 with more than one display only.

Setting	Mode	Option #H10, #H20, #H40 (for MX600-MX800, MP5-MP90)
Auto Window Type	C	Pat.Window
CentralMonitorng	C	<b>Mandatory</b> <b>Optional</b> for MP5SC, option #P05 (for MP5) only
CaregroupToneVol	C	8

Setting	Mode	Option #H30 (for MX600-MX800, MP5-MP90)
Auto Window Type	C	Off
CentralMonitorng	C	Optional
CaregroupToneVol	C	4

Setting	Mode	MP2/X2
Other Dev.Screen	C	on ECG
Return To	C	Previous
TAAP	C	not applicable, this setting is stored as a global setting: see “Configuring General Global Settings” on page 240
Remote Controls	C	
CaregroupToneVol	C	8
IIT	C	enabled
RF Access Code	C	1

Setting	Mode	MP5SC
Other Dev.Screen	C	on ECG
Return To	C	Previous
TAAP	C	not applicable, this setting is stored as a global setting, see “Configuring General Global Settings” on page 240
OtherBed Colors	C	Enabled
CaregroupToneVol	C	8
IIT	C	enabled
RF Access Code	C	1

## Network Settings Configuration Implications

### Auto Window

**Auto Window** can be temporarily disabled in monitoring mode. To do this, select the network symbol on the monitor's information line, then select **Auto Window** and toggle to **Disabled**.

#### NOTE

Remember to re-enable the **Auto Window** as soon as possible.

### Auto Win Disable

This setting controls the behavior of the **Auto Window Enable, Disable** settings.

The following choices are available:

- **Allowed**, to make the user selection of "**Auto Window: Disable**" possible and to disable the auto window pop-ups until the user enables it again.
- **5 min**, to make the user selection of "**Auto Window: Disable**" possible and to disable the auto window pop-ups for a period of 5 minutes.
- **Not Allowed**, to make the user selection of "**Auto Window: Disable**" impossible and to disable Auto Window permanently.

### Auto Window Type

If you want to prevent automatic notification of alarm conditions at the other beds in the Care Group, configure **Auto Window Type** to **Off**. If you want notification at the monitor of alarm conditions at other beds in the Care Group, configure either:

- **Care Group**, to make the **My Care Group window** pop up.
- **Alarming Beds**, to make the **Alarming Beds window** pop up, that shows all beds in the associated care group that currently have unsilenced alarms.
- **Pat.Window**, to make the **Other Patient Window** for the alarming bedside pop up.

#### NOTE

If the Information Center is configured to unit-based care groups and **Auto Window Type** is configured to **Pat.Window**, the monitor may automatically fall back to **Alarming Beds**.

### Auto Window Disp

This setting defines on which of the connected displays the automatic pop-up window configured under Auto Window Type is shown. If the configured display is not available, the monitor automatically uses Display 1.

This setting applies only to monitors with multiple main displays.

### CareGroup Status

The CareGroup Status setting controls the Care Group Overview Bar on all Screens. To switch off the Care Group Overview Bar on all Screens, set **CareGroup Status** to **Off**.

### Caregroup

This setting lets you change the way care groups are defined.

- Set **Caregroup** to **Standard** if you want the beds in your care group to be defined by the care group setup at the IntelliVue Information Center. Depending on your revision of the Information Center, the following care group models are supported:
  - **Bed-Based CareGroups**: lets you assign a maximum number of 12 patients from a clinical unit to a care group.
  - **Unit-Based CareGroup**: (IIC Rev. G and higher): assigns all beds on all Information Centers assigned to a clinical unit to one large care group (up to 64 patients monitored by up to 4 Information Centers).

For more detail, please refer to the IntelliVue Information Center Instructions for Use.

- Set **Caregroup** to **My Central** if you need to assign more than 12 beds, but not more than 16 beds to a care group. This care group model is typically used in facilities with only one IntelliVue Information Center (IIC). **My Central** care groups include all beds (up to 16) from a directly connected IIC, but cannot combine beds from different IICs. The selection of beds in a **My Central** care group is static and cannot be configured.

Be aware that in order to be included in the **My Central** care group, beds need to be assigned to a care group at the Information Center. Also, at the IIC, configure **Overview Auto-Alarm** and **Overview Prompt-Tone** for all Care Groups to the same settings. This ensures that all beds in the **My Central** Care Group exhibit the same alarm behavior.

### CentralMonitoring

If **CentralMonitoring** is set to **Mandatory**, and the monitor was not connected to an Information Center when switched on, or loses its connection to the Central during monitoring, it will generate the INOP message “**No Central Monit.**”, accompanied by an INOP tone.

If **CentralMonitoring** is set to **Optional**, the monitor generates the same INOP, but only when the monitor loses the connection during monitoring. The INOP will not be generated if the monitor is not connected to an Information Center when it is switched on. This setting is intended for standalone monitors.

### Other Dev.Screen

Set **Other Dev.Screen** to **On Add Equip** if you want the monitor to automatically switch to a Screen with a Telemetry Data Overview screen element embedded when the user “pairs” the monitor with a telemetry device. If there is more than one of these special Screens available, the monitor uses the first Screen in the Screen list.

If **Other Dev.Screen** is set to **On ECG**, the change to the Other Device Screen happens if the monitor is paired with the tele transmitter and a valid ECG signal from the Tele transmitter is available.

Set **Other Dev.Screen** to **Off**, to switch off the automatism completely.

#### NOTE

The availability of this function depends on the Information Center revision the monitor is connected to. See your Information Center Instructions for Use for further details.

### Return To

The **Return To** setting determines which Screen the monitor loads when it is unpaired from the telemetry device or when, while paired, the ECG is sourced from the bedside.

- **Previous** loads the Screen that was active before the Telemetry Screen was loaded.
- **Default** loads the Screen defined for the default profile.
- **Off** does not automatically switch the Screen.

## OtherBed Colors

This determines whether the measurement information from another bed is shown in the colors assigned at the Information Center or in monochrome (green on black).

### NOTE

The availability of this function depends on the Information Center revision the monitor is connected to. See your Information Center Instructions for Use for further details.

## Caregroup Tone

A new alarm that occurs in any of the beds assigned to the monitor's care group can be announced with a tone. The Caregroup Tone setting lets you toggle between a **Standard** and **Enhanced** tone. The **Enhanced** tone is a more prominent tone to draw attention to the screen.

The **Caregroup Tone** will only be generated if an alarm exceeds the Auto Alarm Severity level configured at the Information Center. The volume of the **Caregroup Tone** is determined by the **CaregroupToneVol** setting (see below).

### NOTE

The Caregroup Tone can be completely disabled at the Information Center.

## CaregroupToneVol

This setting defines the volume of the caregroup tone. It can be set in a range between **0** and **10**. If you set CaregroupToneVol to **0**, this is indicated by a crossed speaker symbol in any embedded Other Bed window. For more information on care groups and Other Bed windows, see the Monitor and Information Center Instructions for Use.

## IIT

Set **IIT** to **Disabled** to suppress network related technical INOPs if the device is operated in an infrastructure without telemetry.

## RF Access Code

This setting is needed to establish communication of the IntelliVue Instrument Telemetry transceiver with the access points of the wireless network. The IntelliVue Instrument Telemetry transceiver only communicates with an access point that is configured to the same RF Access Code.





# Unique Monitor Settings

Some Monitor settings are unique settings. This means that they are the same in every Profile and they are automatically included in each monitor settings block when you store them. For more detail, see “Understanding Monitor Settings” on page 133.

The following table provides an overview of normal vs. unique monitor settings:

Normal Monitor Settings	Page
“Configuring Alarm Recordings”	144
“Configuring Alarms”	135
“Configuring Auto Alarm Limits”	145
“Configuring Auto Reports”	177
“Configuring Calculations” (except Drug Calculator)	170
“Configuring Capture 12 Lead”	166
“Configuring CSA Reports”	179
“Configuring ECG”	164
“Configuring ECG Reports”	178
“Configuring Horizon Trend Settings”	148
“Configuring INOP Severity”	146
“Configuring Network Settings”	195
“Configuring Other Report Settings”	176
“Configuring ProtocolWatch”	156
“Configuring Reports”	171
“Configuring Screen Trend Settings”	147
“Configuring SpotCheck Monitoring”	158
“Configuring ST Map”	156
“Configuring the Cardiac Output Window”	161
“Configuring the CSA Window”	163
“Configuring the Loops Window”	162
“Configuring the Wedge Window”	162
“Configuring Trend Reports”	180
“Configuring Trend Windows”	150
“Configuring User Interface Settings” (except Keys)	182
“Configuring Vital Signs Recording”	154

<b>Unique Monitor Settings</b>	<b>Page</b>
“Configuring CSA Buffers”	237
“Configuring Event Annotations”	218
“Configuring Event Surveillance”	211
“Configuring Guardian Early Warning Scoring”	221
“Configuring Recordings” (except Vital Signs Recordings)	222
“Configuring SSC Sepsis Protocol”	219
“Configuring the Drug Calculator”	238
“Configuring Timers”	229
“Configuring Trend Groups”	203
“Configuring Trend Priorities”	205
“Configuring User Interface Settings - Keys” (Global SmartKeys, Function Keys, Remote Control Keys)	233
“Trend Scales and Trend Unit Settings Configuration Implications”	211

# Configuring Trend Groups

## Unique Monitor Settings: Main Setup > Trends > Trend Groups

The measurements grouped in trend groups define the trends displayed together in the Vital Signs or Graphics Trends windows and printed in trends reports and recordings. The trend group **All** contains all available measurements, you can change its name, but not the order or selection of parameters as they appear when this group is selected.

## General Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

MX600-MX800, MP2-MP90, MP5T, MP5SC, X2				
Setting	Mode	Parameters	Scale	Style
All	C, M	All parameters	Global	Global
Standard	C, M	HR, SpO <sub>2</sub> , SpO <sub>2</sub> pr, SpO <sub>2</sub> po, SpO <sub>2</sub> r, SpO <sub>2</sub> l NBP CO <sub>2</sub> , RR, awRR Any Press Any Temp	Global	Global
Cardiac	C, M	HR, PVC STindx, ST, Any QT	Global	Global
Hemo	C, M	HR ABP, Pulse(ABP) ART, Pulse(ART) Ao, Pulse (Ao) PAP, Pulse (PAP) CVP RAP LAP ICP UAP, Pulse (UAP) UVP P, Pulse (P) PAWP, CPP C.O., C.I., CCO, CCI ITBV, ITBVI, EVLW, EVLWI Tblood	Global	Global
Resp	C, M	CO <sub>2</sub> awRR O <sub>2</sub> RR IPI	Global	Global
Spirometry	C, M	PIP, PEEP TVexp TVin MVexp MVin RRspir COMP Raw	Global	Global

MX600-MX800, MP2-MP90, MP5T, MP5SC, X2				
Setting	Mode	Parameters	Scale	Style
Neuro	C, M	BIS, TP, SEF, SQI (BIS), EMG, SR TP1, TP2 SEF1, SEF2 MDF1, MDF2 PPF1, PPF2 Delta1, Delta2 Theta1, Theta2 Alpha1, Alpha2 Beta1, Beta2	Global	Global
Temp	C, M	Any Temp, Any DiffTemp	Global	Global
Gases	C, M	CO <sub>2</sub> awRR O <sub>2</sub> N <sub>2</sub> O ISO SEV ENF HAL DES MAC	Global	Global
External Device	C, M	CO <sub>2</sub> awRR O <sub>2</sub> , FIO <sub>2</sub> , PIP TV MINVOL SpMV PEEP pH PCO <sub>2</sub> , PcO <sub>2</sub> PO <sub>2</sub> MnAwP RRaw	Global	Global

## Trend Groups Settings Configuration Implications

### Add

Lets you add a new trend group. If you want to add a specific label, select this label to add it to the group, e.g. **ABP**. If you do not want to add a specific label, select **Any <label>**, e.g. **Any Press**.

#### NOTE

Be aware that selecting **Any <label>** together with specific labels duplicates the values in the resulting trend view.

### Delete

Lets you delete a trend group.

### Change

Lets you change the parameters of a trend group.

## Sort Up, Sort Down

Lets you change both the sequence of trend groups, and the sequence of the trended measurement parameters within a group.

## Add Separatr

Lets you add line separators. Trended parameters listed between line separators are displayed overlapping in one trend segment.

## Scale

Lets you change the scales for the trended parameters. If set to **Global**, the Graphical Trends window and the Graph Trends Report use the scales as defined in the general Trend Scales configuration, see “Configuring Trend Scales and Trend Units” on page 207.

## Style

Lets you change how trended parameters are presented in the Graphical Trends window and on the Graph Trends Report.

- Select **Line** to display the trends as a continuous line.
- For measurements with compound values (for example, the systolic and diastolic pressures), select **Band** to fill the area between trend lines with color.
- If set to **Global**, the trend windows and reports use the style as defined in the Global Style configuration, see “Global Style” on page 148.

# Configuring Trend Priorities

## Unique Monitor Settings: Main Setup > Trends > Trend Priority

The monitor stores trend information for **up to 32 monitored measurements**, depending on the **installed database** option and the **configuration of the trend database** (see “Configuring Trend Database” on page 301). If you are monitoring more measurements than can be trended, the monitor determines which measurements are trended according to an internal priority list.

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	Option #H10, #H20, #H40 (for MX600-MX800, MP2-MP90) MP5T, MP5SC, X2
Trend Priority	C, M	(Priority 01) <b>HR</b> (Priority 02) <b>PVC</b> (Priority 03) <b>SpO<sub>2</sub></b> (Priority 04) <b>SpO<sub>2</sub> l</b> (Priority 05) <b>SpO<sub>2</sub> r</b> (Priority 06) <b>Any Press</b> (Priority 07) <b>CPP</b> (Priority 08) <b>CCO</b> (Priority 09) <b>CCI</b> (Priority 10) <b>CO<sub>2</sub></b> (Priority 11) <b>awRR</b> (Priority 12) <b>RR</b>

Setting	Mode	Option #H30 (for MX600-MX800, MP2-MP90)
Trend Priority	C, M	(Priority 01) <b>HR</b> (Priority 02) <b>PVC</b> (Priority 03) <b>SpO<sub>2</sub></b> (Priority 04) <b>SpO<sub>2</sub> l</b> (Priority 05) <b>SpO<sub>2</sub> r</b> (Priority 06) <b>Any Press</b> (Priority 07) <b>CPP</b> (Priority 08) <b>CCO</b> (Priority 09) <b>CCI</b> (Priority 10) <b>CO<sub>2</sub></b> (Priority 11) <b>awRR</b> (Priority 12) <b>RR</b> (Priority 13) <b>Any Agent</b> (Priority 14) <b>BIS</b> (Priority 15) <b>EMG</b> (Priority 16) <b>SQI (BIS)</b>

All other measurements are automatically added at the end of the list (with their internal priority).

## Trend Priority Settings Configuration Implications

### Trend Priority

The **Trend Priority** configuration overrides this internal measurement priority. It allows you to set your own priority for trended measurements. The **Trend Priority** shows the trended measurements in order of their priority - the measurement with the highest priority is at the top of the list. Any additional measurement that is monitored, but not listed in the **Trend Priority** menu, is assigned a priority according to the internal priority list.

- To add measurements to the priority list, select the pop-up key **Add** and choose from the pop-up list of available measurements.
- To delete measurements, select the measurement that should be deleted, and select the pop-up key **Delete**.
- To change the priority order, use the **Sort Up** and **Sort Down** pop-up keys.

#### NOTE

The monitor provides a **second trend database** exclusively reserved for **aperiodic parameters**. Aperiodic parameters are parameters that are measured intermittently, such as NBP, C.O., C.I., PAWP (Wedge), manually entered measurements, or lab results from external devices obtained from the VueLink or IntelliBridge plug-in module. Aperiodic parameters do not count towards the maximum number of trended parameters allowed by the trend database configuration and therefore do not have to be considered when configuring the **Trend Priority**.

# Configuring Trend Scales and Trend Units

Unique Monitor Settings: Main Setup > Trends > Parameter Scales

## Settings Common to all Monitor Models

The following table lists the factory defaults for different Profiles:

MX600-MX800, MP2-MP90, MP5T, MP5SC, X2					
Setting	Mode	Unit	Adult	Pedi	Neo
HR	C, M	bpm	30..180	30..180	30..210
PVC	C, M	/min	0..20	0..20	0..20
Any ST	C, M	mm	-2.5..2.5	-2.5..2.5	-2.5..2.5
STindx	C, M	mm	0.0..5.0	0.0..5.0	0.0..5.0
QTc	C, M	msec	350..450	350..450	375..425
ΔQTc	C, M	msec	-40..40	-40..40	-20..20
QT	C, M	msec	300..500	300..500	300..500
QT-HR	C, M	bpm	50..130	60..140	80..160
Any Pulse	C, M	bpm	30..180	30..180	30..210
SpO <sub>2</sub>	C, M	%	80..100	80..100	80..100
ΔSpO <sub>2</sub>	C, M	%	0..50	0..50	0..50
Perf	C, M		0.0..10.0	0.0..10.0	0.0..5.0
NBP	C, M	kPa	4.0..28.0	2.0..20.0	1.0..14.0
	C, M	mmHg	30..200	20..150	10..100
ABP	C, M	kPa	0.0..28.0	0.0..20.0	0.0..14.0
	C, M	mmHg	0..200	0.150	0..100
ART	C, M	kPa	0.0..28.0	0.0..20.0	0.0..14.0
	C, M	mmHg	0..200	0.150	0..100
Ao	C, M	kPa	0.0..28.0	0.0..20.0	0.0..14.0
	C, M	mmHg	0..200	0.150	0..100
PAP	C, M	kPa	0.0..8.0	0.0..6.0	0.0..4.0
	C, M	mmHg	0..60	0.40	0..30
CVP	C, M	kPa	0.0..4.0	0.0..4.0	0.0..4.0
	C, M	mmHg	0..30	0.30	0..30
RAP	C, M	kPa	0.0..4.0	0.0..4.0	0.0..4.0
	C, M	mmHg	0..30	0.30	0..30
LAP	C, M	kPa	0.0..4.0	0.0..4.0	0.0..4.0
	C, M	mmHg	0..30	0.30	0..30
ICP	C, M	kPa	0.0..8.0	0.0..8.0	0.0..8.0
	C, M	mmHg	0..60	0.60	0..60
UAP	C, M	kPa	0.0..28.0	0.0..20.0	0.0..14.0
	C, M	mmHg	0..200	0.150	0..100
UVP	C, M	kPa	0.0..4.0	0.0..4.0	0.0..4.0
	C, M	mmHg	0..30	0.30	0..30

## 8 Unique Monitor Settings

MX600-MX800, MP2-MP90, MP5T, MP5SC, X2					
Setting	Mode	Unit	Adult	Pedi	Neo
FAP	C, M	kPa	0.0..28.0	0.0..20.0	0.0..14.0
	C, M	mmHg	0..200	0..150	0..100
BAP	C, M	kPa	0.0..28.0	0.0..20.0	0.0..14.0
	C, M	mmHg	0..200	0..150	0..100
IC1	C, M	kPa	0.0..8.0	0.0..8.0	0.0..8.0
	C, M	mmHg	0..60	0..60	0..60
IC2	C, M	kPa	0.0..8.0	0.0..8.0	0.0..8.0
	C, M	mmHg	0..60	0..60	0..60
P	C, M	kPa	0.0..28.0	0.0..20.0	0.0..14.0
	C, M	mmHg	0..200	0..150	0..100
P1	C, M	kPa	0.0..28.0	0.0..20.0	0.0..14.0
	C, M	mmHg	0..200	0..150	0..100
P2	C, M	kPa	0.0..28.0	0.0..20.0	0.0..14.0
	C, M	mmHg	0..200	0..150	0..100
P3	C, M	kPa	0.0..28.0	0.0..20.0	0.0..14.0
	C, M	mmHg	0..200	0..150	0..100
P4	C, M	kPa	0.0..28.0	0.0..20.0	0.0..14.0
	C, M	mmHg	0..200	0..150	0..100
IAP	C, M	kPa	0.0..4.0	0.0..4.0	0.0..4.0
	C, M	mmHg	0..30	0..30	0..30
PAWP	C, M	kPa	0.0..4.0	0.0..4.0	0.0..4.0
	C, M	mmHg	0..30	0..30	0..30
CPP	C, M	kPa	0.0..14.0	0.0..14.0	0.0..14.0
	C, M	mmHg	0..100	0..100	0..100
PPV	C, M	%	0..20	0..20	0..20
CCO	C, M	l/min	0.0..12.0	0.0..6.0	0.0..3.0
CCI	C, M	l/min/m <sup>2</sup>	0.0..6.0	0.0..6.0	0.0..6.0
SV	C, M	ml	1..200	1..200	1..200
SI	C, M	ml/m <sup>2</sup>	1..100	1..100	1..100
SVV	C, M	%	0..20	0..20	0..20
dPmax	C, M		200..2000	200..2000	200..2000
C.O.	C, M	l/min	0.0..12.0	0.0..6.0	0.0..3.0
C.I.	C, M	l/min/m <sup>2</sup>	0.0..6.0	0.0..6.0	0.0..6.0
ITBV	C, M	ml	500..3000	500..3000	500..3000
ITBVI	C, M	ml/m <sup>2</sup>	500..1300	500..1300	500..1300
EVLW	C, M	ml	0..2500	0..2500	0..2500
EVLWI	C, M	ml/kg	0.0..20.0	0.0..20.0	0.0..20.0
GEDV	C, M	ml	400..2400	400..2400	400..2400
GEDVI	C, M	ml/m <sup>2</sup>	400..1000	400..1000	400..1000
CFI	C, M		1.0..15.0	1.0..15.0	1.0..15.0



MX600-MX800, MP2-MP90, MP5T, MP5SC, X2					
Setting	Mode	Unit	Adult	Pedi	Neo
PVPI	C, M		0.0..5.0	0.0..5.0	0.0..5.0
GEF	C, M	%	10..40	10..40	10..40
SvO <sub>2</sub>	C, M	%	40..80	40..80	40..80
ScvO <sub>2</sub>	C, M	%	40..80	40..80	40..80
SO <sub>2</sub>	C, M	%	40..80	40..80	40..80
LI	C, M		0..59	0..59	0..59
Sp-vO <sub>2</sub>	C, M	%	-40..40	-40..40	-40..40
tcpO <sub>2</sub>	C, M	kPa	4.0..20.0	4.0..20.0	4.0..20.0
	C, M	mmHg	30..150	30..150	30..150
tcpCO <sub>2</sub>	C, M	kPa	1.0..11.0	1.0..11.0	1.0..11.0
	C, M	mmHg	10..80	10..80	10..80
CO <sub>2</sub>	C, M	kPa	0.0..8.0	0.0..8.0	0.0..11.0
	C, M	mmHg	0..60	0..60	0..80
awRR	C, M	rpm	0..60	0..60	0..110
O <sub>2</sub>	C, M	%	0..100	0..100	0..100
	C, M	kPa	0..100	0..100	0..100
	C, M	mmHg	0..800	0..800	0..800
FiO <sub>2</sub>	C, M		0.00..1.00	0.00..1.00	0.00..1.00
	C, M	%	0..100	0..100	0..100
RR	C, M	rpm	0..60	0..60	0..110
PIP	C, M	mmHg	0..60	0..60	0..60
MnAwP	C, M	mmHg	0..30	0..30	0..30
TV	C, M	ml	0..1000	0..500	0..100
MINVOL	C, M	liter	0.0..10.0	0.0..6.0	0.0..3.0
SpMV	C, M	liter	0.0..10.0	0.0..6.0	0.0..3.0
PEEP	C, M	mmHg	0..15	0..15	0..15
BIS	C, M		0..100	0..100	0..100
SQI (BIS)	C, M	%	0..100	0..100	0..100
EMG	C, M	dB	0..60	0..60	0..60
TP	C, M	dB	40..80	40..80	40..80
TP1	C, M	nW	0.00..1.00	0.00..1.00	0.00..1.00
TP2	C, M	nW	0.00..1.00	0.00..1.00	0.00..1.00
SR	C, M	%	0..100	0..100	0..100
Bursts	C, M	/min	0..30.0	0..30.0	0..30.0
SEF	C, M	Hz	15.0..30.0	15.0..30.0	15.0..30.0
SEF1	C, M	Hz	0.0..30.0	0.0..30.0	0.0..30.0
MDF1	C, M	Hz	0.0..30.0	0.0..30.0	0.0..30.0
PPF1	C, M	Hz	0.0..30.0	0.0..30.0	0.0..30.0
SEF2	C, M	Hz	0.0..30.0	0.0..30.0	0.0..30.0
MDF2	C, M	Hz	0.0..30.0	0.0..30.0	0.0..30.0

## 8 Unique Monitor Settings

MX600-MX800, MP2-MP90, MP5T, MP5SC, X2					
Setting	Mode	Unit	Adult	Pedi	Neo
PPF2	C, M	Hz	0.0..30.0	0.0..30.0	0.0..30.0
Alpha1	C, M	%	0.0..100.0	0.0..100.0	0.0..100.0
Beta1	C, M	%	0.0..100.0	0.0..100.0	0.0..100.0
Delta1	C, M	%	0.0..100.0	0.0..100.0	0.0..100.0
Theta1	C, M	%	0.0..100.0	0.0..100.0	0.0..100.0
Alpha2	C, M	%	0.0..100.0	0.0..100.0	0.0..100.0
Beta2	C, M	%	0.0..100.0	0.0..100.0	0.0..100.0
Delta2	C, M	%	0.0..100.0	0.0..100.0	0.0..100.0
Theta2	C, M	%	0.0..100.0	0.0..100.0	0.0..100.0
Any Temp	C, M	°F	95.0..110.0	95.0..110.0	95.0..110.0
	C, M	°C	35.0..43.0	35.0..43.0	35.0..43.0
Tblood	C, M	°F	80.0..110.0	80.0..110.0	80.0..110.0
	C, M	°C	28.0..43.0	28.0..43.0	28.0..43.0
Any DiffTemp	C, M	°F	-12.0..12.0	-12.0..12.0	-12.0..12.0
	C, M	°C	-6.0..6.0	-6.0..6.0	-6.0..6.0
N <sub>2</sub> O	C, M	%	0..100	0..100	0..100
	C, M	kPa	0..100	0..100	0..100
	C, M	mmHg	0..800	0..800	0..800
ISO	C, M	%	0.0..4.0	0.0..4.0	0.0..4.0
	C, M	kPa	0.0..4.0	0.0..4.0	0.0..4.0
	C, M	mmHg	0..30	0..30	0..30
SEV	C, M	%	0.0..6.0	0.0..6.0	0.0..6.0
	C, M	kPa	0.0..6.0	0.0..6.0	0.0..6.0
	C, M	mmHg	0..50	0..50	0..50
ENF	C, M	%	0.0..6.0	0.0..6.0	0.0..6.0
	C, M	kPa	0.0..6.0	0.0..6.0	0.0..6.0
	C, M	mmHg	0..50	0..50	0..50
HAL	C, M	%	0.0..3.0	0.0..3.0	0.0..3.0
	C, M	kPa	0.0..3.0	0.0..3.0	0.0..3.0
	C, M	mmHg	0..25	0..25	0..25
DES	C, M	%	0..20	0..20	0..20
	C, M	kPa	0..20	0..20	0..20
	C, M	mmHg	0..160	0..160	0..160
SVR	C, M	DS/cm <sup>5</sup>	400..2400	400..2400	400..2400
SVRI	C, M	DSm <sup>2</sup> /cm <sup>5</sup>	800..4800	800..4800	800..4800
pH	C, M		7.0..7.8	7.0..7.8	7.0..7.8
PCO <sub>2</sub>	C, M	mmHg	25..50	25..60	25..80
PO <sub>2</sub>	C, M	mmHg	40..160	40..160	40..160
RRaw	C, M	rpm	0..60	0..60	0..110
PcO <sub>2</sub>	C, M	mmHg	25..50	25..60	25..80

## Trend Scales and Trend Unit Settings Configuration Implications

These settings apply to the graphical trends displayed in the GraphTrends window and the Screen trends. They can be overridden for individual parameters displayed in the GraphTrends window by changing the **Scale** setting for these parameters from **Global** to a specific value in the Trend Group Parameter menu (see “Configuring Trend Groups” on page 203).

## Configuring Event Surveillance

### Unique Monitor Settings: Main Setup > Event Surveill. > Setup Events

Events are electronic records of episodes in the patients' condition. They can be used to drive alert notification to assist compliance to any protocol that is being used by the clinician.

The appearance of the events windows and menus and the settings you can configure for events depends on the event surveillance option purchased for the monitor:

- Basic Event Surveillance (BES), Option #C06
- Advanced Event Surveillance (AES), Option #C07
- Neonatal Event Review (NER), Option #C04

This table lists the differences between the options:

Event Functionality	Basic Event Surveillance (BES)	Advanced Event Surveillance (AES)	Neonatal Event Review (NER)
Option	Option #C06	Option #C07	Option #C04
Available for monitor models	MX600 - MX800, MP5 - MP90	MX800, MP60 - MP90	MX600 - MX800, MP5 - MP90
Event groups	1	6	NER
Measurements per group	3	4	3 (plus 1 for episode recording)
Triggers per measurement	1	2	1
Trigger types	Simple (“at least one”)	Combined (“at least two”)	Simple (“at least one”)
Annotation	no	yes	yes
Types of event episode	Average Trend Realtime Wave	High Resolution Trend Average Trend Realtime Wave	High Resolution Trend
Event views	Graphic Event Review window Graphic Event Episode window	Summary view, graphic and tabular Event Review window, graphic and tabular Event Episode window	Graphic and tabular Event Review window, Graphic and tabular Event Episode window
Database capability	25 events for 24 hours	25 events for 24 hours 25 events for 8 hours 50 events for 8 hours 50 events for 24 hours	25 events for 24 hours 25 events for 8 hours 50 events for 8 hours 50 events for 24 hours
Event Notification	no	yes	no

## Basic Event Surveillance Settings

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP5-MP90
Group Name	C	Standard
<Status>	C, M	Monitors with #H10, #H30, #H40: <b>Activated</b> Monitors with #H20: <b>Deactivated</b>
Episode Type	C, M	Average Trend (20min) -10 / +10 min
<Parameters>	C	<Parameter 1>: <b>HR (Pulse)</b> <Parameter 2>: <b>SpO<sub>2</sub></b> <Parameter 3>: <b>Resp</b>
<Param. 1: Trigger Type>	C, M	All ***/** Alarms
<Param. 2: Trigger Type>	C, M	All ***/** Alarms
<Param. 3: Trigger Type>	C, M	All ***/** Alarms

## Advanced Event Surveillance Settings

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX800, MP5-MP90
Group Name	C	(1) <b>Standard</b>
Group Type	C	Standard
<Status>	C, M	Monitors with #H10, #H30, #H40: <b>Activated</b> Monitors with #H20: <b>Deactivated</b>
Notification Type	C	None
Episode Type	C, M	Average Trend (20min) -10 / +10 min
Trigger Condition	C	At least one Param.
<Parameters>	C	<Parameter 1>: <b>HR (Pulse)</b> <Parameter 2>: <b>SpO<sub>2</sub></b> <Parameter 3>: <b>Resp</b> <Parameter 4>: <b>&lt;Blank&gt;</b>
<b>HR (Pulse)</b> <Trigger Type>	C, M	All ***/** Alarms <Blank>
<b>SpO<sub>2</sub></b> <Trigger Type>	C, M	All ***/** Alarms <Blank>
<b>Resp</b> <Trigger Type>	C, M	All ***/** Alarms <Blank>
<b>&lt;Blank&gt;</b> <Trigger Type>	C, M	<Blank> <Blank>

Setting	Mode	MX800, MP5-MP90
Group Name	C	(2) <b>Neuro</b>
Group Type	C	Standard
<Status>	C, M	Deactivated
Notification Type	C	None

Setting	Mode	MX800, MP5-MP90
Episode Type	C, M	Average Trend (20min) -10 / +10 min
Trigger Condition	C	At least one Param.
<Parameters>	C	<Parameter 1>: <b>HR (Pulse)</b> <Parameter 2>: <b>ABP</b> <Parameter 3>: <b>CPP</b> <Parameter 4>: <b>BIS</b>
<b>HR (Pulse):</b> <Trigger Type>	C, M	All **/** Alarms <Blank>
<b>ABP:</b> <Trigger Type>	C, M	All ** HIGH Alarms All ** LOW Alarms
<b>CPP</b> <Trigger Type>	C, M	** Mean Low <Blank>
<b>BIS</b> <Trigger Type>	C, M	<Blank> <Blank>

Setting	Mode	MX800, MP5-MP90
Group Name	C	(3) <b>Hemo</b>
Group Type	C	Standard
<Status>	C, M	Deactivated
Notification Type	C	None
Episode Type	C, M	Average Trend (20min) -10 / +10 min
Trigger Condition	C	At least one Param.
<Parameters>	C	<Parameter 1>: <b>HR (Pulse)</b> <Parameter 2>: <b>SpO<sub>2</sub></b> <Parameter 3>: <b>ABP</b> <Parameter 4>: <b>CVP</b>
<b>HR (Pulse):</b> <Trigger Type>	C, M	All **/** Alarms <Blank>
<b>SpO<sub>2</sub>:</b> <Trigger Type>	C, M	All **/** Alarms <Blank>
<b>ABP</b> <Trigger Type>	C, M	All ** HIGH Alarms All ** LOW Alarms
<b>CVP</b> <Trigger Type>	C, M	**/** All Mean <Blank>

Setting	Mode	MX800, MP5-MP90
Group Name	C	(4) <b>Ventil.</b>
Group Type	C	Standard
<Status>	C, M	Deactivated
Notification Type	C	None
Episode Type	C, M	HighRes Trend (4min) -2 / +2 min
Trigger Condition	C	At least one Param.
<Parameters>	C	<Parameter 1>: <b>HR (Pulse)</b> <Parameter 2>: <b>SpO<sub>2</sub></b> <Parameter 3>: <b>Resp</b> <Parameter 4>: <b>etCO<sub>2</sub></b>

## 8 Unique Monitor Settings

Setting	Mode	MX800, MP5-MP90
<b>HR (Pulse):</b> <Trigger Type>	C, M	*** EXTREME TACHY *** EXTREME BRADY
<b>SpO<sub>2</sub>:</b> <Trigger Type>	C, M	All ***/** Alarms <Blank>
<b>Resp</b> <Trigger Type>	C, M	All ***/** Alarms <Blank>
<b>etCO<sub>2</sub></b> <Trigger Type>	C, M	All ***/** Alarms <Blank>

Setting	Mode	MX800, MP5-MP90
Group Name	C	(5) <b>Arrhy/ST.</b>
Group Type	C	Standard
<Status>	C, M	Deactivated
Notification Type	C	None
Episode Type	C, M	Realtime Wave (15sec) -5 / +10 sec
Trigger Condition	C	At least one Param.
<Parameters>	C	<Parameter 1>: <b>HR (Pulse)</b> <Parameter 2>: <b>PVC</b> <Parameter 3>: <b>All ST Leads</b> <Parameter 4>: <b>&lt;Blank&gt;</b>
<b>HR (Pulse):</b> <Trigger Type>	C, M	*** EXTREME TACHY *** EXTREME BRADY
<b>SpO<sub>2</sub>:</b> <Trigger Type>	C, M	All ***/** Alarms <Blank>
<b>Resp</b> <Trigger Type>	C, M	** HIGH ** LOW
<b>etCO<sub>2</sub></b> <Trigger Type>	C, M	<Blank> <Blank>

Setting	Mode	MX800, MP5-MP90
Group Name	C	(6) <b>NER.</b>
Group Type	C	NER
<Status>	C, M	Monitors with #H20: <b>Activated</b> Monitors with #H10, #H30, #H40: <b>Deactivated</b>
Notification Type	C	None
Episode Type	C, M	HighRes Trend (4min) -2 / +2 min
Trigger Condition	C	At least one Param.
<Parameters>	C	<Parameter 1>: <b>HR</b> <Parameter 2>: <b>SpO<sub>2</sub></b> <Parameter 3>: <b>Resp</b> <Parameter 4>: <b>&lt;Blank&gt;</b>
<b>HR:</b> <Trigger Type>	C, M	*** EXTREME BRADY
<b>SpO<sub>2</sub>:</b> <Trigger Type>	C, M	*** DESAT
<b>Resp</b> <Trigger Type>	C, M	*** APNEA
<b>&lt;Blank&gt;</b> <Trigger Type>	C, M	<Blank>

## Neonatal Event Review Settings

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MP800, MP5-MP90
Group Name		NER
<Status>	C, M	Deactivated
Episode Type	C, M	HighRes Trend (4min) -2 / +2 min
<Parameters>		<Parameter 1>: <b>HR</b> <Parameter 2>: <b>SpO<sub>2</sub></b> <Parameter 3>: <b>Resp</b>
<b>HR</b> : <Trigger Type>	C, M	*** EXTREME BRADY
<b>SpO<sub>2</sub></b> : <Trigger Type>	C, M	*** DESAT
<b>Resp</b> <Trigger Type>	C, M	*** APNEA

## Event Surveillance Settings Configuration Implications

- 1 Select one of the listed Event Groups to start configuring it (if more than one available).
- 2 Then either select each item and select the correct setting, or select **Guided Setup** to move automatically from each setting to the next.

### Group Name

This setting lets you change the name of each event group, except of the Neonatal Event Review (NER) group, which has fixed settings.

### Group Type

This setting lets you change the type of event group from **Standard** to **NER** and vice versa. Selecting **NER** as **Group Type** for an event group, automatically changes all settings for this group to the predefined NER group settings. Only one event group can be assigned as the NER group. If there is already an NER event group, changing the **Group Type** for another group to **NER**, changes the **Group Type** of the existing NER group to **Standard**.

### Activated

This setting defines whether an event group is currently active, that is it detects events according to its configuration. If the status is **Deactivated** event surveillance is effectively switched off.

- With Advanced Event Surveillance (AES, Option #C07) up to six event groups may be active at any given time.
- With Basic Event Surveillance (BES, Option #C06) or with Neonatal Event Review (NER, Option #C04) only one event group is available.

### Notification Type

This setting is available in Advanced Event Surveillance only. It defines the type of notification that is issued when an event is detected. For each event group, the appropriate notification can be selected depending on the severity of condition.

- Set **Notification Type** to **None** to receive no notification at all. Any captured event will still be stored and can be reviewed in the Event Episode or Event Review window.

- Set it to **Screen Prompt** to get a status message with a prompt tone.
- Set it to **\* Alarm**, **\*\* Alarm**, or **\*\*\* Alarm** to receive an alarm notification that will be independent from the alarm settings for each measurement.

### NOTE

To prevent dual alarming, these options are only available if **Trigger Condition** is set to **At Least Two Param.** or higher. These event alarms are handled exactly like measurement alarms; they can be silenced and are also paused when all alarms are paused. You should only use alarm notification for events which are comparable in severity to standard measurement alarms to avoid potential confusion due to too many alarms.

- If you select **\*\* Alarm (PopUp)** or **\*\*\* Alarm (PopUp)**, the Event Episode window will automatically open on the **Main Screen** in addition to the normal alarm notifications when an event is detected.

## Episode Type

This setting lets you define the level of detail captured in an event episode for up to four measurements. The higher the data resolution, the shorter the period that the monitor can store in its memory.

When an event occurs, information for a pre-defined duration is stored. This is the **Event Episode:**

- It includes information from a defined period before the trigger, called the **Event Pre-time**.
- The episode time after the event is called the **Event Post-time**.

### NOTE

If a further event occurs during the event post-time it changes a single event to a combined event (combi-event).

Manually-triggered event episodes document patient information from the time leading up to the event trigger; they do not have a post-time.

The following choices for each Event **Episode Type** are available:

- **Realtime Wave** with 15 seconds at 12.5 mm/s for BES (#C06) and AES (#C07):
  - **Realtime Wave (15sec): -5 / +10 sec**
  - **Realtime Wave (15sec): -10 / +5 sec**
- **HighRes Trend** with 4 minutes, 4 samples/s for NER (#C04) and AES (#C07):
  - **HighRes Trend (4min): -1 / +3 min**
  - **HighRes Trend (4min): -2 / +2 min**
  - **HighRes Trend (4min): -3 / +1 min**
- **Average Trend** with 20 minutes, 5 samples/min for BES (#C06) and AES (#C07):
  - **Average Trend (20min): -2 / +18 min**
  - **Average Trend (20min): -4 / +16 min**
  - **Average Trend (20min): -6 / +14 min**
  - **Average Trend (20min): -8 / +12 min**
  - **Average Trend (20min): -10 / +10 min**
  - **Average Trend (20min): -12 / +8 min**
  - **Average Trend (20min): -14 / +6 min**
  - **Average Trend (20min): -16 / +4 min**



- **Average Trend (20min): -18 / +2 min**

In addition to the wave or trend data, the following data is always stored with each event:

- Numeric vital signs for all (up to 1030) measurements monitored
- Any alarm conditions active when the event episode was triggered
- Annotations connected with the event

## Parameters

Up to four measurement parameters (three with BES and NER) can be included in each event group. For each parameter you can define two trigger conditions (one in BES and NER). If at least one of these conditions is met this parameter counts towards the number of events that can start an event capture.

The following categories of trigger conditions are available:

- **Patient alarms**

This means that an event is triggered when either a specific patient alarm, such as **\*\*\*EXTREME TACHY**, or all patient alarms of a set severity for a certain measurement occur. An example for this last type of condition would be **All \*\*\* HR Alarms**.

### NOTE

- No events of this kind are triggered if alarms are switched off.
- Changing alarm limits changes the event trigger definitions.

- **User-defined limit violations**

User-defined limit violations allow you to define event triggers that are independent of alarm limits. You must set a threshold value and a threshold time for the trigger. If you set the trigger threshold time to 10 seconds, the monitor triggers an event if the threshold is violated for more than 10 seconds. Example: **“HR higher than 120 bpm for 10sec (and longer)”**.

- **User-defined value deviations**

If you set user-defined deviation triggers, you can define event triggers that are independent of specific limits and based instead on deviations from the current values. You must set a deviation and a period of time in which the deviation occurs.

There are three types of deviation available:

- **ANY** deviation
- **UP** deviation where only changes in a positive direction are detected
- **DOWN** deviation where only changes in a negative direction are detected.

The deviation can be defined either in relative terms as a percentage, for example 10%, or as an absolute value, such as 10 bpm.

Examples:

- etCO<sub>2</sub>: UP deviation of 300% within 5 minutes
- RESP: ANY deviation of 8 rpm within 5 minutes

- **On-measurement triggers**

This means that an event is triggered when an aperiodic measurement (such as NBP) or a procedure (such as Cardiac Output) is finished.

## Trigger Condition

If more than one trigger is available for the measurements in the event group, the trigger condition choices are:

- **At Least One Param.**
- **At Least Two Param.**
- **At Least Three Par.**
- **All Four Parameter**

If the trigger is **At Least One Param.**, the monitor starts an event capture if a trigger occurs in any of this event group's measurements.

If the trigger is **At Least Three Par.**, the monitor captures events when three or more trigger thresholds from this event group's measurements are violated.

With **Enhanced Condition** you cannot only select a minimum number of triggers to trigger an event, but define which **specific** measurement triggers these must be. For example, **At Least Two Param.** will cause an event to be captured if a trigger occurs in any two of this event group's measurements - with **Enhanced Condition** you can select for example that only when triggers are in **HR** and **SpO<sub>2</sub>** an event will be captured.

## Configuring Event Annotations

Unique Monitor Settings: Main Setup > Event Surveill. > Setup Events > Event Annotation

### Settings Common to all Monitor Models

The following table lists the factory defaults for Event Annotations in the following monitor models:

MX800, MP5-MP90			
Number	Mode	Text	Group
Annotation 1	C	No Intervention	All Groups
Annotation 2	C	Mild Stimulation	All Groups
Annotation 3	C	Moderate Stimulation	All Groups
Annotation 4	C	Vigorous Stimulation	All Groups
Annotation 5	C	Awake	Standard
Annotation 6	C	Sleeping	Standard
Annotation 7	C	Gagging/Emesis	Standard
Annotation 8	C	Feeding	Standard
Annotation 9	C	Stressful Procedure	Standard
Annotation 10	C	Skin Color: Pink	NER
Annotation 11	C	Skin Color: Dusky	NER
Annotation 12	C	Skin Color: Cyanotic	NER
Annotation 13	C	Skin Color: Mottled	NER
Annotation 14	C	Skin Color: Jaundice	NER
Annotation 15	C	Annotation 15	No Group
Annotation 16	C	Annotation 16	No Group

MX800, MP5-MP90			
Number	Mode	Text	Group
Annotation 17	C	Annotation 17	No Group
Annotation 18	C	Annotation 18	No Group
Annotation 19	C	Annotation 19	No Group
Annotation 20	C	Annotation 20	No Group

## Event Annotations Settings Configuration Implications

When you configure additional annotations, you can choose whether they appear with one particular Event Group or with all Event Groups. **No Group** indicates that the annotation is not yet linked to appear with any Event Group.

## Configuring SSC Sepsis Protocol

### Unique Monitor Settings: Main Setup > ProtocolWatch

The SSC Sepsis Protocol can also be created or modified using the Support Tool.

This functionality is highly configurable, to allow customization for the protocol used.

---

### WARNING

When using SSC Sepsis Protocol, a printout of the protocol settings must be created. These printouts must be used to verify that the configuration of the scoring functionality matches the hospital's requirements.

---

Philips does not accept responsibility for any SSC Sepsis Protocol configuration created using the Support Tool. Before an SSC Sepsis Protocol is used on a patient monitor, a signed copy of it must be approved by a hospital representative.

---

### WARNING

When you clone a configuration to a monitor, the associated SSC Sepsis protocol is automatically cloned with the configuration. Therefore, before cloning a configuration to a monitor, you must always check

- whether there is an SSC Sepsis protocol in the configuration
- whether this configuration is correct for the hospital unit you are working in
- that you have an SSC Sepsis protocol offline configuration report on file, signed by a hospital representative.

---

For detailed information on configuring SSC Sepsis protocols, see the chapter "Using the SSC Sepsis Protocol Configuration Editor" in the "Support Tool Instructions for Use".

## Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP5-MP90
CVP Threshold	C	not applicable, these settings are stored as monitor settings, see “Configuring ProtocolWatch” on page 156
CVP Thresh. Unit	C	
Protocol	C, M	
StartUp Time	C	0 min
Shift Duration	C	8 hrs
AutoScreenChange	C	Yes
Standby Time	C	7 days
LowDose Steroids	C	Yes

## SSC Sepsis Protocol Settings Configuration Implications

The following settings are only available when **Protocol** is set to **SSC Sepsis**.

### StartUp Time

If the **SSC Sepsis** protocol is active, and the patient category is **Adult**, and the monitor detects a valid **HR** or **Pulse** for the duration of the configured **StartUp Time**, the monitor automatically enters the **Severe Sepsis Screening** phase. If **StartUp Time** is set to **0 min**, the screening will start about 3 minutes after the monitor detects a valid Pulse or HR.

### Shift Duration

This setting lets you adjust the frequency of ProtocolWatch tasks that should be conducted once per shift to the units shift duration. Choices are:

- 8 hrs
- 12 hrs

### AutoScreenChange

Set **AutoScreenChange** to **Yes**, if you want the monitor to prompt you to change the active Screen to the Sepsis Screen when entering the Sepsis Resuscitation and Sepsis Management phase.

### Standby Time

After completion of the Sepsis Management phase, a sepsis standby phase begins which allows time for further patient stabilization and recovery. During this phase **Severe Sepsis Screening** is paused. **Standby Time** lets you adjust the length of the standby phase between **1 days** and **7 days**.

### LowDose Steroids

Set **LowDose Steroids** to **Yes** if you want the recommendation for Low Dose Steroids to appear during the SSC Sepsis Management phase.

# Configuring Guardian Early Warning Scoring

**Unique Monitor Settings** (created using the Support Tool)

**MP5SC, MP5-MP50 #P05 only** An Early Warning Score is a clinical assessment aid used to help recognize the early signs of deterioration in medical patients. Depending on the score calculated, an action list with customizable recommendations is displayed.

Early Warning Scores are often used to define calling criteria for activation of a hospital's escalation team. These teams are known under various names, for example, Rapid Response Teams (RRT), Medical Emergency Teams (MET), or Critical Care Outreach Teams.

When Guardian Early Warning Scoring is delivered from the factory, the following protocols are implemented:

- **EWS MEWS**

MEWS is an abbreviation for **M**odified (or **M**edical) **E**arly **W**arning **S**core. The **EWS MEWS** protocol included with the monitor reflects a typical MEWS configuration as it can be found in similar form in many hospitals.

- **EWS SPS**

SPS is an abbreviation for **S**ingle **P**arameter **S**coring. The **EWS SPS** protocol included with the monitor is based on a protocol suggested by the Institute for Healthcare Improvement (IHI); (see: <http://www.ihl.org/IHI/Topics/CriticalCare/IntensiveCare/Changes/IndividualChanges/EstablishCriteriaforActivatingtheRapidResponseTeam.htm>).

- **SpotCheck**

Unlike the MEWS or SPS protocol, the **SpotCheck** protocol does not generate an Early Warning Score. You can use this protocol to optimize the monitor for regular spot-checking without Early Warning Scoring functionality.

Most components of the Guardian Early Warning Scoring application can be customized to match your institution's practice standards. This includes:

- Choice of EWS parameters, i.e. vital signs and clinical observations that contribute to the Early Warning Score.
- Thresholds for each EWS parameter:
  - For each MEWS parameter, you can configure six thresholds that define its normal to urgent ranges (risk bands). Each range is associated with a subscore (1 - 3) that contributes to the overall MEWS score.
  - For each SPS parameter, you can configure two thresholds that define its normal and urgent range. Each range is associated with a recommendation text that will be displayed in the action list when the related threshold is exceeded.
- Thresholds for the combined MEWS score that define its normal to urgent ranges (risk bands) and recommendation texts for each risk band that will be displayed depending on the calculated MEWS score.
- Name of the protocol.
- Layout of the EWS screen.

Configuration of the Guardian Early Warning Scoring application is done by using the EWS Configuration Editor in the IntelliVue Support Tool. Up to five different protocols can be configured. For detailed information on configuring Guardian Early Warning Scoring protocols, see the chapter **Using the EWS Configuration Editor** in the **Support Tool Instructions for Use**, and in the **EWS Customization Guide**.

**WARNING**

When using Guardian Early Warning Scoring, a printout of the scoring table and the Action Lists must be created. These printouts must be used to verify that the configuration of the scoring functionality matches the hospital's requirements.

Philips does not accept responsibility for any Guardian Early Warning Scoring protocol configuration created using the Support Tool. Before a Guardian Early Warning Scoring protocol is used on a patient monitor, a signed copy of it must be approved by a hospital representative.

**WARNING**

When you clone a configuration to a monitor, the associated Guardian Early Warning Scoring protocol is automatically cloned with the configuration. Therefore, before cloning a configuration to a monitor, you must always check:

- whether there is a Guardian Early Warning Scoring protocol in the configuration
- whether this configuration is correct for the hospital unit you are working in
- that you have a Guardian Early Warning Scoring protocol offline configuration report on file, signed by a hospital representative.

## Configuring Recordings

**Unique Monitor Settings: Main Setup > Recordings**

**NOTE**

For information about **Vital Signs** Recordings, see “Configuring Vital Signs Recording” on page 154.

## Configuring General Recordings Settings

**Unique Monitor Settings: Main Setup > Recordings > General**

The following table lists the factory defaults for the following monitor models:

Setting	Mode	MX600-MX800, MP2-MP90 MP5T, MP5SC, X2
Central Config	C, M	No
ECG Gain	C, M	10 mm/mV
Annotations	C, M	Before Waves

## Configuring Delayed Recordings Settings

Unique Monitor Settings: Main Setup > Recordings > Delayed

The following table lists the factory defaults for the following monitor models:

Setting	Mode	MX600-MX800, MP2-MP90 MP5T, MP5SC, X2
Recording Name	C	Recording
Channel 1	C, M	Primary Lead
Channel 2	C, M	ABP
Channel 3	C, M	Blank
Channel 4 <sup>1</sup>	C, M	Blank
Overlap	C, M	Off
Speed	C, M	25 mm/sec
Delay Time	C	15 sec
Run Time	C	20 sec

<sup>1</sup> Setting only available if a four-channel recorder is available and selected.

Setting	Mode	MX600-MX800, MP5-MP90 MP5T, MP5SC
Recorder	C, M	Local

Setting	Mode	MP2, X2
Recorder	C, M	Central 2-Ch

## Configuring Alarm Recordings Settings

Unique Monitor Settings: Main Setup > Recordings > Alarm

The following table lists the factory defaults for the following monitor models:

Setting	Mode	MX600-MX800, MP2-MP90 MP5T, MP5SC, X2
Channel 1	C, M	Primary Lead
Channel 2	C, M	Alarm Par
Channel 3	C, M	Blank
Overlap	C, M	Off
Speed	C, M	25 mm/sec
Delay Time	C	15 sec
Run Time	C	20 sec

Setting	Mode	MX600-MX800, MP5-MP90 MP5T, MP5SC
Recorder	C, M	Local

Setting	Mode	MP2, X2
Recorder	C, M	Central 2-Ch

## Configuring Realtime A Recordings Settings

### Unique Monitor Settings: Main Setup > Recordings > Realtime A

The following table lists the factory defaults for the following monitor models:

Setting	Mode	MX600-MX800, MP2-MP90 MP5T, MP5SC, X2
Recording Name	C	Recording
Channel 1	C, M	Primary Lead
Channel 3	C, M	Blank
Channel 4 <sup>1</sup>	C, M	Blank
Overlap	C, M	Off
Speed	C, M	25 mm/sec
Run Time	C	Continuous

<sup>1</sup> Setting only available if a four-channel recorder is available and selected.

Setting	Mode	MX600-MX800, MP20-MP90 Option #H30 (for MP5)
Recorder	C, M	Local
Channel 2	C, M	ABP

Setting	Mode	Option #H10, #H20, #H40 (for MP5) MP5T, MP5SC
Recorder	C, M	Local
Channel 2	C, M	Blank

Setting	Mode	MP2, X2
Recorder	C, M	Central 2-Ch
Channel 2	C, M	ABP



## Configuring Realtime B Recordings Settings

Unique Monitor Settings: Main Setup > Recordings > Realtime B

The following table lists the factory defaults for the following monitor models:

Setting	Mode	MX600-MX800, MP2-MP90 MP5T, MP5SC, X2
Recording Name	C	Recording
Channel 1	C, M	Primary Lead
Channel 2	C, M	ABP
Channel 3	C, M	Pleth
Channel 4 <sup>1</sup>	C, M	Blank
Overlap	C, M	Channel 2+3
Speed	C, M	25 mm/sec
Run Time	C	Continuous

<sup>1</sup> Setting only available if a four-channel recorder is available and selected.

Setting	Mode	MX600-MX800, MP5-MP90 MP5T, MP5SC
Recorder	C, M	Local

Setting	Mode	MP2, X2
Recorder	C, M	Central 2-Ch

## Configuring Realtime C Recordings Settings

Unique Monitor Settings: Main Setup > Recordings > Realtime C

The following table lists the factory defaults for the following monitor models:

Setting	Mode	MX600-MX800, MP40-MP90
Recording Name	C	Recording
Recorder	C, M	Local
Channel 1	C, M	Primary Lead
Channel 2	C, M	ABP
Channel 3	C, M	Pleth
Channel 4 <sup>1</sup>	C, M	Blank
Overlap	C, M	Channel 1+2+3
Speed	C, M	25 mm/sec
Run Time	C	Continuous

<sup>1</sup> Setting only available if a four-channel recorder is available and selected.

## Configuring HiRes Trend Recordings Settings

Unique Monitor Settings: Main Setup > Recordings > HiRes Trend

The following table lists the factory defaults for the following monitor models:

Setting	Mode	MX600-MX800, MP5-MP90 MP5T, MP5SC
Recording Name	C	Recordng
Recorder	C, M	Local
Channel 1	C, M	btbHR
Channel 2	C, M	SpO <sub>2</sub>
Channel 3	C, M	Resp
Overlap	C, M	Off
Speed	C, M	2 cm/min
Delay Time	C	6 min
Run Time	C	Continuous

## Recordings Settings Configuration Implications

### Recording Strip Code

The recording strip code printed in the first line of the initial annotation has up to seven characters, specifying recording type, operating mode, application area, patient category, and delay time, if applicable. It is only included when annotations are configured to appear before the waves.

	Code	Meaning
Recording type	90	Realtime
	8A	Delayed
	0B	Alarm
	91	Context (Procedures)
Operating mode	M	Monitoring
	D	Demo
	C	Configuration
	S	Service
Application area	I	ICU
	O	OR
	C	CCU
	N	NICU
Patient category	A	Adult
	P	Pediatric
	N	Neonatal

For example the Recording Strip Code of the recording below indicates:

- realtime recording (90)
- monitoring mode (M)

- operation room (O)
- adult patient category (A)

```
(90M0A)
18 Nov 11 14:23
Doe, John
```

## Central Config

This setting defines for a central recording whether the layout of the recording (waves, speed, overlap, etc.) is defined by the patient monitor or the Information Center.

Select **No** to use the layout defined in the patient monitor, select **Yes** to use the layout defined in the Information Center.

When a telemetry device is paired with a bedside monitor, the ECG waveforms available at the Information Center are provided by the telemetry device.

- If the recorder is set to **Central**, and Central Config is set to **Yes**, the waveforms recorded will be the telemetry ECG waveforms, Pleth from telemetry if available and then any other waveforms from the bedside (except ECG).
- If the recorder is set to **Central**, and Central Config is set to **No**, the bedside monitor will send the request for the recording based on its configuration. If none of the waves are available at the Information Center, it will record the waves based on the layout defined in the Information Center. For example, if the requested recording is configured to be **Primary ECG** (patient monitor ECG) and **ABP** and there is no ABP waveform available, the recording will be the paired telemetry ECG waveforms.

## ECG Gain

This setting defines how every recorded ECG wave, irrespective of template or recording type, will appear on the recorder strip. This does not affect the displayed ECG wave, or printed ECG reports. Set **ECG Gain** to **Auto** to use the same scale as the ECG wave on the monitor screen.

## Annotations

Use the **Annotations** setting to define the layout of the recording strip. This setting affects:

- Delayed recordings
- Realtime recordings
- Alarm recordings
- Select Waves recordings
- All ECG Waves recordings

The following choices are available:

- **Before Waves**
  - Patient demographics data, alarms and numerics are printed as a text block in front of the waves.
  - The **Recording Strip Code** is only printed on recording strips with the **Annotations** set to **Before Waves**.

- **Above Waves**
  - Patient demographics data, alarms and numerics are recorded above the wave.
  - The data is printed in the following order:
    1. bed or monitor label
    2. patient name
    3. medical record number (when no patient data available)
    4. time
    5. speed
    6. alarms
    7. numerics

### NOTE

On recordings with a short length, not all data might be printed when the wave snippet ends. In these cases, and if you need the data being printed, chose the **Annotations** setting **Before Waves**.

## Recorder

This setting defines which recorder the recording will print to. Choices are:

- **Local**

If you configure a **Local**, and no local recorder is available, the monitor will automatically send the recording to a central recorder, if available.
- **Central 2-Ch.**
- **Central 4-Ch.**
- **Printer**

For alarm recordings the additional choice **Printer** is available. If you select **Printer**, all other settings disappear and the alarm recording will be printed as a realtime report, following the settings configured for Realtime Reports, see “Configuring Reports” on page 171. You can use this choice if you need to generate Alarm Recordings on monitors that have no local recorder, such as the MP2 or X2, especially in circumstances when the monitor has no connection to a central recorder, for example during transport.

## Channel 1 - 4

The **Channel 1 to 4** settings define which waveform to record in each channel. **Channel 4** will only be available when the **Central 4-Ch** recorder has been selected. If the wave assigned to a recording channel in a particular template is not available when a recording is triggered, the channel is left blank on the recording strip. The pop-up list of available (currently monitored) waves differs according to the recording type:

- **Realtime, Delayed** and **Alarm** recordings: the list shows all the currently available waves
- **HiRes** recordings: the list shows all the available high-resolution waves

In addition to the currently available waves, you can choose from several other settings which make an automatic allocation when the recording starts:

- **Alarm Par** will always record the measurement in alarm in the chosen recorder channel
- **Primary Lead** will always record the current primary lead in the chosen recorder channel
- **Secondary Lead** will always record the current secondary lead in the chosen recorder channel

- **Agent** will always record the currently selected anesthetic agent.  
For high-resolution recordings only the **Agent** setting is available.

## Overlap

This setting defines whether the recorded waveforms will be printed overlapping or beside each other.

## Speed

This setting defines the recording print speed.

## Delay Time

Some recordings start documenting on the recorder strip from a pre-set time before the recording is started. This interval is called the “Delay Time” and can be set to **10 sec** or **15 sec** for **Delayed** and **Alarm** recordings and to **1 min - 6 min** for **HiRes Trend** recordings.

# Configuring Timers

**Unique Monitor Settings: Main Setup > Timers > Setup <Timer Label>**

Maximum number of timers running at the same time per patient monitor:

Monitor Models	Maximum number of timers
<b>MX600-MX900</b>	
<b>MP60-MP90</b>	4
<b>MP40-MP50</b>	3
<b>MP5-MP30</b>	2

### NOTE

The selection and priority of timers as they appear in the Timers menu are stored as Global settings, see “Configuring Timer Selection and Order Settings” on page 259.

## Settings Common to all Monitor Models

The following table lists the factory defaults for the following monitor models:

Setting	Mode	MX600-MX800, MP5-MP90
Timer Volume	C, M	not applicable, this setting is stored as a monitor setting, see “Configuring User Interface Settings” on page 182.
<b>Timer A Settings</b>		
Label	C, M	Timer A
Run Time	C, M	1 min
Type	C	Basic
Direction	C, M	Up
Notification	C	No Sound
Auto Window	C	No
Color	C	White

## 8 Unique Monitor Settings

Setting	Mode	MX600-MX800, MP5-MP90
<b>Timer B Settings</b>		
Label	C, M	Timer B
Run Time	C, M	5 min
Type	C	Basic
Direction	C, M	Down
Notification	C	No Sound
Auto Window	C	No
Color	C	White
<b>Timer C Settings</b>		
Label	C, M	Timer C
Run Time	C, M	10 min
Type	C	Basic
Direction	C, M	Up
Notification	C	No Sound
Auto Window	C	No
Color	C	White
<b>Timer D Settings</b>		
Label	C, M	Timer D
Run Time	C, M	15 min
Type	C	Basic
Direction	C, M	Down
Notification	C	No Sound
Auto Window	C	No
Color	C	White
<b>Bypass Timer Settings</b>		
Label	C, M	Bypass
Run Time	C, M	30 min
Type	C	Basic
Direction	C, M	Down
Notification	C	No Sound
Auto Window	C	No
Color	C	White
<b>Clamp Timer Settings</b>		
Label	C, M	Clamp
Run Time	C, M	10 min
Type	C	Basic
Direction	C, M	Down
Notification	C	No Sound
Auto Window	C	No
Color	C	White

Setting	Mode	MX600-MX800, MP5-MP90
<b>Code Timer Settings</b>		
Label	C, M	Code
Type	C	No Limit
Color	C	White
<b>Case Timer Settings</b>		
Label	C, M	Code
Type	C	No Limit
Color	C	White
<b>Documentation Timer Settings</b>		
Label	C, M	Docu
Run Time	C, M	60 min
Type	C	Cyclic
Direction	C, M	Up
Notification	C	No Sound
Auto Window	C	No
Color	C	White
<b>Tourniquet Timer Settings</b>		
Label	C, M	Tournq
Run Time	C, M	2 hours
Type	C	Basic
Direction	C, M	Down
Notification	C	No Sound
Auto Window	C	No
Color	C	White
<b>Infusion Timer Settings</b>		
Label	C, M	Infus
Run Time	C, M	30 min
Type	C	Basic
Direction	C, M	Down
Notification	C	No Sound
Auto Window	C	No
Color	C	White
<b>Pre-Oxygenation Timer Settings</b>		
Label	C, M	PreOxy
Run Time	C, M	5 min
Type	C	Basic
Direction	C, M	Down
Notification	C	No Sound
Auto Window	C	No
Color	C	White

Setting	Mode	MX600-MX800, MP5-MP90
<b>Non-Stress Test Timer Settings</b>		
Label	C, M	NST
Run Time	C, M	20 min
Type	C	Basic
Direction	C, M	Up
Notification	C	Sound
Auto Window	C	No
Color	C	Blue

## Timer Settings Configuration Implications

### Label

When you assign a **Label** to a timer, the monitor automatically applies the settings pre-configured for this label to the timer. You can then change these settings. The timer label itself cannot be customized.

### Run Time

The run time can be set between **1 min** and **96 hours**. **No Limit** timers have no run time. This setting can also be changed in monitoring mode.

### Type

This setting defines the timer type. It can also be changed in monitoring mode. The following timer types are available:

- A **Basic** timer has a single, defined run time. The progress is shown in the progress bar.
- An **Enhanced** timer is like a Basic timer, but the progress bar shows progress beyond the end of the run time.
- A **Cyclic** timer is like a Basic timer but restarts automatically when the run time is expired.
- A **No Limit** timer has no run time or progress bar and shows the time elapsed since the timer was started.

### Direction

Timers can count **Up** or **Down**, showing elapsed time or remaining time. No Limit timers automatically count up. This setting can be also changed in monitoring mode.

### Notification

When any timer expires (except a **No Limit** timer), its color changes to red and a message appears in the monitor status line on the Main Screen. The setting **Notification** lets you configure an alarm or a single tone as additional means of notification:

- Select **Alarm** to receive an INOP alarm when the timer expires
- Select **Sound** to hear a single tone when the timer expires
- Select **No Sound** for no additional notification



## Auto Window

This setting lets you configure whether a window automatically pops up when the timer expires. Choice are **Yes** or **No**.

## Color

This setting lets you configure the color for a timer. This setting only has an effect on timers that are displayed on the Main Screen (i.e. timers that are embedded on a Screen). The timers displayed in the Timers window are always shown in gray color.

# Configuring User Interface Settings - Keys

Unique Monitor Settings: Main Setup > User Interface

## Configuring Global SmartKeys

The following table lists the factory defaults for the following monitor models:

Setting	Mode	MX600-MX800, MP20-MP90
Global SmartKeys	C	Strt/Stp NBP Stop All NBP Repeat NBP Zero Press RT Record DelydRecord Standby Wedge C.O./CCO Calcs VeniPuncture Adjust Size Annot. Arrhy RelearnArrhy VitalsTrend Graph Trend EventSummary Remote Applies Ext. Device PrintReports End Case AlarmLimits Alarm Volume QRS Volume Brightness

Setting	Mode	MP5, MP5T
Global SmartKeys	C	Strt/Stp NBP Repeat NBP DelydRecord VitalsTrend Def. Profile End Case

## 8 Unique Monitor Settings

Setting	Mode	MP5SC, MP5 #P05
Global SmartKeys	C	Strt/Stp NBP Stop All NBP Modes NBP EWS/SpotChk End Case Profiles

Setting	Mode	MP2, X2
Global SmartKeys	C	Strt/Stp NBP Meas. Selctn Admit/Dischg AlarmLimits VitalsTrend Profiles Alarm Volume QRS Volume Standby Stop All NBP NBP STAT VeniPuncture Repeat NBP Zero Press Adjust Size Brightness Graph Trend Main Setup

## Global SmartKeys Configuration Implications

### Global SmartKeys

This lets you define the selection and sequence of the global SmartKeys. Global SmartKeys become effective (visible) when you activate a Screen that has no SmartKeys defined on it.

The number of SmartKeys visible at a time depends on the monitor's display resolution:

Product	Display Resolution	Number of SmartKeys
MP5, MP20, MP30, MP40, P50	SVGA (800x600)	6
MP60, MP70, MP80, MP90	XGA (1024x768)	7
MP80, MP90	SXGA (1280x1024)	9
MX600, MX700	WXGA (1280x768)	7
Secondary Display only	WXGA+ (1366x768)	8
Secondary Display only	WSXGA (1440x900)	9
MX800	WSXGA+ (1680x1050)	9
Secondary Display MX800 only	HD (1920x1080)	9

## Changing the Selection and Sequence of Global SmartKeys

To change the selection of the Global SmartKeys:

- 1 Open the Global SmartKeys menu.
- 2 From the pop-up key line, select **Add** to open the Choices menu that contains all available SmartKeys.
- 3 From the Choices menu, select the desired SmartKey. This adds the new key to the bottom of the list of configured SmartKeys (on the left).

To delete a SmartKey from the list of configured SmartKeys:

- 1 Open the Global SmartKeys menu.
- 2 Select the SmartKey in the list.
- 3 Select the pop-up key **Delete**.

To move a SmartKey to a different position:

- 1 Open the Global SmartKeys menu.
- 2 Use the **Sort Up** and **Sort Down** pop-up keys.

## Configuring Function Keys

The following table lists the factory defaults in the following monitor models:

MX600-MX800, MP20-MP90			
Setting	Mode	Function Key	SmartKey Function
Oper 1 Fn. Keys	C	F1	<none>
		F2	<none>
		F3	<none>
		F4	<none>
		F5	<none>
		F6	<none>
		F7	<none>
		F8	<none>
		F9	<none>
		F10	<none>
		F11	<none>
		F12	<none>
Oper 2 Fn. Keys <sup>1</sup>	C	F1	<none>
		F2	<none>
		F3	<none>
		F4	<none>
		F5	<none>
		F6	<none>
		F7	<none>
		F8	<none>
		F9	<none>
		F10	<none>
		F11	<none>
		F12	<none>

<sup>1</sup> Setting only available on MX800 or MP90 with more than one CPU.

## Function Keys Configuration Implications

Be aware that after upgrading a monitor from any software revision prior to E.0, no functions will be assigned to the function keys.

### Oper. 1 Fn. Keys

This setting lets you assign specific SmartKey functions to the 5 function keys (**F1 - F5**) on a connected Remote SpeedPoint and the 12 function keys (**F1 - F12**) on an attached keyboard.

### Oper. 2 Fn Keys

This setting is only available for MX800 with Independent Display Interface, or MP90 monitors with more than one CPU board. If you have configured the MX800 with Independent Display Interface or MP90 for two operators, this setting lets you assign specific SmartKey functions to the 5 function keys (**F1 - F5**) on the Remote SpeedPoint assigned to Operator 2, and the 12 function keys (**F1 - F12**) on a keyboard assigned to Operator 2.

## Configuring Remote Control Keys

The following table lists the factory defaults in the following monitor models:

MX600-MX800, MP20-MP90			
Setting	Mode	Page 1	Page 2
Oper 1 RemCtrl	C	Strt/Stp NBP Stop All NBP Repeat NBP Auto Size Capture 12 Lead ST Map Zero Press Freeze Waves DelydRecord	Quick Admit End Case Standby VitalsTrend Calcs Histogram Start C.0. Wedge RT Report
Oper 2 RemCtrl <sup>1</sup>	C	Strt/Stp NBP Stop All NBP Repeat NBP Auto Size Capture 12 Lead ST Map Zero Press Freeze Waves DelydRecord	Quick Admit End Case Standby VitalsTrend Calcs Histogram Start C.0. Wedge RT Report

<sup>1</sup> Setting only available on MX800 or MP90 with more than one CPU.

## Remote Control Key Configuration Implications

These setting let you configure the SmartKeys that appear when the SmartKeys hardkey on the Remote Control is selected for Operator 1 and Operator 2.

### Oper. 1 RemCtrl

This setting lets you configure the SmartKeys that appear when the SmartKeys hard key on the Remote Control is selected for Operator 1.

## Oper. 2 Fn Keys

This setting is only available for MX800 with Independent Display Interface, or MP90 monitors with more than one CPU board. If you have configured the MX800 or MP90 for two operators, this setting lets you configure the SmartKeys that appear when the SmartKeys hard key on the Remote Control (assigned to Operator 2) is selected for Operator 2.

# Configuring CSA Buffers

Unique Monitor Settings: Main Setup > Measurements > EEG

## Settings Common to all Monitor Models

The following table lists the factory defaults for the following monitor models:

Setting	Mode	MX600-MX800, MP40-MP90
Buffer A	C	2 sec
Buffer B	C	30 sec
Buffer C	C	120 sec

## CSA Buffers Settings Configuration Implications

These CSA buffer settings apply for CSAs viewed on screen and for CSA reports.

### Buffer A, Buffer B, Buffer C

A buffer defines the interval between the spectral lines displayed in the CSA. The smaller the interval, the more often the CSA is updated, and the shorter the time span covered by the CSA display. **Buffer A**, **Buffer B**, and **Buffer C** give you three pre-configured choices which are then available for configuration of the CSA window and CSA reports. The choices are:

- 2 sec
- 4 sec
- 10 sec
- 30 sec
- 60 sec
- 120 sec

Each buffer choice excludes the actually selected corresponding seconds from the list of choices.

# Configuring the Drug Calculator

**Unique Monitor Settings:** Calculations > Drug Calculator

Configuration of the drug calculator cannot be done in the monitor's configuration mode, it can only be done with the **Support Tool**. When the Drug Calculator is delivered from the factory, the only drug in the Drug Calculator drug list is the generic drug **ANY DRUG**.

Philips does not accept responsibility for any drug configuration created using the Support Tool. Before the drug list is used on a patient monitor, a signed copy of it must be approved by a hospital representative.

Up to 75 drugs (including the generic drug **ANY DRUG** can be configured for all three patient categories. Configuration includes:

- Amount and Volume
- Dose
- Rate
- Units
- Minimum/maximum ranges and start values
- Titration Table settings, such as Dose and Rate increments
- Whether the Rule of 6 may be used weight-based drugs in the neonatal and pediatric patient category

---

## WARNING

When you clone a configuration to a monitor, the associated drug list is automatically cloned with the configuration. Therefore, before cloning a configuration to a monitor, you must always check:

- whether there is a drug list in the configuration
  - whether this configuration is correct for the hospital unit you are working in
  - that you have a Drug Calculator Offline Configuration Report on file, signed by a hospital representative, with the same CRC number as the drug list in the configuration.
- 

For detailed information on configuring the drug calculator, see the chapter "Using the Drug Calculator Configuration Editor" in the Support Tool Instructions for Use.

# Global Settings

This section lists all global settings. Just like unique monitor settings (see “Understanding Monitor Settings” on page 133), global settings are set once per monitor and are independent of the Profiles and Settings Blocks. The difference is that any **changes** you may configure **are automatically stored, there is no need to save them.**

Read any information on Configuration Implications at the end of the sections before you make any configuration changes.

Setting	Page
“Configuration Recommendations when using an X2 or MP5 with a Telemetry Label”	253
“Configuring Ask for New Patient Settings”	252
“Configuring Auto Free Settings”	250
“Configuring Country-Specific Settings”	265
“Configuring General Global Settings”	240
“Configuring Manual Data Entry”	260
“Configuring Printers”	273
“Configuring Quick Admit Settings”	256
“Configuring Remote Display Settings”	257
“Configuring Setup Internal PC Settings”	258
“Configuring Timer Selection and Order Settings”	259

# Configuring General Global Settings

Global Settings: Main Setup > Global Settings

## Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP2-MP90, X2 MP5T, MP5SC
Default Profile	C	The factory default Profile depends on the monitor model and H option. These are listed for each monitor and its options individually, see “Profiles Overview” on page 309.
Altitude (m)	C	0
Line Frequency <sup>1</sup>	C	60 Hz
QRS Type	C	QRS Tone
ECG Cable Color <sup>1</sup>	C	AAMI
Asystole Detect.	C	Standard
Height Unit <sup>1</sup>	C	in
Automat. Default	C	Yes
System Settings	C	Not Sync'd
Auto Discharge	C	See “Configuring Auto Free Settings” on page 250
Ask For New Pat	C	See “Configuring Ask for New Patient Settings” on page 252
Demograph. Fields	C	See “Configuring Demographic Field Settings” on page 254
Quick Admit	C	See “Configuring Quick Admit Settings” on page 256
Remote Controls	C	Enabled
Sensor Disconnect	C	<b>No Auto Off</b> <b>Auto Off</b> for MP5SC; option #P05 (for MP5) only
Power Loss Sound	C	Enabled not available for MP2/X2 not accessible, but Enabled by default in MP20-MP90 with Nurse Call Relay
ConfirmAlarmsOff	C	No
Label Set	C	Restricted
LAN Data Export	C	All
Remote Display	C	See “Configuring Remote Display Settings” on page 257
Setup Internal PC	C	MX600 - MX800 only; See “Configuring Remote Display Settings” on page 257

<sup>1</sup> For new monitors shipped from the factory, the defaults for these settings are set for the country to which the monitor is shipped, see “Configuring Country-Specific Settings” on page 265.



## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	Option #H10, #H20, #H40 (for MX600-MX800, MP20-MP90)
PatientSelection	C	Cont Monitor
Settings Upload	C	No
Trend Upload	C	No
PW Sync	C	No

Setting	Mode	Option #H30 (for MX600-MX800, MP20-MP90)
PatientSelection	C	Ask User
Settings Upload	C	Yes
Trend Upload	C	Yes
PW Sync	C	Yes

Setting	Mode	Option #H10, #H20, #H40 (for MX600-MX800, MP5-MP90) MP5T, MP5SC, MP2, X2
Weight Unit <sup>1</sup>	C	lb

<sup>1</sup> For new monitors shipped from the factory, the defaults for these settings are set for the country to which the monitor is shipped, see “Configuring Country-Specific Settings” on page 265.

Setting	Mode	Option #H30 (for MX600-MX800, MP5-MP90)
Weight Unit <sup>1</sup>	C	kg

<sup>1</sup> For new monitors shipped from the factory, the defaults for these settings are set for the country to which the monitor is shipped, see “Configuring Country-Specific Settings” on page 265.

Setting	Mode	MP60-MP90
Silence Key	C	Checkmark

Setting	Mode	MP5
Tele Discharge <sup>1</sup>	C	Off
TransportProfile	C	AsIs
TeleUnassign <sup>2</sup>	C	1 min
Tele Workflow <sup>1</sup>	C	Restricted
TAAP <sup>1</sup>	C	Enabled

<sup>1</sup> Setting only available for monitors that have a telemetry device (TAAP) connector or a short range radio interface installed.

<sup>2</sup> Setting only available for monitors that have a short range radio (SRR) interface installed.

Setting	Mode	MP5T, MP5SC, MP5 #P05
Tele Discharge <sup>1</sup>	C	OnDisconnect
TransportProfile	C	AsIs
TeleUnassign <sup>2</sup>	C	1 min
Tele Workflow <sup>1</sup>	C	Restricted
TAAP <sup>1</sup>	C	Enabled

<sup>1</sup> Setting only available for monitors that have a telemetry device (TAAP) connector or a short range radio interface installed.

<sup>2</sup> Setting only available for monitors that have a short range radio (SRR) interface installed.

Setting	Mode	MP2
Tele Discharge <sup>1</sup>	C	Off
TransportProfile	C	AsIs
TeleUnassign <sup>2</sup>	C	1 min
Tele Workflow <sup>1</sup>	C	Restricted
TAAP <sup>1</sup>	C	Enabled

<sup>1</sup> Setting only available for monitors that have a telemetry device (TAAP) connector or a short range radio interface installed.

<sup>2</sup> Setting only available for monitors that have a short range radio (SRR) interface installed.

Setting	Mode	X2
Tele Discharge <sup>1</sup>	C	Off
TransportProfile	C	AsIs
TeleUnassign <sup>2</sup>	C	1 min
Tele Workflow <sup>1</sup>	C	Restricted
TAAP <sup>1</sup>	C	Disabled

<sup>1</sup> Setting only available for monitors that have a telemetry device (TAAP) connector or a short range radio interface installed.

<sup>2</sup> Setting only available for monitors that have a short range radio (SRR) interface installed.

## General Global Settings Configuration Implications

### Default Profile

To set the default Profile, select **Profiles** in the Monitor Info Line, select **Profile** in the Profiles window, then select the Profile you want to set as default Profile from the pop-up list. Select the **Set Default** soft key. This change takes effect immediately and you do not need to save it.

### Altitude

Some measurements use the configured altitude setting to derive a typical ambient pressure which is used in the calculation of partial pressure values. To ensure correct measurement values, the altitude setting must be correctly set.

## Line Frequency

Use the Line Frequency setting to configure the correct line frequency for the AC Power, either **50 Hz** or **60 Hz**. If the Line Frequency is set incorrectly, this may affect the ECG signal quality.

## QRS Type

Select **QRS Tone** or **QRS Tick**. If **Tone Modulation** is set to **Yes**, the QRS Type automatically switches to **QRS Tone**. For both types, the frequency and rhythm information is derived from either the ECG or Pulse, depending on which is currently selected as the alarm source.

## ECG Cable Color

This setting determines the labels the monitor uses when it refers to individual ECG electrodes, such as in a LEAD Off INOP message that will be issued when an individual ECG electrode has fallen off.

- If **ECG Cable Color** is set to **AAMI**, the monitor uses the labels **RA, LA, LL, RL, V, and V1** through **V6**.
- If set to **IEC**, it uses **RA, LA, LL, RL, and C1** through **C6**.

## Asystole Detect.

Set **Asystole Detect.** to **Enhanced** to improve alarming on asystole under certain conditions. In enhanced mode, an asystole alarm will be suppressed for up to nine seconds ( $= \text{Asystole Threshold} + 5 \text{ sec.}$ ) if a valid beat-to-beat Pulse is detected from an active pulsatile invasive Pressure measurement.

## PatientSelection

This setting defines how the monitor behaves when there is a patient identification mismatch between the MMS and the monitor.

- If you set this to **Cont Monitor** or **Cont MMS**, the monitor resolves the mismatch automatically.
- To require user confirmation before the mismatch is resolved, set this to **Ask User**.

For more detail, please refer to the monitor's Instructions for Use.

## Settings Upload

If set to **Yes**, the active settings from the MMS measurements will be uploaded to the monitor when you connect an MMS to a monitor and one of the following conditions applies:

- the patient in the MMS and the patient in the monitor are the same, i.e. no patient identification mismatch occurs.
- the patient in the MMS and the patient in the monitor are different, and **PatientSelection** is configured to **Cont MMS**.
- the patient in the MMS and the patient in the monitor are different, and **PatientSelection** is configured to **Ask User**, and the clinician resolves the patient identification mismatch by selecting **Same Patient** or **Cont MMS**.

### NOTE

If **PatientSelection** is set to **Cont Monitor**, **Settings Upload** is automatically set to **No** and cannot be changed.

## Trend Upload

If set to **Yes**, the trend data from the MMS measurements will be uploaded to the monitor when you connect an MMS to a monitor and one of the following conditions applies:

- the patient in the MMS and the patient in the monitor are the same, i.e. no patient identification mismatch occurs.
- the patient in the MMS and the patient in the monitor are different, and **PatientSelection** is configured to **Cont MMS**.
- the patient in the MMS and the patient in the monitor are different, and **PatientSelection** is configured to **Ask User**, and the clinician resolves the patient identification mismatch by selecting **Same Patient** or **Cont MMS**.

### NOTE

If **PatientSelection** is set to **Cont Monitor**, **Trend Upload** is automatically set to **No** and cannot be changed.

## PW Sync

If set to **Yes**, the ProtocolWatch information stored in the MMS (PW data, PW state, PW logs and active protocol) will be uploaded to the monitor when you connect an MMS to a monitor and one of the following conditions applies:

- the patient in the MMS and the patient in the monitor are the same, i.e. no patient identification mismatch occurs.
- the patient in the MMS and the patient in the monitor are different, and **PatientSelection** is configured to **Cont MMS**.
- the patient in the MMS and the patient in the monitor are different, and **PatientSelection** is configured to **Ask User**, and the clinician resolves the patient identification mismatch by selecting **Same Patient** or **Cont MMS**.

### NOTE

- If **PatientSelection** is set to **Cont Monitor**, **PW Sync** is automatically set to **No** and cannot be changed.
- SSC Sepsis Protocol data transfer is only possible between devices containing the same SSC Sepsis Protocol configuration.

## Tele Discharge

This setting is only available in monitors with a telemetry device (TAAP) connector or a short range radio interface. It determines the automatic discharge behavior of the monitor **only** when it is used in a mode where it:

- has no connection to a host monitor (companion mode),
- has no connection to an Information Center, and
- a telemetry transceiver is directly connected via cable or short range radio link to the monitor.

The available configuration choices are:

- **OnDisconnect**

The monitor automatically discharges the patient from the monitor when the telemetry transceiver is **disconnected or unassigned** from the monitor. Be aware that if you then measure

NBP or Predictive Temp with the monitor before you connect a new transceiver, only the measurement readings with the latest time stamp will be uploaded to the Information Center when you connect the new transceiver.

- **OnDevChange**

The monitor automatically discharges the patient from the monitor when a different transceiver is connected or assigned to the monitor. The transceivers are distinguished by their telemetry labels. If you connect the transceiver to the monitor via a short range radio link, assigning a different transceiver automatically unassigns the previous transceiver.

With **Tele Discharge** configured to **OnDevChange**, be aware of the following: if you want to measure NBP or Predictive Temp for a patient and want to upload this data via the transceiver to the Information Center, always connect the transceiver to the monitor before you make the measurements, otherwise the measurement data will be erased by the discharge when you connect the new transceiver.

- **Off**

This setting is not recommended if you want to use the monitor for spot-checking. With **Tele Discharge** set to **Off**, the monitor does not perform an automatic discharge.

If you disconnect a transceiver and then measure NBP or Predictive Temperature with the monitor, the latest measurement readings will be uploaded to the Information Center when you connect a new transceiver.

## Height Unit, Weight Unit

These settings define the unit used when entering the height / weight of the patient. Choices are:

- for **Height Unit**:
  - in
  - cm
- for **Weight Unit**:
  - lb
  - kg

### NOTE

Be aware that these settings can be overwritten by the Region settings applied during an Upgrade or Cloning procedure with the IntelliVue Support Tool.

## Automat. Default

- If **Automat. Default** is set to **Yes**, and the monitor is switched off for more than one minute, the default Profile is reloaded in the monitor. Any changes that are not stored made to the Settings Blocks and Profiles are lost.
- If **Automat. Default** is set to **No**, and the monitor is switched off for more than one minute, the active settings from the most recent session are retained. **Automatic Default** does not affect the monitor behavior when you discharge a patient. After discharge, the default Profile is always restored.

### NOTE

If the monitor is switched off and then on again in less than one minute, all active settings are retained, irrespective of the **Automat. Default** setting.

## System Settings

Use this setting to define if settings are synchronized with the PIIC or PIIC iX or not. Choices are:

- **Synchronized**  
Settings synchronization is switched on.
- **Not Sync'd**  
Settings synchronization is switched off.

In certain situations, you will be asked to confirm that synchronization of settings is appropriate.

Settings synchronization can only take place when there is no patient information mismatch between the monitor and the Information Center.

The following settings will be synchronized:

Heart Rate	HR/Pulse Alarm On/Off, Heart Rate High/Low Limit,
ECG	ECG On/Off, Primary Lead, Secondary Lead, Va Lead <sup>1</sup> , Vb Lead <sup>1</sup> , Lead Placement
Arrhythmia	Analysis Mode, Arrhythmia On/Off, Asystole Threshold, Pause Threshold, VTach HR, VTach Run, PVCs/min, Vent. Rhythm, SVT HR, SVT Run, PVCs/min On/Off, Pacer not capture On/Off, Pacer not pace On/Off, Non-Sustain On/Off, Vent. Rhythm On/Off, Run PVCs On/Off, Pair PVCs On/Off, Missed Beat On/Off, Pause On/Off, R-on-T PVCs On/Off, Vent. Bigeminy On/Off, Vent. Trigeminy On/Off, Multiform PVCs On/Off, Irregular HR On/Off, SVT On/Off, Afib On/Off, Afib/IrrHR Timeout, Afib/IrrHR End Threshold
ST	ST Analysis On/Off, ST Alarm On/Off, ISO Point, J point, ST point, ST Priority List, Single ST Alarm Limit, Multi ST Alarm Limit, ST-Index On/Off, ST Alarm Mode, ISO/J-Point Detection, ST Lead On/Off, ST Baseline
QT	QT analysis On/Off, QT Lead, QTc High Alarm On/Off, ΔQTc Alarm On/Off, QTc High Limit, ΔQTc High Limit, QTc Formula <sup>2</sup> , QT Baseline <sup>3</sup>
SpO <sub>2</sub> T	SpO <sub>2</sub> Alarms on/off, SpO <sub>2</sub> Alarm limits, SpO <sub>2</sub> Low Alarm Delay, SpO <sub>2</sub> High Alarm Limit, Desat Alarm Limit NBP Alarm Suppression On/Off, Pulse(SpO <sub>2</sub> ) On/Off
<sup>1</sup> Va and Vb leads are reset to default (V2, V5) if the configured Va or Vb lead for the telemetry device is not one of V1 through V6. <sup>2</sup> This setting will only be synchronized when the Information Center supports QT Analysis for Telemetry <sup>3</sup> With PIIC, QT baseline is synchronized, but not QT snippets.	

### PIIC iX

With the IntelliVue Information Center iX, the following additional measurement settings can be synchronized:

ECG/Arrhythmia	Hexad Reconstruction Mode, Some ECG Alarms INOP On/Off
ST	STE On/Off, STE Alarm On/Off

NBP	Sys/Dia/Mean Alarm Limits, Alarms On/ Off, Alarm Source
Resp	Apnea Time, Alarm Limits, Detection Mode, Alarm On/Off, Resp On/Off
SpO <sub>2</sub>	SpO <sub>2</sub> Alarms on/off, SpO <sub>2</sub> Alarm limits, SpO <sub>2</sub> Low Alarm delay, SpO <sub>2</sub> High Alarm delay, Desat Alarm Limit, NBP Alarm Suppression On/Off, Pulse(SpO <sub>2</sub> ) On/Off, Measurement Mode <sup>1</sup> , Repetition Time <sup>1</sup>
<sup>1</sup> Measurement Mode and Repetition Time can only be synchronized if SpO <sub>2</sub> comes from a Cableless SpO <sub>2</sub> Pod or a telemetry device.	

**WARNING**

- Not all settings are synchronized; after changing the measurement source, always check that the settings are appropriate.
- **ECG:** Va and Vb leads are reset to default (V2, V5) if the configured Va or Vb lead for the telemetry device is not one of V1 through V6

**PIIC** If a **Check ECG Settings** or **!! Check Pairing** INOP appears always check that the ECG settings, especially the paced setting, are appropriate for your patient.

**PIIC ix** If a **Check ECG Settings, Chk SpO<sub>2</sub>T Settings**, or another check settings INOP appears, always check that the settings, especially the paced setting for ECG, are appropriate for your patient.

**NOTE**

If later the patient is disconnected from the other device, and reconnected to the monitor again, any changes in the settings made in the meantime will be passed on to the monitor. In this way, settings continuity is preserved when the measurement source changes.

**TransportProfile**

This setting is only available on monitors that can be connected to a host monitor and work in companion mode(MP5, X2 only). It defines which settings become active in the monitor when the monitor is disconnected from the host monitor, for example to be used in a transport situation.

- If set to **As Is**, the active settings from the host monitor are used, no user interaction is required.
- If set to **Def. Profile**, settings are reset to the default profile defined in the monitor. The user needs to confirm this action.
- If set to **Ask User**, the monitor will prompt the user to select a profile from the list of configured profiles.

**Remote Controls**

Some functions of the IntelliVue bedside monitor, such as silencing alarms, Starting/Stopping NBP measurements, arrhythmia settings, and HR alarm limits can be remotely controlled from an Information Center. For a complete list of functions that can be remotely controlled, please refer to your Information Center Instructions for Use. Set **Remote Controls** to **Disabled** if you do not want to allow users to control these functions from the Information Center.

**NOTE**

For remote controls to work, they must be **Enabled** at the monitor **and** at the Information Center. If you disable them at the bedside monitor, the user at the Information Center may not be notified of this

change. The controls at the Information Center may appear to work, but they will not change anything at the monitor.

### Silence Key

**MP60-MP90 only** This setting lets you change the symbol shown on the Silence SmartKey (for MP60, MP70, MP90 only). The Silence hard key **on early versions of the IntelliVue patient monitor and on the Remote SpeedPoint** is labeled with a loudspeaker. If your equipment is labeled with the loudspeaker, you might want to set this to **Loudspeaker**.

### Power Loss Sound

This setting lets you define whether the power loss sound is **Enabled** or **Disabled**. If **Enabled**, a sound will be generated whenever the main power is lost or the power cord is disconnected while the monitor is running.

#### NOTE

In all other IntelliVue Patient Monitors, the power loss sound is always enabled when a Nurse Call Relay board is installed in this monitor.

### Sensor Disconnect

The default of this setting is **No Auto Off**.

- If you set **Sensor Disconnect** to **Auto Off**:
  - and you **Confirm** the settings change, parameters are switched off automatically during main alarms off state or individual alarms off state when you disconnect the transducer
  - no unplugged INOPs are generated when main alarms are **Off** or **Paused** (or yellow off/yellow paused).
- If this setting is configured to **No Auto Off** “no sensor” INOPs are shown even when alarms are **Off** or **Paused**. In some cases no unplugged INOPs are generated at all:
  - Parameters without physiological alarms (e.g. Delta Temp, EEG)
  - in Standby Mode

#### NOTE

In Companion Mode, your host monitor’s setting determines the **Sensor Disconnect** setting for the companion.

### ConfirmAlarmsOff

This setting determines whether pausing alarms or switching alarms off has to be confirmed by the user before it becomes effective. If **ConfirmAlarmsOff** is configured to **Yes**, a pop-up key line will appear asking to confirm that alarms should be:

- 1 **paused** (if **Alarms Off** setting is set to **1 min**, **2 min**, or **3 min**)
- 2 **switched off** (if **Alarms Off** setting is set to **Infinite**)

### Label Set

The Full label set provides extra labels for the Pressure and Temperature measurements.

- The **Restricted** label set offers the following labels:



- Pressure: **P, ABP, ART, Ao, PAP, CVP, RAP, LAP, ICP, UAP, UVP**
- Temperature: **Temp, Trect, Tcore, Tskin, Tesoph, Tnaso, Tart, Tven**
- The **Full** label set offers the following additional labels:
  - Pressure: **FAP, BAP, IC1, IC2, P1, P2, P3, P4**
  - Temperature: **Tvesic, Ttymp, Tcereb, Tamb, T1, T2, T3, T4**

#### NOTE

- If you connect an MMS or FMS from a monitor using the **Full** label set to an IntelliVue monitor using a **Restricted** label set, any additional labels switch to labels available in the target monitor. This may cause a label conflict with other monitored measurements.
- If you connect a monitor using the **Full** label set to an Information Center with certain software revisions, this may affect the availability of measurement information from the additional labels on the Information Center. See the Information Center documentation for information on label set compatibility.

## LAN Data Export

If the network (LAN) interface is not used for a connection to an Information Center, it can be used for MIB data export. If the monitor is connected to an Information Center, the MIB data export is automatically disabled for the LAN interface (the serial interface can still be used).

The setting **LAN Data Export** lets you configure how much of the MIB data export information is sent via the LAN interface:

- **All:** full functionality, all available MIB data export information is sent
- **Anonymous:** restricted functionality, no patient demographics information is included
- **Off:** MIB data export is disabled for the LAN interface

## Tele Workflow

Use the **Tele Workflow** setting to define if the monitor's telemetry settings support the **PIIC** or the **PIIC iX**. Choices are:

- **Restricted**  
The monitor supports the **PIIC** pairing limitations.
- **Enhanced**  
The monitor supports the **PIIC iX** telemetry workflow.

## TAAP

This setting is only available in monitors that have either a telemetry device (TAAP) connector or a short range radio interface installed. It determines whether the monitor supports connecting a telemetry device directly with a cable (TAAP connection), or assigning a telemetry device to the monitor via a direct short range radio link (wireless TAAP connection).

- Set **TAAP** to **Enabled** if you want the monitor to support a TAAP or WTAAP connection.
- Set **TAAP** to **Disabled**, if you want to disable the monitor's capability to support a TAAP/WTAAP connection. **TAAP** must be configured to **Disabled**, if you want to use the monitor as a companion to a host monitor.

For more detailed information on configuring the IntelliVue monitor for use in a telemetry environment, see “Configuring Auto Free Settings” on page 250.

## TeleUnassign

This setting is only available in monitors that have a short range radio interface installed. It determines whether the monitor will automatically break the assignment to a telemetry device connected via a short range radio connection under certain circumstances.

- If **TeleUnassign** is configured to **1 min**, the monitor will automatically unassign a telemetry device from the monitor when the monitor
  - is switched off for longer than 1 minute, or
  - is placed in Standby mode for longer than 1 minute while having no connection to the IntelliVue Information Center and the telemetry device.
- If **TeleUnassign** is configured to **Never**, the monitor will not automatically break the assignment.

For general information about the configuration of the IntelliVue Information Center and Telemetry Devices refer to their Configuration Guides.

For specific information about the configuration for different use models see “Telemetry Use Models with PIIC iX” on page 327.

## Configuring Auto Free Settings

**Global Settings: Main Setup > Global Settings > Auto Free**

### CAUTION

If an **Auto Free** setting is activated in a patient monitor, the monitor will automatically discharge the current patient and begin monitoring a new patient after the configured time. All data from the current patient will be deleted from the monitor. The user has no possibility to stop this happening.

## Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP2-MP90, X2 MP5T, MP5SC
Power Off	C	Never
Standby	C	Never
No Basic Vitals	C	Never

## Auto Discharge Settings Configuration Implications

### Power Off

If the monitor is switched on, after being switched off for longer than the specified time, it will automatically discharge the current patient and begin monitoring a new patient.

**Power Off** can be configured to a specific time. Choices are:

- **1 min**
- **10 min**
- **30 min**

- 1 h
- 3 h
- 8 h
- Never

## Standby

If monitoring is resumed, after the monitor was in Standby for longer than the specified time, it will automatically discharge the current patient and begin monitoring a new patient.

**Standby** can be configured to a specific time. Choices are:

- 1 min
- 10 min
- 30 min
- 1 h
- 3 h
- 8 h
- Never

## No Basic Vitals

If no basic vitals (**HR, RR, Pulse, SpO<sub>2</sub>, NBP**) have been measured for the specified time, the monitor will automatically discharge the current patient and begin monitoring a new patient.

**No Basic Vitals** can be configured to a specific time. Choices are:

- 10 min
- 20 min
- 1 h
- 3 h
- 8 h
- Never

# Configuring Ask for New Patient Settings

Global Settings: Main Setup > Global Settings > Ask for New Patient

## Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP2-MP90, X2 MP5T, MP5SC
Power Off	C	Never
Standby	C	Never
No Basic Vitals	C	Never
Ask Patient Mode	C	No

## Ask for New Patient Settings Configuration Implications

### Power Off

If the monitor is switched on, after being switched off for longer than the specified time, it will ask the user whether a new patient is now being monitored. The user can then select **Yes** to discharge the current patient and to begin monitoring a new patient or **No** to continue monitoring with the current patient data and settings.

**Power Off** can be configured to a specific time. Choices are:

- 1 min
- 10 min
- 30 min
- 1 h
- 3 h
- 8 h
- Never

### Standby

If monitoring is resumed, after the monitor was in Standby for longer than the specified time, it will ask the user whether a new patient is now being monitored. The user can then select **Yes** to discharge the current patient and to begin monitoring a new patient or **No** to continue monitoring with the current patient data and settings.

**Standby** can be configured to a specific time. Choices are:

- 1 min
- 10 min
- 30 min
- 1 h
- 3 h
- 8 h

- **Never**

## No Basic Vitals

If no basic vitals (**HR, RR, Pulse, SpO<sub>2</sub>, NBP**) have been measured for the specified time, the monitor will ask the user whether a new patient is now being monitored. The user can then select **Yes** to discharge the current patient and to begin monitoring a new patient or **No** to continue monitoring with the current patient data and settings.

**No Basic Vitals** can be configured to a specific time. Choices are:

- **1 min**
- **10 min**
- **30 min**
- **1 h**
- **3 h**
- **8 h**
- **Never**

## Ask Paced Mode

The **Ask Paced Mode** can be configured to **Yes** or **No**. If you set it to **Yes** and the clinician selects **Yes** when asked whether this is a new patient, the monitor will prompt the clinician to enter the patients paced mode.

# Configuration Recommendations when using an X2 or MP5 with a Telemetry Label

You can declare an X2 or MP5 as a telemetry device at the Information Center (assigning a telemetry label). This causes the X2 or MP5 to be treated as a telemetry device, including the ability to be paired with a host monitor (MX600 - MX800, MP20 - MP90).

If you plan to use an X2/MP5 with a telemetry label and connect it to / disconnect it from a host monitor, you should configure the following global settings:

Recommended Configuration			
Global Settings		On Host Monitor	On X2/MP5
Pat. Sel. Default		Ask User	not applicable
Ask for New Patient	Power Off	10 min	10 min
	Standby	10 min	10 min
	No Basic Vitals	10 min	10 min

# Configuring Demographic Field Settings

Global Settings: Main Setup > Global Settings > Demograph. Fields

## Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP2-MP90, X2 MP5T, MP5SC
Last Name	C	Optional
First Name	C	Optional
Middle Name	C	Hidden
Alias	C	Hidden
Lifetime Id	C	<b>Optional Required</b> (for MP5SC, Option #P05 (for MP5) only)
Encounter Id	C	Hidden
Date of Birth	C	Optional
Gender	C	Optional
Lifetime Id Lbl	C	MRN
Encounter Id Lbl	C	Encounter Id

## Demographic Field Settings Configuration Implications

- It is strongly recommended that the required demographic fields are configured consistently on the IntelliVue Information Center and the IntelliVue Patient monitor.

### NOTE

- When connected to an Information Center, the configuration of the demographic fields in the monitor will be permanently overwritten by the configuration of the Information Center.
- At least one name field or one Id field must be set to **Required** or **Optional**.
- Check the hidden fields after upgrading or downgrading.

## Last Name, First Name, Middle Name

Use the settings **Last Name**, **First Name**, or **Middle Name** to configure if the name fields are accessible or not.

Choices are:

- Required**  
Required fields are mandatory for admission and cannot be left empty (indicated by a red asterisk)
- Optional**  
Optional fields are accessible for admission, but are not mandatory
- Hidden**  
Hidden fields are not visible in the Patient Demographics menu

**NOTE**

The **Middle Name** has been added in IntelliVue Patient Monitor Release G.0. It can only be used if supported by the central station and all measurement servers.

**PIIC iX only** **First Name** and **Middle Name** cannot be set to **Required** in connection with PIIC iX.

**Alias**

Configure **Alias** to **Optional**, if you want it to be available for admission.

- Alpha-numeric entries up to 18 characters are allowed.
- If the Alias field is not empty, it is shown instead of the name on the monitor screen.

**NOTE**

- Reports and recordings print the real names but not the alias.
- **Alias** cannot be set to **Required** for admission.
- The **Alias** has been added in IntelliVue Patient Monitor Release J.0. It can only be used if supported by the central station and all measurement servers:
  - PIC iX does support the **Alias**
  - PIC does not support the **Alias**

**Lifetime Id, Encounter Id**

Configure **Lifetime Id, Encounter Id** to **Required**, if you want them to be mandatory fields for admission. How the **Lifetime Id** or **Encounter Id** fields are actually labeled, depends on the configuration made under **Lifetime Id Lbl** and **Encounter Id Lbl**.

**Date of Birth**

Configure **Date of Birth** to **Hidden**, if you want it to be hidden for admission. **Date of Birth** cannot be set to **Required** for admission.

**Gender**

The default **Gender** of a new patient is blank (**unspecified**). Choices are:

- **Male**
- **Female**

Once you selected a choice for **Gender** you cannot return to blank.

**Lifetime Id Lbl**

Use this setting to select how the **Lifetime Id** field should be labeled in the Patient Demographics window. Possible choices are:

- **MRN**
- **Record ID**
- **Lifetime ID**
- **Patient ID**
- **Serial Number**

- SSN
- Military ID
- Medicaid ID
- Driver's License

Make sure the same lifetime id label is used consistently across the entire enterprise.

### Encounter Id Lbl

Use this setting to select how the **Encounter Id** field should be labeled in the Patient Demographics window. Possible choices are:

- Encounter Id
- Visit Id
- Account Number
- Charge Number
- Case Id
- Subject Number

Make sure the same **Encounter Id** label is used consistently across the entire enterprise.

## Configuring Quick Admit Settings

Global Settings: Main Setup > Global Settings > Quick Admit

### Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP2-MP90, X2 MP5T, MP5SC
Last Name	C	Off
First Name	C	Off
Middle Name	C	Off
Lifetime Id	C	On
Encounter Id	C	Off
Patient Cat.	C	Off
Paced	C	Off
Date of Birth	C	Off
QuickAdmitDischg	C	<b>Ask User</b> <b>Yes</b> for MP5SC; option #P05 (for MP5) only

### Quick Admit Settings Configuration Implications

These settings define which data fields are used when performing a Quick Admit procedure.

The settings are greyed out and not accessible in this menu if corresponding Demographic Fields are set to **Required** or **Hidden**.

- They are automatically switched **On** if they are **Required** in the Demographic Fields settings.



- They are automatically switched **Off** if they are **Hidden** in the Demographic Fields settings.
- At least one name field or one Id field must be visible.

**NOTE**

If you are using a barcode reader to enter the Quick Admit data, make sure that the setting made here corresponds to the information provided by the barcode.

**Last Name, First Name, Middle Name, Encounter Id, Patient Cat. Paced, Date of Birth**

Configure these settings to **On**, if you want them to appear in the Quick Admit window.

**Lifetime Id**

Configure **Lifetime Id** to **Off**, if you want to switch it off in the Quick Admit window.

**QuickAdmitDischg**

When a Quick Admit is initiated, the monitor compares the information entered into the Quick Admit fields (see above) with the information that is currently stored for that field. If the information is different, the monitor optionally discharges the previous patient, depending on how the QuickAdmitDischg setting is configured:

- If set to **Ask User**, the monitor asks the user whether they want to discharge the previous patient.
- If set to **Yes**, the monitor automatically discharges the previous patient.
- If set to **No**, the monitor overwrites the data in the Quick Admit Field with the new data, but does not discharge the patient.

**NOTE**

- At least one name field or one Id field must be visible.
- If the monitor is connected to an Information Center, the monitor enters “----” into the **Last Name**, **Lifetime Id**, and **Encounter Id** fields to enable admission at the Information Center.
- Check the Quick Admit settings after upgrading or downgrading.

## Configuring Remote Display Settings

Global Settings: Main Setup > Global Settings > Remote Display

### Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP60-MP90, MP2, MP5, X2
Access Rights	C	Operating
Password	C	0000
Standby Image	C	Boot Image

## Remote Display Settings Configuration Implications

These settings manage aspects of the connection of an IntelliVue monitor to the XDS Remote Display.

### Access Rights

This setting determines how the XDS Remote Display can access the IntelliVue monitor. The following choices are available:

- **None**  
A connected XDS Remote Display can neither display information from the IntelliVue monitor, nor remotely operate it.
- **Viewing**  
A connected XDS Remote Display can display information from the IntelliVue monitor, but not remotely operate it.
- **Operating**  
A connected XDS Remote Display can both display information from the IntelliVue monitor and remotely operate it.

### Password

To get access to the IntelliVue monitor from an XDS Remote Display, the same password must be configured in both devices. The maximum length of the password is 16 characters. To reset the password, overwrite it in both the monitor and the XDS software.

### Standby Image

This setting lets you change the presentation of the standby screen on the XDS Remote Display. The following choices are available:

- **Boot Image**  
The Standby screen shows the basic (black background) boot image.
- **Moving Image**  
The Standby screen shows a black screen with an image moving across the screen, similar to a screen saver.
- **Blank**  
The Standby screen shows a black screen.

## Configuring Setup Internal PC Settings

Global Settings: Main Setup > Global Settings > Internal PC

### Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800
Auto Start PC	C	Disabled
PC Audio	C	Disabled

## Setup Internal PC Settings Configuration Implications

These settings determine the start behavior of the Internal PC of a patient monitor.

### Auto Start PC

With this setting you enable or disable the automatic start of the internal PC when the patient monitor is switched on. Choices are **Disabled** or **Enabled**.

### PC Audio

With this setting you enable or disable the audio output of the internal PC when the patient monitor is switched on. Choices are **Disabled** or **Enabled**.

## Configuring Timer Selection and Order Settings

Global Settings: Main Setup > Timers

The selection and order of timers as they appear in the Timers menu are stored as Global settings.

### Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	MX600-MX800, MP5-MP90 MP5T, MP5SC
<Timer 1>	C	Timer A
<Timer 2>	C	Timer B

Setting	Mode	MX600-MX800, MP40-MP90
<Timer 3>	C	Timer C

Setting	Mode	MX600-MX800, MP60-MP90
<Timer 4>	C	Timer D

### Timer Selection and Order Settings Configuration Implications

The maximum number of timers that can be simultaneously displayed on the IntelliVue monitor depends on your monitor model:

Monitor Models	Maximum number of timers
MX600-MX900	
MP60-MP90	4
MP40-MP50	3
MP5-MP30	2

The MP2/X2 does not provide a timer function.

The selection and order of timers is important when you change a numeric on the Main Screen into a timer:

- The **selection** determines which timer labels are actually available to choose from.
- The **order** determines which timer label is used when you change a numeric into an **Any Timer**. The monitor automatically uses the label that is located highest in the Timers window, provided that is not displayed on the Main Screen yet.

To change the selection and order of timers in the Timers menu:

- 1 Select **Main Setup > Timers** to open the Timers menu.
- 2 Select the timer label that you want to change.
- 3 From the pop-up key line, select **Setup <Timer X>** to open the Setup menu for this timer label.
- 4 Select **Label** and change it to a different label.

**NOTE**

The monitor automatically applies the settings pre-configured for this label to the timer.

## Configuring Manual Data Entry

Global Settings: **Main Setup > Enter MeasValues > Setup Meas.**

### Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	MX600-MX800, MP5, MP60-MP90
<b>Labels for General Use</b>		
Label	C	<b>T1</b>
Unit	C	°C
Color	C	Green
Interval	C	4 h
Msmnt	C, M	Off
Label	C	<b>CVP</b>
Unit	C	mmHg
Color	C	Red
Interval	C	1 h
Msmnt	C, M	Off
Label	C	<b>Glu</b>
Unit	C	mmol/l
Color	C	Green
Interval	C	4 h
Msmnt	C, M	Off
Label	C	<b>Hct</b>
Unit	C	%PCV
Color	C	Green
Interval	C	24 h
Msmnt	C, M	Off
Label	C	<b>Hb</b>

Setting	Mode	MX600-MX800, MP5, MP60-MP90
Unit	C	g/dl
Color	C	Green
Interval	C	24 h
Msmnt	C, M	Off
<b>Labels for MP20-MP50 Only</b>		
Label	C	<b>LOC</b>
Unit	C	n/a
Color	C	White
Interval	C	4 h
Msmnt	C, M	Off
Label	C	<b>Conscs.State</b>
Unit	C	n/a
Color	C	White
Interval	C	4 h
Msmnt	C, M	Off
Label	C	<b>Concern</b>
Unit	C	n/a
Color	C	White
Interval	C	4 h
Msmnt	C, M	Off
<b>Labels automatically configured by ProtocolWatch: Sepsis</b>		
Label <sup>1</sup>	C	<b>T1<sup>3</sup></b>
Unit <sup>1</sup>	C	°C
Color	C	Green
Interval <sup>2</sup>	C	4 h
Msmnt	C, M	Off
Format <sup>1</sup>	C, M	not applicable temperature labels do not have different formats
Label <sup>1</sup>	C	<b>SpRR</b>
Unit <sup>1</sup>	C	rpm
Color	C	Green
Interval <sup>2</sup>	C	2 h
Msmnt	C, M	Off
Format <sup>1</sup>	C, M	not applicable, this label does not have different formats
Label <sup>1</sup>	C	<b>Lact</b>
Unit <sup>1</sup>	C	mmol/l
Color	C	Green
Interval <sup>2</sup>	C	2 h
Msmnt	C, M	Off
Format <sup>1</sup>	C, M	not applicable, this label does not have different formats
Label <sup>1</sup>	C	<b>ScvO<sub>2</sub></b>
Unit <sup>1</sup>	C	%

## 9 Global Settings

Setting	Mode	MX600-MX800, MP5, MP60-MP90
Color	C	Green
Interval <sup>2</sup>	C	1 h
Msmnt	C, M	Off
Format <sup>1</sup>	C, M	not applicable, this label does not have different formats
Label <sup>1</sup>	C	<b>SvO<sub>2</sub></b>
Unit <sup>1</sup>	C	%
Color	C	Green
Interval <sup>2</sup>	C	1 h
Msmnt	C, M	Off
Format <sup>1</sup>	C, M	not applicable, this label does not have different formats
Label <sup>1</sup>	C	<b>Glu<sup>3</sup></b>
Unit <sup>1</sup>	C	mmol/l
Color	C	Green
Interval <sup>2</sup>	C	4 h
Msmnt	C, M	Off
Format <sup>1</sup>	C, M	not applicable, this label does not have different formats
Label <sup>1</sup>	C	<b>CVP<sup>3</sup></b>
Unit <sup>1</sup>	C	mmHg
Color	C	Red
Interval <sup>2</sup>	C	1 h
Msmnt	C, M	Off
Format <sup>1</sup>	C, M	Sys&Dia&Mean

<sup>1</sup> For ProtocolWatch labels, **Label**, **Unit**, and **Format** cannot be modified.

<sup>2</sup> For ProtocolWatch labels, the choices for **Interval** are restricted to the times used in the ProtocolWatch application.

<sup>3</sup> This label is not visible in the ProtocolWatch section, if it is also configured as a general label.

Setting	Mode	MP5C, MP5 #P05
Label	C	<b>T1</b>
Unit	C	°C
Color	C	White
Interval	C	4 h
Msmnt	C, M	On
Label	C	<b>SpRR</b>
Unit	C	rpm
Color	C	White
Interval	C	4 h
Msmnt	C, M	On
Label	C	<b>U/O</b>

Setting	Mode	MP5C, MP5 #P05
Unit	C	ml/hour
Color	C	White
Interval	C	4 h
Msmnt	C, M	On
Label	C	<b>LOC</b>
Unit	C	n/a
Color	C	White
Interval	C	4 h
Msmnt	C, M	On
Label	C	<b>AVPU</b>
Unit	C	n/a
Color	C	White
Interval	C	4 h
Msmnt	C, M	On
Label	C	<b>Concern</b>
Unit	C	n/a
Color	C	White
Interval	C	4 h
Msmnt	C, M	On
Label	C	<b>Pain</b>
Unit	C	n/a
Color	C	White
Interval	C	4 h
Msmnt	C, M	On
Label	C	<b>Breathing</b>
Unit	C	n/a
Color	C	White
Interval	C	4 h
Msmnt	C, M	On
Label	C	<b>Airway</b>
Unit	C	n/a
Color	C	White
Interval	C	4 h
Msmnt	C, M	On
Label	C	<b>Conscs.State</b>
Unit	C	n/a
Color	C	White
Interval	C	4 h
Msmnt	C, M	On
Label	C	<b>Urination</b>
Unit	C	n/a
Color	C	White

Setting	Mode	MP5C, MP5 #P05
Interval	C	4 h
Msmnt	C, M	On
Label	C	<b>P</b>
Unit	C	mmHg
Color	C	White
Interval	C	4 h
Msmnt	C, M	On

## Manual Data Entry Settings Configuration Implications

You can manually enter measurement values into the monitor that have been measured with other equipment or manually, for example, manual temperatures, or lab values. The monitor is shipped with a number of measurements pre-configured for manual entry (see tables above).

A maximum of 20 measurements can be configured, 13 for general purposes, the remaining 7 are reserved for the ProtocolWatch application. These will only be shown in the Enter Measurement Values menu if the ProtocolWatch option is installed on the monitor and the ProtocolWatch application is active. If you add a measurement to the general section with the same label as a measurement reserved for the ProtocolWatch application, the label will disappear from the ProtocolWatch section. This has no negative effect on the ProtocolWatch application. For details on configuring the ProtocolWatch application, see “Configuring SSC Sepsis Protocol” on page 219.

To add more measurements for manual entry:

- 1 In configuration mode, select **Main Setup > Enter MeasValues** to open the Enter Measurement Values window. The measurements that are currently configured for manual data entry are displayed.
- 2 Select the pop-up key **Setup Meas.** to open the Setup Measurement Values window, then select the pop-up key **Add**.
- 3 In the Setup Measurement sub menu, select **Label** and choose the required measurement label from the pop-up list.
- 4 Select the **Unit** and **Color** that should be used for the chosen label.
- 5 Select **Interval** to define the time after which a manually entered value becomes invalid (no value is then displayed). Values can be entered up to two hours after they have been measured or up to the measurement interval, if this is shorter.
- 6 Select **Msmnt** to define whether the selected measurement will be **On** or **Off**. The **On / Off** state can be changed by the user in Monitoring mode.
- 7 If available, select **Format** to define an input format. For pressures, for example, you can configure whether the user should enter all pressure values (**Sys&Dia&Mean**) or only the Mean pressure. The Format can be changed by the user in Monitoring mode.



# Configuring Country-Specific Settings

## Global Settings: Main Setup > Global Settings

Some settings are made in the factory to match the typical requirements in a specific country. **Line Frequency**, **Height Unit**, **Weight Unit**, and **ECG Cable Color (AAMI or IEC)** have been set to appropriate values. If you suspect that these settings may not match your institution's requirements, check the settings and change them if necessary.

## Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Factory Defaults by Country for all Monitor Models				
Setting	Line Frequency	Weight Unit	Height Unit	ECG Cable Color
Afghanistan	50	kg	cm	AAMI
Åland Islands	50	kg	cm	IEC
Albania	50	kg	cm	IEC
Algeria	50	kg	cm	IEC
American Samoa	60	lb	in	AAMI
Andorra	60	lb	in	AAMI
Angola	50	kg	cm	IEC
Anguilla	60	lb	in	AAMI
Antarctica	60	lb	in	AAMI
Antigua and Barbuda	50	kg	cm	AAMI
Argentina	50	kg	cm	AAMI
Armenia	50	kg	cm	IEC
Aruba	60	kg	cm	AAMI
Australia	50	kg	cm	AAMI
Austria	50	kg	cm	IEC
Azerbaijan	50	kg	cm	IEC
Bahamas	60	kg	cm	AAMI
Bahrain	50	kg	cm	AAMI
Bangladesh	50	kg	cm	IEC
Barbados	50	kg	cm	AAMI
Belarus	50	kg	cm	IEC
Belgium	50	kg	cm	IEC
Belize	60	lb	in	AAMI
Benin	60	lb	in	AAMI
Bermuda	60	kg	cm	AAMI
Bhutan	60	lb	in	AAMI
Bolivia	50	kg	cm	AAMI
Bolivia (Line Frequency 60 Hz)	60	kg	cm	AAMI
Bosnia and Herzegovina	50	kg	cm	IEC

## 9 Global Settings

Factory Defaults by Country for all Monitor Models				
Setting	Line Frequency	Weight Unit	Height Unit	ECG Cable Color
Botswana	50	kg	cm	IEC
Bouvet Island	60	lb	in	AAMI
Brazil	60	kg	cm	AAMI
British Indian Ocean Territory	60	lb	in	AAMI
Brunei Darussalam	50	kg	cm	AAMI
Bulgaria	50	kg	cm	IEC
Burkina Faso	50	kg	cm	IEC
Burundi	50	kg	cm	IEC
Cambodia	50	kg	cm	IEC
Cameroon	50	kg	cm	IEC
Canada	60	kg	cm	AAMI
Cape Verde	60	lb	in	AAMI
Cayman Islands	60	kg	cm	AAMI
Central African Republic	50	kg	cm	IEC
Chad	60	lb	in	AAMI
Chile	50	kg	cm	AAMI
China	50	kg	cm	AAMI
Christmas Islands	60	lb	in	AAMI
Cocos Keeling Islands	60	lb	in	AAMI
Colombia	60	kg	cm	AAMI
Comoros	60	lb	in	AAMI
Congo	50	kg	cm	IEC
Congo, The Democratic Republic of the	50	kg	cm	IEC
Cook Islands	60	lb	in	AAMI
Costa Rica	60	kg	cm	AAMI
Côte d'Ivoire	50	kg	cm	IEC
Croatia	50	kg	cm	IEC
Cuba	60	kg	cm	IEC
Cyprus	50	kg	cm	IEC
Czech Republic	50	kg	cm	IEC
Denmark	50	kg	cm	IEC
Djibouti	50	kg	cm	IEC
Dominica	50	kg	cm	AAMI
Dominican Republic	60	kg	cm	AAMI
Ecuador	60	kg	cm	AAMI
Egypt	50	kg	cm	IEC
El Salvador	60	kg	cm	AAMI

Factory Defaults by Country for all Monitor Models				
Setting	Line Frequency	Weight Unit	Height Unit	ECG Cable Color
Equatorial Guinea	50	kg	cm	IEC
Eritrea	50	kg	cm	IEC
Estonia	50	kg	cm	IEC
Ethiopia	50	kg	cm	IEC
Falkland Islands, Malvinas	60	lb	in	AAMI
Faroe Islands	60	lb	in	AAMI
Fiji	60	lb	in	AAMI
Finland	50	kg	cm	IEC
France	50	kg	cm	IEC
French Guiana	50	kg	cm	IEC
French Polynesia	60	lb	in	AAMI
French Southern Territories	60	lb	in	AAMI
Gabon	50	kg	cm	IEC
Gambia	50	kg	cm	IEC
Georgia	60	lb	in	AAMI
Germany	50	kg	cm	IEC
Ghana	50	kg	cm	IEC
Gibraltar	60	lb	in	AAMI
Greece	50	kg	cm	IEC
Greenland	60	lb	in	AAMI
Grenada	50	kg	cm	AAMI
Guadeloupe	50	kg	cm	IEC
Guam	60	lb	in	AAMI
Guatemala	60	kg	cm	AAMI
Guernsey	50	kg	cm	IEC
Guinea	60	lb	in	AAMI
Guinea-Bissau	60	lb	in	AAMI
Guyana	60	kg	cm	AAMI
Haiti	60	kg	cm	AAMI
Heard Island and McDonald Islands	60	lb	in	AAMI
Holy See, Vatican City State	60	lb	in	AAMI
Honduras	60	kg	cm	AAMI
Hong Kong	50	kg	cm	IEC
Hungary	50	kg	cm	IEC
Iceland	50	kg	cm	IEC
India	50	kg	cm	IEC
Indonesia	50	kg	cm	IEC

Factory Defaults by Country for all Monitor Models				
Setting	Line Frequency	Weight Unit	Height Unit	ECG Cable Color
Iran, Islamic Republic of	50	kg	cm	AAMI
Iraq	50	kg	cm	AAMI
Ireland	50	kg	cm	IEC
Isle of Man	50	kg	cm	IEC
Israel	50	kg	cm	IEC
Italy	50	kg	cm	IEC
Jamaica	50	kg	cm	AAMI
Japan	60	kg	cm	IEC
Japan (Line Frequency 50 Hz)	50	kg	cm	IEC
Jersey	50	kg	cm	IEC
Jordan	50	kg	cm	AAMI
Kazakhstan	50	kg	cm	IEC
Kenya	50	kg	cm	IEC
Kiribati	60	lb	in	AAMI
Korea, Democratic People's Republic of	60	lb	in	AAMI
Korea, Republic of	60	kg	cm	AAMI
Kuwait	50	kg	cm	AAMI
Kyrgyzstan	60	lb	in	AAMI
Lao People's Democratic Republics	50	kg	cm	IEC
Latvia	50	kg	cm	IEC
Lebanon	50	kg	cm	AAMI
Lesotho	50	kg	cm	IEC
Liberia	50	kg	cm	IEC
Libyan Arab. Jamahiriya	60	lb	in	AAMI
Liechtenstein	60	lb	in	AAMI
Lithuania	50	kg	cm	IEC
Luxembourg	50	kg	cm	IEC
Macao	50	kg	cm	IEC
Macedonia, The former Yugoslav. Rep. of	50	kg	cm	IEC
Madagascar	50	kg	cm	IEC
Malawi	50	kg	cm	IEC
Malaysia	50	kg	cm	IEC
Maldives	60	lb	in	AAMI
Mali	50	kg	cm	IEC
Malta	50	kg	cm	IEC
Marshall Islands	60	lb	in	AAMI

Factory Defaults by Country for all Monitor Models				
Setting	Line Frequency	Weight Unit	Height Unit	ECG Cable Color
Martinique	60	kg	cm	IEC
Mauritania	50	kg	cm	IEC
Mauritius	60	lb	in	AAMI
Mayotte	60	lb	in	AAMI
Mexico	60	kg	cm	AAMI
Micronesia, Fed. States of	60	lb	in	AAMI
Moldova, Republic of	60	lb	in	AAMI
Monaco	60	lb	in	AAMI
Mongolia	60	lb	in	AAMI
Montenegro	50	kg	cm	IEC
Montserrat	50	kg	cm	AAMI
Morocco	50	kg	cm	IEC
Mozambique	50	kg	cm	IEC
Myanmar	60	lb	in	AAMI
Namibia	50	kg	cm	IEC
Nauru	60	lb	in	AAMI
Nepal	50	kg	cm	IEC
Netherlands	50	kg	cm	IEC
Netherlands Antilles	50	kg	cm	AAMI
New Caledonia	60	lb	in	AAMI
New Zealand	50	kg	cm	AAMI
Nicaragua	60	kg	in	AAMI
Niger	50	kg	cm	IEC
Nigeria	50	kg	cm	IEC
Niue	60	lb	in	AAMI
Norfolk Islands	60	lb	in	AAMI
Northern Mariana Islands	60	lb	in	AAMI
Norway	50	kg	cm	IEC
Oman	50	kg	cm	AAMI
Pakistan	50	kg	cm	IEC
Palau	60	lb	in	AAMI
Palestinian Territory	50	kg	cm	AAMI
Panama	60	lb	in	AAMI
Papua New Guinea	60	lb	in	AAMI
Paraguay	50	kg	cm	AAMI
Peru	60	kg	cm	AAMI
Philippines	60	kg	cm	AAMI
Pitcairn	60	lb	in	AAMI
Poland	50	kg	cm	IEC

Factory Defaults by Country for all Monitor Models				
Setting	Line Frequency	Weight Unit	Height Unit	ECG Cable Color
Portugal	50	kg	cm	IEC
Puerto Rico	60	lb	in	AAMI
Qatar	50	kg	cm	AAMI
Reunion	60	lb	in	AAMI
Romania	50	kg	cm	IEC
Russian Federation	50	kg	cm	IEC
Rwanda	50	kg	cm	IEC
Saint Helena	60	lb	in	AAMI
Saint Kitts and Nevis	60	kg	cm	AAMI
Saint Lucia	50	kg	cm	AAMI
Saint Pierre and Miquelon	60	lb	in	AAMI
Saint Vincent & the Grenadines	50	kg	cm	AAMI
Samoa	60	lb	in	AAMI
San Marino	60	lb	in	AAMI
Sao Tome and Principe	60	lb	in	AAMI
Saudi Arabia	50	kg	cm	AAMI
Senegal	50	kg	cm	IEC
Serbia	50	kg	cm	IEC
Serbia & Montenegro	50	kg	cm	IEC
Seychelles	60	lb	in	AAMI
Sierra Leone	50	kg	cm	IEC
Singapore	50	kg	cm	IEC
Slovakia	50	kg	cm	IEC
Slovenia	50	kg	cm	IEC
Solomon Islands	60	lb	in	AAMI
Somalia	50	kg	cm	IEC
South Africa	50	kg	cm	IEC
South Georgia and the South Sandwich Islands	60	lb	in	AAMI
Spain	50	kg	cm	IEC
Sri Lanka	50	kg	cm	IEC
Sudan	50	kg	cm	IEC
Suriname	60	kg	cm	AAMI
Svalbard and Jan Mayen	60	lb	in	AAMI
Swaziland	60	lb	in	AAMI
Sweden	50	kg	cm	IEC
Switzerland	50	kg	cm	IEC
Syrian Arab Rep	50	kg	cm	AAMI

Factory Defaults by Country for all Monitor Models				
Setting	Line Frequency	Weight Unit	Height Unit	ECG Cable Color
Taiwan, Province of China	60	kg	cm	AAMI
Tajikistan	60	lb	in	AAMI
Tanzania, United Republic of	60	lb	in	AAMI
Thailand	50	kg	cm	AAMI
Timor-Leste	60	lb	in	AAMI
Togo	60	lb	in	AAMI
Tokelau	60	lb	in	AAMI
Tonga	60	lb	in	AAMI
Trinidad and Tobago	60	lb	in	AAMI
Trinidad and Tobago (Weight kg, Height cm)	60	kg	cm	AAMI
Tunisia	50	kg	cm	IEC
Turkey	50	kg	cm	IEC
Turkmenistan	60	lb	in	AAMI
Turks and Caicos Islands	60	kg	cm	AAMI
Tuvalu	60	lb	in	AAMI
Uganda	60	lb	in	AAMI
Ukraine	60	lb	in	AAMI
United Arab Emirates	50	kg	cm	AAMI
United Kingdom	50	kg	cm	IEC
United States	60	lb	in	AAMI
United States (Weight kg)	60	kg	in	AAMI
United States (Height cm, Weight kg)	60	kg	cm	AAMI
United States Minor Outlying Islands	60	lb	in	AAMI
Uruguay	50	kg	cm	AAMI
Uzbekistan	60	lb	in	AAMI
Vanuatu	60	lb	in	AAMI
Venezuela	60	lb	in	AAMI
Viet Nam	50	kg	cm	IEC
Virgin Islands, British	50	kg	cm	AAMI
Virgin Islands, United States	60	lb	in	AAMI
Wallis and Futuna Islands	60	lb	in	AAMI

<b>Factory Defaults by Country for all Monitor Models</b>				
<b>Setting</b>	<b>Line Frequency</b>	<b>Weight Unit</b>	<b>Height Unit</b>	<b>ECG Cable Color</b>
Western Sahara	50	kg	cm	IEC
Yemen	50	kg	cm	AAMI
Zambia	60	lb	in	AAMI
Zimbabwe	60	lb	in	AAMI



# Configuring Printers

Global Settings: Main Setup > Reports > Setup Printers

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	MX600-MX800, MP20-MP90
<b>Printer &gt; Local 1</b>		
Chg Printer Name	C, S	Local 1
Port	C, S	not applicable, this is not a setting, "Printer Settings Configuration Implications" on page 274.
Config Printer	<b>S</b>	Manual
Printer Status	C, M, S	Disabled
Paper Size	C, S	Letter
Resolution	C, S	300 dpi
Color Support	C, S	Monochrome
Duplex Option	C, S	Simplex
<b>Printer &gt; Local 2</b>		
Chg Printer Name	C, S	Local 2
Port	C, S	not applicable, this is not a setting, "Printer Settings Configuration Implications" on page 274.
Config Printer	<b>S</b>	Manual
Printer Status	C, M, S	Disabled
Paper Size	C, S	Letter
Resolution	C, S	300 dpi
Color Support	C, S	Monochrome
Duplex Option	C, S	Simplex

Setting	Mode	MX600-MX800, MP2-MP90, X2 MP5T, MP5SC
<b>Printer &gt; Remote 1</b>		
Chg Printer Name	C, S	Remote 1
Port	C, S	not applicable, this is not a setting, "Printer Settings Configuration Implications" on page 274.
Config Printer	<b>S</b>	Auto
Printer Status	C, M, S	Enabled
Paper Size	C, S	Letter
Resolution	C, S	300 dpi
Color Support	C, S	Monochrome
Duplex Option	C, S	Simplex
<b>Printer &gt; Remote 2</b>		
Chg Printer Name	C, S	Remote 2

Setting	Mode	MX600-MX800, MP2-MP90, X2 MP5T, MP5SC
Port	C, S	not applicable, this is not a setting, "Printer Settings Configuration Implications" on page 274.
Config Printer	<b>S</b>	Auto
Printer Status	C, M, S	Enabled
Paper Size	C, S	Letter
Resolution	C, S	300 dpi
Color Support	C, S	Monochrome
Duplex Option	C, S	Simplex
<b>Printer &gt; Remote 3</b>		
Chg Printer Name	C, S	Remote 3
Port	C, S	not applicable, this is not a setting, "Printer Settings Configuration Implications" on page 274.
Config Printer	<b>S</b>	Auto
Printer Status	C, M, S	Enabled
Paper Size	C, S	Letter
Resolution	C, S	300 dpi
Color Support	C, S	Monochrome
Duplex Option	C, S	Simplex
<b>Printer &gt; Database</b>		
Chg Printer Name	C, S	Database
Port	C, S	not applicable, this is not a setting, "Printer Settings Configuration Implications" on page 274.
Config Printer	<b>S</b>	Manual
Printer Status	C, M, S	Enabled
Paper Size	C, S	Letter

## Printer Settings Configuration Implications

### NOTE

If you are using an IntelliVue XDS Application print service (Local XDS Printing), you may see XDS printers in the **Setup Printers** menu that also have "**Local**" or "**Remote**" in their name. Their names and settings can only be configured in the XDS Application. Refer to the **IntelliVue XDS Application Installation and Configuration Guide** for full details about the configuration possibilities.

All following printer settings are grayed-out and not accessible in Configuration mode when IntelliVue XDS Application is your print service.

### Printer

This is not a setting, it lets you select the printer you want to configure. The printer **Database** is not a physical printer, it refers to the print database. This is a special section of the monitor database which acts as a buffer for print jobs. Print jobs stored in the print database are automatically printed when a print device with a paper size matching the template of the report is available (depending on the setting "Auto Print Dbs" on page 176.). Reports stored in the print database will not be cleared by a discharge

or by a power cycle. To be able to use the print database, it must be enabled, see “Configuring Print Database” on page 305.

## Chg Printer Name

This setting lets you change the printer name. If the monitor is connected to an Information Center, the name of the printer is determined by the Information Center and cannot be changed at the monitor.

## Port

This is not a setting. Port lets you view the printer port to which the selected printer is assigned. Available printer ports are **Local 1**, **Local 2**, **Remote 1**, **Remote 2**, **Remote 3**, and **Database**. Several printers can be mapped to the same printer port. For example, both **Local 1** and **Local 2** could be mapped to the same local printer to allow printing from different paper trays of one printer.

Port **Local 1** has the highest priority, port **Database** has the lowest priority. If you print a report for which no specific printer has been assigned (**Target Device > Unspecified**, see “Configuring Reports” on page 171), the monitor tries to print on port **Local 1** first. If this is not possible, because the printer is not available or there is a mismatch between the configured report size and the actual printer paper size, the monitor tries to send the report to the printer connected to port **Local 2**, followed by **Remote 1**, and so on. If the monitor has no connection to a printer, the report will be stored in the print database, from which it will be printed as soon as a connection to an appropriate printer is available.

## Config Printer

This setting is available in Service mode only.

It lets you define whether the printer is automatically or manually configured. Automatic printer configuration is only available for remote printers, i.e. printers that are connected to the Information Center. For local printers and printing to the database, this setting is automatically set to **Manual**.

- When **Config Printer** is set to **Auto**, printer settings for paper size, resolution, color support and duplex option sent from an Information Center or other source override the settings configured at the monitor. They will be unavailable (“grayed out”) at the monitor.
- When **Config Printer** is set to **Manual**, the printer settings from the monitor override printer settings from an Information Center or other source.

## Printer Status

This setting lets you enable or disable the selected printer.

If **Port** is one of the remote ports, and **Config Printer** is set to **Auto**, and printing on this port is not possible, **Printer Status** is automatically **Disabled** and cannot be changed.

### NOTE

If you are using a PIIC iX or an IntelliVue XDS Application print service (Local XDS Printing), and this print service is **Enabled** in PIIC iX or XDS, the Printer Status is not grayed-out. Then you can disable the selected printer in the patient monitor.

## Paper Size

This setting lets you configure the printer paper size. Possible choices are:

- **A4**

- **Letter**
- **A3**
- **Ledger** (11x17 inches)

This setting is not available if **Config Printer** is configured to **Auto**.

### Resolution

The printer resolution can be set to **300 dpi**, **600 dpi** or **1200 dpi**. The horizontal and vertical resolutions are assumed to be identical. This setting is not available if **Config Printer** is configured to **Auto** or if **Printer Status** is **Disabled**.

### Color Support

This setting lets you configure whether the printer supports color. It can be set to **Monochrome** or **8 Colors**. This setting is not available if **Config Printer** is configured to **Auto** or if **Printer Status** is **Disabled**.

### Duplex Option

This setting lets you configure **Simplex** or **Duplex** printing. If the printer does not support duplex printing, this setting is ignored. This setting is not available if **Config Printer** is configured to **Auto** or if **Printer Status** is **Disabled**.

## Printer Configuration Examples

### NOTE

If you are using an IntelliVue XDS Application print service (Local XDS Printing), you may see XDS printers in the **Setup Printers** menu that also have "**Local**" or "**Remote**" in their name. Their names and settings can only be configured in the XDS Application. Refer to the **IntelliVue XDS Application Installation and Configuration Guide** for full details about the configuration possibilities.

All following printer settings are grayed-out and not accessible in Configuration mode when IntelliVue XDS Application is your print service.

### Configuring a Locally USB-Connected Printer

These steps show you how to carry out a typical configuration for a monitor connected to a local printer.

- 1 In the **Setup Printers** menu, select the first printer in the list (**Port** is set to **Local 1**).
- 2 Set **Printer Status** to **Enabled**.  
**Disabled** means that no reports will be printed on the printer. If this menu entry is grayed out, it means that no printer of this type is connected to the specified port. Make sure that all other printers in the list are set to **Disabled**.
- 3 Select **Chg Printer Name** and then use the pop-up keyboard to enter a name for the printer you are currently configuring. Maximum length is 12 characters.
- 4 Select **Paper Size** and set the paper size for reports printed on this printer.
- 5 Select **Resolution** and set the resolution at which reports should be printed.

- 6 Select **Color Support** to toggle to **Monochrome** for black and white printers or **8 Colors** for color printers.  
If your printer is not a color printer and you set this to color, reports will not print correctly.
- 7 Select **Duplex Option** to toggle to **Duplex** if the connected printer can print double-sided reports, or **Simplex** for single-sided print-outs.

Only one local printer can be connected to each monitor. You can use the second local port to print reports from a second paper tray, if required.

- 1 Select the second printer in the list, and make sure **Port** is set to **Local 2** and **Printer Status** is set to **Enabled**.
- 2 Assign different names to the two paper trays, for example Bed4\_USLettr and Bed4\_Ledger.
- 3 Configure the other printer settings as required for the second paper tray.

## Configuring a Centrally Connected Printer

These steps show you how to carry out a typical configuration for a monitor connected to a central printer.

- 1 In the **Setup Printers** menu, select the third printer in the list and make sure that **Port** is set to **Remote 1**.
- 2 Set **Printer Status** to **Enabled**.  
**Disabled** means that no reports will be printed on the printer. If this menu entry is grayed out, it means that no printer of this type is connected to the specified port. Make sure that all other printers in the list are set to **Disabled**.
- 3 If the printer name is not sent from the Information Center, select **Chg Printer Name** and then use the pop-up keyboard to enter a name for the printer you are currently configuring. Maximum length is 12.  
If the printer name is defined at the Information Center, **Chg Printer Name** will be unavailable (“grayed out”).  
The settings described in steps 4 to 7 are only available if the service mode setting **Config Printer** is set to **Manual**.
- 4 Select **Paper Size** and set the paper size for reports printed on this printer.
- 5 Select **Resolution** and set the resolution at which reports should be printed.
- 6 Select **Color Support** to toggle between **Monochrome** for black and white printers or **8 Colors** for color printers.  
The IntelliVue Information Center currently does not support color printers. If a black and white printer is connected to your Information Center and you set **Color Support** for a remote printer to **8 Colors**, reports will not print correctly.
- 7 Select **Duplex Option** to toggle to **Duplex** if the connected printer can print double-sided reports, or **Simplex** for single-sided printouts.

If only one remote printer is connected to the monitor, you can use the second and third remote printer ports to print from different paper trays on the printer. The service mode setting **Config Printer** must be set to **Manual** for this.

- 1 To print reports from the second paper tray, select the fourth printer in the list, make sure **Port** is set to **Remote 2**, and **Printer Status** is set to **Enabled**.
- 2 To print reports from the third paper tray, select the fifth printer in the list, make sure **Port** is set to **Remote 3**, and **Printer Status** is set to **Enabled**.

- 3 Configure the other printer settings as required for each paper tray.

### Configuring One Locally XDS-Connected and One Centrally Connected Printer

This is a typical configuration for a monitor connected to one local XDS printer and one central printer.

- 1 To configure the **local XDS printer**, in the **Setup Printers** menu, select the first printer in the list and make sure that **Port** is set to **Local 1**.
- 2 Verify that the **Printer Status** is set to **Enabled** (XDS configuration setting; grayed-out; not accessible)
- 3 To configure the **central printer**, in the **Setup Printers** menu, select the third printer in the list and make sure that **Port** is set to **Remote 1**. Set **Printer Status** to **Enabled**. Change the printer name if required and configure the settings for the centrally connected printer as described above.
- 4 Make sure that all other printers in the list are set to **Disabled**.

### Configuring One Locally USB-Connected and One Centrally Connected Printer

This is a typical configuration for a monitor connected to one local and one central printer.

- 1 To configure the **local printer**, in the **Setup Printers** menu, select the first printer in the list and make sure that **Port** is set to **Local 1**. Set **Printer Status** to **Enabled**. Change the printer name if required and configure the correct settings for the locally connected printer as described above.
- 2 To configure the **central printer**, in the **Setup Printers** menu, select the third printer in the list and make sure that **Port** is set to **Remote 1**. Set **Printer Status** to **Enabled**. Change the printer name if required and configure the settings for the centrally connected printer as described above.
- 3 Make sure that all other printers in the list are set to **Disabled**.

### Configuring a Monitor to Capture Alarm Events in the Print Database During Transport

You may want to use this feature on transport monitors which have no recorder.

- 1 Under **Databases > Database Config**, make sure that **Print Database** is set to **Small** or **Large**. Any change must be confirmed to take effect. This will cause the monitor to reboot.
- 2 Under **Alarms > Alarm Recording**, select all alarms that should trigger a capture (e.g. **HR > Red Only**, **PVC > Red Only**, etc.).
- 3 Under **Recordings > Setup Recordings**, select **Alarm**, and change the **Recorder** to **Printer**. This causes any alarm recording to be sent as a Realtime Report to a connected printer. If during transport no printer is connected to the monitor, the Realtime Report will be stored in the print database (if configured appropriately, see next steps)
- 4 Under **Reports > Setup Reports**, select **Realtime Rep** as the **Report**.
  - Configure the **Target Device** to either **Unspecified** (factory default) or **Database**.
  - Configure the **Report Size** to either **Universal** or **Unspecified**. In both cases, the report will be printed on a printer which has either **US Letter** or **A4** format.
- 5 Under **Reports > Setup Printers**, select **Database** as the **Printer**, and configure the **Paper Size** to either **Letter** or **A4**, depending on your preferred paper format.
- 6 Under **Reports**, select **Auto Print Dbs** and set it to the desired behavior. For details, see “Auto Print Dbs” on page 176.
- 7 Store the changes.

## Printing a Test Report

To verify your printer configuration it is strongly recommended that you print a test report.

- ◆ To print a test report, select **Main Setup > Reports > Setup Printers > Print Test Rep.**





# Hardware Settings

This section lists all hardware settings. Just like unique monitor settings and global settings, hardware settings are set once per monitor and are the same in every Profile. Any changes you make to the hardware settings configuration are automatically stored, there is no need to save them in an extra step.

Hardware settings must be entered for each monitor individually, they are stored in the monitor, and cannot be cloned using the IntelliVue Support Tool.

Most hardware settings can be changed in service mode only. For detailed configuration implications on these settings, please refer to the Service Guide provided on the Documentation DVD shipped with your monitor.

Setting	Page
“Configuring Bed Information Settings”	296
“Configuring General Hardware Settings”	282
“Configuring IntelliVue Remote Control (Wireless Mode)”	291
“Configuring Interfaces and Input Device Settings”	290
“Configuring Multiple Display Settings”	284
“Configuring SRR Channels”	295
“Configuring Video Settings”	286

# Configuring General Hardware Settings

Hardware Setting: Main Setup > Hardware

## Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	MX600-MX800, MP2-MP90, X2
Standby Image	C, S	Boot Image
Keyboard	S	US
Data Export 1 <sup>1</sup>	C, S	Fix 115200
Data Export 2 <sup>1</sup>	C, S	Fix 115200

<sup>1</sup> Setting available on monitors with a LAN or MIB/RS232 interface only.

Setting	Mode	MX800, MP90 (Monitors with multiple displays only.)
Multiple Display	S	“Configuring Multiple Display Settings” on page 284

Setting	Mode	MX600-MX800, MP40-MP90
Video	S	“Configuring Video Settings” on page 286

Setting	Mode	MX600-MX800, MP5-MP90 (w
Interfaces	S	“Configuring Interfaces and Input Device Settings” on page 290

Setting	Mode	MX600-MX800, MP2, MP5, X2 (Monitors with SRR Interface only.)
SRR	C, S	On
SRR Channel	C, S	“SRR Channel Settings Configuration Implications” on page 296

## Hardware Settings Configuration Implications

### Video

Video settings are available in service mode only and allow technical personnel to set the correct resolution for the connected display(s). For detailed configuration implications, refer to the IntelliVue Service Guide and “Configuring Video Settings” on page 286.

### Standby Image

The setting **Standby Image** lets you change the presentation of the Standby screen. It can be configured separately for each Display (**Main Setup > Hardware > Display <n>**)

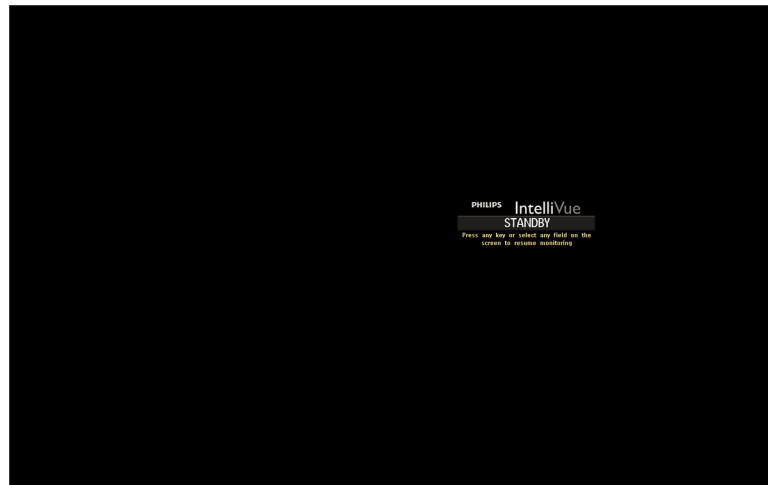
Choices for the first display are:

- **Boot Image**

The Standby screen shows the boot image configured under Video settings (in Service Mode), see “Boot Image” on page 288.

- **Moving Image**

The Standby screen shows a black screen with an image moving across the screen, similar to a screen saver. This image is the same for the **Boot Image** settings **Classic** and **Basic** (in Service Mode), see image below:



For the 2<sup>nd</sup> and 3<sup>rd</sup> independent display, two additional choices are available:

- **Blank**

The Standby screen shows a black screen, the display is not shut off.

- **Video Off**

The video signal and display are turned off.

## Interfaces

Interface settings can be changed in service mode only. Supported interface board configurations are listed in the section “Installation Instructions” of the IntelliVue Service Guide.

## Keyboard

This setting is available in service mode only and allows technical personnel to select the language of the keyboard that is connected to the monitor. For detailed configuration implications, refer to the IntelliVue Service Guide.

## Data Export 1, Data Export 2

The two Data Export settings let you determine the port speeds (baud rate) for up to two MIB/RS232 data output ports.

- **Data Export 1** determines the speed of the port labeled **DtOut1**
- **Data Export 2** determines the speed of the port labeled **DtOut2**.

- The two data output ports can be located on the same or on two separate MIB/RS232 interfaces. For details on assigning data output ports to the MIB/RS232 ports, see “Configuring Interfaces and Input Device Settings” on page 290.

**SRR**

This setting is available for monitors with a short range radio interface only. Configure **SRR** to **Off**, if you want to switch off the short range radio capabilities of the monitor.

## Configuring Multiple Display Settings

Hardware Settings: Main Setup > Hardware > Multiple Display

### Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	MX800, MP90 (With multiple main displays only.)
Display Layout	S	Horizontal
Display 1	S	Operator 1
Display 2	S	Operator 1
Display 3	S	Operator 1
Oper. 1 Windows	S	Same Display
Oper. 2 Windows	S	Same Display
FMS 1 Keys	C, S	Display 1
FMS 2 Keys	C, S	Display 1
GM Keys	C, S	Display 1
Meas Sel.Window	C, S	Display 1
ADT Window	C, S	Display 1
Timer Window	C, S	Display 1
ProtWatch Window	C, S	Display 1
Event Surv. Window	C, S	Display 1

## Multiple Display Settings Configuration Implication

### Display Layout

This setting can be changed in service mode only. For detailed configuration implications, refer to the MX800, MP80/MP90 IntelliVue Service Guide.

### Display 1, Display 2, Display 3

These settings can be changed in service mode only. For detailed configuration implications, refer to the MX800, MP80/MP90 IntelliVue Service Guide.

## Oper. 1 Windows, Oper. 2 Windows

These settings can be changed in service mode only. For detailed configuration implications, refer to the MX800, MP80/MP90 IntelliVue Service Guide.

### FMS 1 Keys

This setting defines on which display a setup menu or application window appears when any of the hard keys on a plug-in module in FMS 1 is pressed. If the configured display is not available, the monitor automatically uses **Display 1**.

### FMS 2 Keys

This setting defines on which display a setup menu or application window appears when any of the hard keys on a plug-in module in FMS 2 is pressed. If the configured display is not available, the monitor automatically uses **Display 1**.

### GM Keys

This setting defines on which display the gas monitor setup menu appears when the Setup Airway Gases key on the gas monitor front panel is pressed. If the configured display is not available, the monitor automatically uses **Display 1**.

### Meas. Sel.Window

This setting defines on which display the Measurement Selection window pops up if **Meas. Selection** (see “Configuring User Interface Settings” on page 182 is configured to **Window**, and a label conflict occurs, and no other menu/window is open at the same time. If the configured display is not available, the monitor automatically uses **Display 1**.

### ADT Window

This setting defines on which display the Patient Demographics window pops up, if a patient identification mismatch occurs and no other menu/window is open at the same time. If the configured display is not available, the monitor automatically uses **Display 1**.

### Timer Window

This setting defines on which display the Timers window pops up when a timer expires and the **Auto Window** setting for that timer is set to **Yes** (see “Configuring Timers” on page 229), and no other menu/window is open at the same time. If the configured display is not available, the monitor automatically uses **Display 1**.

### ProtWatch Window

This setting defines on which display the ProtocolWatch window pops up when the protocol currently running requires a user response. If the configured display is not available, the monitor automatically uses **Display 1**.

### Event Surv. Window

This setting defines on which display the Event Episode window pops up when an event occurs and the **Notification Type** of an event group is configured to **\*\* Alarm (PopUp)** or **\*\*\*Alarm (PopUp)**. If the configured display is not available, the monitor automatically uses **Display 1**.

## Configuring Video Settings

Video settings can be changed in service mode only and allow technical personnel to set the correct resolution, type, and size for connected display(s). For detailed configuration implications on these settings, please refer to the latest IntelliVue Patient Monitor Service Guide.

**Hardware Settings: Main Setup > Hardware > Video**

### Settings for Specific Options or Monitor Models

The following table lists the factory defaults for specific options or monitor models:

Setting	Mode	MX800
Boot Image	S	Classic
Display 1 - Resolution	S <sup>1</sup>	WSXGA+ (1680x1050)
Display 1 - Display Type	S	LCD
Display 1 - Size	S <sup>1</sup>	19"
Display 2 - Resolution <sup>2</sup>	S	WSXGA+ (1680x1050)
Display 2 - Display Type <sup>2</sup>	S	LCD
Display 2 - Size <sup>2</sup>	S	15"

<sup>1</sup> Setting can only be viewed, but not changed.

<sup>2</sup> Setting only affects MX800 with Integrated Display Interface.

Setting	Mode	MX600-MX700
Boot Image	S	Classic
Display 1 - Resolution	S <sup>1</sup>	WXGA (1280x768)
Display 1 - Display Type	S	LCD
Display 1 - Size	S <sup>1</sup>	15"

<sup>1</sup> Setting can only be viewed, but not changed.

Setting	Mode	MP90
Boot Image	S	Classic
Display 1 - Resolution	S	XGA (1024 x 768)
Display 1 - Display Type	S	LCD
Display 1 - Size	S	15"
Display 2 - Resolution <sup>1</sup>	S	XGA (1024 x 768)
Display 2 - Display Type <sup>1</sup>	S	LCD
Display 2 - Size <sup>1</sup>	S	15"
Display 3 - Resolution <sup>2</sup>	S	XGA (1024 x 768)
Display 3 - Display Type <sup>2</sup>	S	LCD
Display 3 - Size <sup>2</sup>	S	15"

<sup>1</sup> Setting only affects MP90 with dual CPU monitors.

<sup>2</sup> Setting only affects MP90 with dual CPU monitors with a connected D80 Intelligent Display.

Setting	Mode	MP60-MP70
Boot Image	S	Classic
Display 1 - Resolution	S <sup>1</sup>	XGA (1024 x 768)
Display 1 - Display Type	S	LCD
Display 1 - Size	S <sup>1</sup>	15"

<sup>1</sup> Setting can only be viewed, but not changed.

Setting	Mode	MP40-MP50
Boot Image	S	Classic
Display 1 - Resolution	S <sup>1</sup>	SVGA (800x600)
Display 1 - Display Type	S	LCD
Display 1 - Size	S <sup>1</sup>	12.1"

<sup>1</sup> Setting can only be viewed, but not changed.

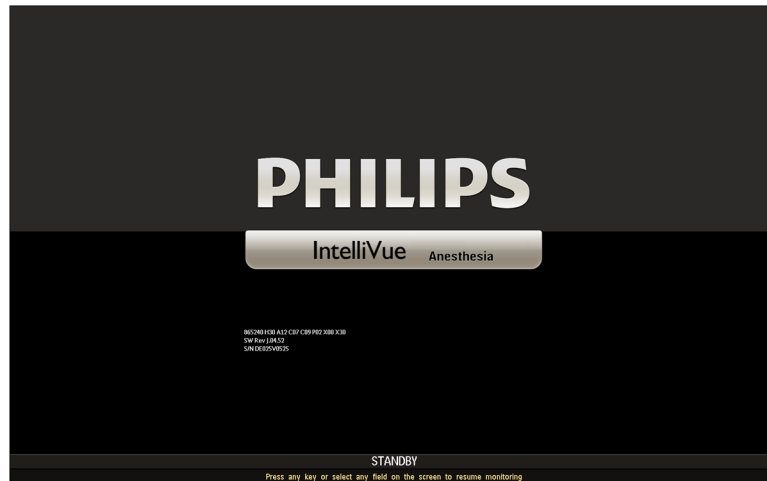
## Video Settings Configuration Implications

### Boot Image

**Service Mode Only** This setting can be changed in service mode only. It lets you change the presentation of the **Boot Image** Screen.

The following choices are available:

- **Classic**, see image below:



- **Basic**, see image below:



**Support Tool Only** With the Support Tool, a customized image can be loaded to appear on the Boot Image. For instructions and graphic specifications see "Support Tool Instructions for Use; Device Administration; Customizing the Startup and Standby Screen; Adding a Graphic".

The uploaded image appears differently in the Boot Image.



- Appearance in **Boot Image** > **Classic**, see image below:



- Appearance in **Boot Image** > **Basic**, see image below:



The appearance of the **Boot Image** during **Standby Mode** can be configured in **Main Setup** > **Hardware** > **Standby Image**, see “Standby Image” on page 282.

## Resolution

This setting can be changed in service mode only. It only affects MX800 and MP90 monitors with more than one CPU and allows you to set the correct display resolution for external display.

If you are using a display with a single fixed (native) resolution (such as LCD or Flat Panel displays), the optimal display quality can only be reached if the configured **Resolution** matches the native resolution of the display.

Available choices are:

Product	Display Resolution
MP60, MP70, MP80, MP90	XGA (1024x768)
MP80, MP90	SXGA (1280x1024)
MX600, MX700	WXGA (1280x768)
Secondary Display only	WXGA+ (1366x768)
Secondary Display only	WSXGA (1440x900)
MX800	WSXGA+ (1680x1050)
Secondary Display MX800 only	HD (1920x1080 p24)

## Display Type

This setting can be changed in service mode only. It only affects MX800 and MP90 monitors with more than one CPU and lets you set the correct display type for an external display. Available choices are **LCD** and **CRT**. The **Display Type** setting effects the available choices for the setting **Size** (see below). This is necessary because the size measurement of a CRT display encompasses the full face of the picture tube, including the part hidden by the bezel, whereas on LCD displays, only the viewable screen is measured.

## Size

This setting can be changed in service mode only. It only affects MX800 Independent Display Interface and MP90 monitors and lets you set the correct size of the external display. **Size** refers to the width of the display measured diagonally from one corner to the opposite corner of the viewable screen. The available choices depend on the choice made for the setting **Display Type** and range from **10.4”(210x160mm)** to **60”(1330x750mm)**. It is important to configure the **Size** correctly to enable the monitor to calculate the correct sweep speed of measurement waves across the screen.

### Example

You are using a 22” LCD display with a horizontal dimension of 490 mm, but leave the **Size** at the factory default value which is **15”**, equaling a horizontal dimension of 300mm. An ECG wave with a wave speed set to 25mm/sec would normally need 19.6 sec to be drawn across a screen that is 490 mm wide. With **Size** incorrectly set to **15”** (300mm), the ECG wave will only need 12 sec. This is 1.6 times faster than it actually should be, resulting in an effective wave speed of about 41 mm/s.

The **Size** setting also affects the distance between menu entries in setup menus. If you want to optimize monitor operation for use with a touchscreen, make sure that both **Size** and **Menu Line Spacing** (see “Configuring User Interface Settings” on page 182) are set correctly.

# Configuring Interfaces and Input Device Settings

## Hardware Settings: Main Setup > Hardware > Interfaces

Interfaces and Input Device settings can be changed in service mode only and allow technical personnel to configure the behavior of connected interface boards and input devices.

For detailed configuration implications, please refer to the latest IntelliVue Service Guide.

# Configuring IntelliVue Remote Control (Wireless Mode)

**MX600, MX700, MX800 only** Hardware Settings: Main Setup > Hardware > cl RemoteControl

## Assigning the Remote Control to a Monitor

In order to use the remote control in wireless mode, it must be assigned to the monitor first.

- Go into Configuration Mode or Service Mode.
- Press the back key for more than two seconds:



Back Key

- This initiates the remote control discovery procedure. The **Add Cableless** key appears instead of the measurement selection key:



- Select the **Add Cableless** key to open the **Add Cableless** window. The remote control is shown in the window with a symbol and its label:



- Select the remote control in the window. The monitor displays the assignment prompt message: **cl RC added <clRC serial number>** in the Status Line of the monitor.

### NOTE

- While the remote control discovery procedure is active, the functionality of the remote control is disabled.
- If there is already a remote control assigned to the monitor, this remote control must be unassigned before a new remote control is assigned.

To remove a remote control:

- 1 Select **Main Setup > Hardware > cl RemoteControl**.
- 2 Select **Remove RemCtrl**.











- 3 Select **Confirm** to unassign the remote control.









### Remote Control Assignment Rules

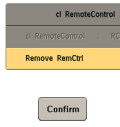






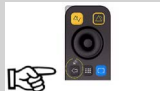



- Only one remote control can be assigned to a monitor at a time. If you want to assign another remote control, you must first unassign the remote control which is already assigned.
- If you switch from a remote control (wireless) to USB connected remote control operation with the same remote control, the assignment to the monitor will be lost. If you switch back to remote control (wireless) you will have to reassign the remote control.
- If you assign a remote control to a second monitor without unassigning it from the first monitor and then come back to the monitor it was originally assigned to, press the back key on the remote control to start discovery procedure. (Pressing the back key on the remote control removes it automatically from a monitor within range, if the remote control was assigned to another monitor in the meanwhile.) Once the remote control has been recognized by the monitor you can reassign it immediately.
- An assignment can only be initiated from the remote control.
- An unassignment can only be initiated from the monitor.
- If you exchange the battery of a remote control, the assignment to a monitor is kept. You do not need to reassign the remote control.

## Interactions

The following tables demonstrate the interactions when more than one monitor and remote control (wireless) are within the same wireless range, e.g. when they are in the same room.

Assigning		What you see on Monitor 1		What you see on Monitor 2	
		Symbol	Current Assignment	Symbol	Current Assignment
1	Press Back Key on RC1  RCXXXXXXXX 1		none		none
2	Assign RC1 to Mon1		 RC1 > Mon1		
3	Press Back Key on RC2  RCXXXXXXXX 2				
4	Assign RC2 to Mon2				 RC2 > Mon2

Assigning		What you see on Monitor 1		What you see on Monitor 2	
		Symbol	Current Assignment	Symbol	Current Assignment
5	Press Back Key on RC1  RCXXXXXXXX 1		 RC1 assigned to Mon1		
6	Press Back Key on RC2  RCXXXXXXXX 2				 RC2 assigned to Mon2

Assigning		What you see on Monitor 1		What you see on Monitor 2	
		Symbol	Current Assignment	Symbol	Current Assignment
7	Remove RC1 RCXXXXXXXX 1		RC1 removed from Mon1		
8	Press Back Key on RC2  RCXXXXXXXX 2		none		 RC2 assigned to Mon2
9	Assign RC2 to Mon1		 RC2 > Mon1		
10	Press Back Key on RC2  RCXXXXXXXX 2		 RC2 assigned to Mon2		Auto Remove RC2 RCXXXXXXXX X2

**WARNING**

When using a remote control (wireless), it is important that the user knows which remote control is assigned to which monitor. Use the tethering cable delivered with the remote control to attach it to a bed rail or IV pole, or label the remote control with the bed or monitor ID.

## Configuring SRR Channels

**Hardware Settings: Main Setup > Hardware > SRR Channel > Channel**

**SRR Channel** settings only apply for monitors that have a short range radio interface installed. They must be set to match the hospital's wireless infrastructure. **SRR Channel** settings will be set by service personnel at installation.

## Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP2, MP5, X2
Channel	C, S	11

## SRR Channel Settings Configuration Implications

### Channel

Use this setting to configure the SRR channel the monitor should use. SRR **Channel** provides a total of 16 channels in the ISM (2.4 GHz) band. The ISM band is not exclusively reserved for SRR applications. It is also used by, for example, the 2.4 GHz Wireless LAN (WLAN), the 2.4 GHz IntelliVue Telemetry network, Bluetooth devices, and cordless phones using the 2.4 GHz ISM band. Depending on the hospital's existing wireless infrastructure, a number of SRR channels might already be occupied by other wireless applications.

For detailed instructions on setting up SRR channels in a new or existing wireless infrastructure, refer to the IntelliVue Service Guide and contact a Philips service representative.

## Configuring Bed Information Settings

Hardware Settings: Main Setup > Bed Information

## Settings Common to all Monitor Models

The following table lists the factory defaults for the listed monitor models:

Setting	Mode	MX600-MX800, MP2-MP90 MP5T, MP5SC, X2
Equipment Label	C, S	<empty>
Bed Label	n/a	<from PIIC, PIIC iX>
My Patients	n/a	
Hospital Label	C, S	<empty>
IP Config	S	BOOTP
Dynamic IP	S	Mandatory
IP Address	S	0.0.0.0
Subnet Mask	S	0.0.0.0
Default Gateway	S	0.0.0.0
IGMP	S	Off
CI Mode	S	Broadcast
CI Address	S	0.0.0.0
CI TTL	S	1
QoS State	S	Off
QoS Level	S	0
Directory Mode	S	Broadcast
Directory Address	S	0.0.0.0



## Bed Information Settings Configuration Implications

### Equipment Label

The **Equipment Label** must be entered for each individual monitor. It is stored with the monitor, it is not cloned. If the monitor is connected to an Information Center, the **Equipment Label** on the bedside monitor is the equivalent of the monitor label on the Information Center. These labels must match exactly. The maximum length for the **Equipment Label** is 16 characters

#### NOTE

The IntelliVue Information Center will display only up to 12 characters, if your monitor will be connected to an Information Center, you should use labels not longer than 12 characters.

### Bed Label

The **Bed Label** is provided by PIIC/PIIC iX and is only available if the bed is centrally monitored. It cannot be changed at the patient monitor.

### My Patients

**My Patients** is provided by PIIC/PIIC iX and is only available if the bed is centrally monitored. It cannot be changed at the patient monitor.

### Hospital Label

The **Hospital Label** must be entered for each individual monitor. It is stored with the monitor, and is not cloned. The maximum length for the hospital label is 30 characters.

#### NOTE

**PIIC** PIIC will display only up to 12 characters. If your monitor will be connected to an PIIC, you should use labels not longer than 12 characters.

**PIIC iX** If your monitor will be connected to a PIIC iX, the Hospital Label can be longer than 30 characters. If it is actually longer than that, it will be limited to the first 30 characters for use in the patient monitor.

### Service Mode Settings

The Service Mode settings listed in the table above will typically be configured by service personnel at installation. They are only accessible in Service mode.

See the IntelliVue Patient Monitor Service Guide for details.



# Monitor Databases Configuration

## Main Setup > Databases > Database Config

The monitor's database is divided into sections that store events, trends, calculations, and print information separately. In config mode, you can configure the size of the trends, events, and print sections to suit your monitoring needs. The overall database size is defined by the purchased database option.

Setting	Page
"Configuring 12 Lead ECG Database"	305
"Configuring Aperiodic Trend Database"	304
"Configuring Databases"	300
"Configuring Event Surveillance Database"	305
"Configuring Print Database"	305
"Configuring SpotCheck Database"	306
"Configuring Trend Database"	301
"Configuring Trend Transport Database"	304

## Configuring Databases

To configure the database, you can use the pop-up keys to change the overall database configuration,

- Select the **Select Smallest** pop-up key to select the configuration that takes up least database space. This setting applies across all database sections.
- Select the **Select Default** pop-up key to return to the default configuration.
- Select the **Select Active** pop-up key to return to the configuration that was loaded prior to your changes. This cancels any changes you have made.
- Alternatively you can use the menu items to change individual sections of the database.

- **Event Surveillance**

In the **Database Configurations** menu, select **Event Surveillance**, then select the event database configuration you require from the list of available configurations.

- **Calcs**

The life time of a calculation is the life time of the vital signs (in the trend database) that were used for the calculation.

- **Trends**

In the **Database Configurations** menu, the currently active database configuration is shown, for example, the entry **32P 4h@12s 24h@1min 48h@5min** tells you that the trends section of the database contains trend information on 32 measurement parameters from the past 4 hours at a resolution of 12 seconds, from the past 24 hours at a resolution of 1 minute, and from the past 48 hours at a resolution of 5 minutes.

To change the setting, select the database section you wish to change, then select the required configuration from the list of available settings.

- **Trend Transport**

The **Trend Transport** database is used for the trend data transport between two monitors. It allows transport of up to 50 periodic numerics of continuous parameters and all aperiodic values independent of the trend transport database configuration, see “Configuring Aperiodic Trend Database” on page 304. The **Trend Transport** database is a fixed setting. In Configuration mode, the setting is shown grayed-out.

- **Print Database**

In the **Database Configurations** menu, select **Print Database**, then select the database configuration you require from the list of available configurations.

- **12 Lead ECG**

In the **Database Configurations** menu, select **12 Lead ECG**, then select the database configuration you require from the list of available configurations.

- Select the **Store Config** pop-up key to store your changes. You will be prompted to confirm this action. Selecting **Confirm** stores your changes.

**CAUTION**

Selecting the Store Config pop-up key causes a coldstart, i.e. it discharges the patient, resets all settings to the default profile, and erases all information in the database. The monitor will automatically be switched off and then on again.

**WARNING**

When you clone a configuration to another monitor, a manually changed database configuration may be lost, for example if you clone between different:

- software revisions, e.g. from Rev. G. to Rev H.
- patient monitors, e.g. from MP5 to MP30
- database sizes, e.g. with or without option C03.

## Configuring Trend Database

This table illustrates the trend database configurations and their defaults for the different monitors with their H and database options:

MX800	Maximal number of parameters (P) in the past time (h) in resolution (s/min)			
all Options	50P	12h@12s	48h@1min	96h@5min (default)
	50P	24h@12s	24h@1min	24h@5min
	100P	4h@12s	24h@1min	96h@5min
	16P	4h@12s	24h@1min	48h@5min

MX800	Maximal number of parameters (P) in the past time (h) in resolution (s/min)			
Options #H10, #H40	32P	4h@12s	24h@1min	48h@5min
Option #H20	24P	9h@12s	24h@1min	24h@5min
	24P	24h@12s	24h@1min	24h@5min
Option #H30	32P	5h@12s	24h@1min	24h@5min

## 11 Monitor Databases Configuration

<b>MX600-MX700</b>	<b>Maximal number of parameters (P) in the past time (h) in resolution (s/min)</b>			
Options #H10, #H40	32P	4h@12s	24h@1min	48h@5min (default)
	16P	4h@12s	24h@1min	48h@5min
Option #H20	24P	9h@12s	24h@1min	24h@5min (default)
	16P	4h@12s	24h@1min	48h@5min
Option #H30	32P	5h@12s	24h@1min	24h@5min (default)
	16P	4h@12s	24h@1min	48h@5min

<b>MP5 - MP90, MP5T, MP2<sup>1</sup>, X2<sup>1</sup></b>	<b>Maximal number of parameters (P) in the past time (h) in resolution (s/min)</b>			
Options #H10, #H40 <sup>1</sup>	16P	4h@12s	24h@1min	48h@5min (default)
Option #H20	12P	9h@12s	24h@1min	24h@5min (default)
	16P	4h@12s	24h@1min	48h@5min
Option #H30	16P	5h@12s	24h@1min	24h@5min (default)
	16P	4h@12s	24h@1min	48h@5min

<sup>1</sup> (MP2 and X2 without H Option - see Option H10/40 below).

<b>Option #C03<sup>1</sup> (for MP60-MP90)</b>	<b>Maximal number of parameters (P) in the past time (h) in resolution (s/min)</b>			
Options #H10, #H40	16P	4h@12s	24h@1min	48h@5min
	24P		48h@1min	72h@5min
	32P	2h@12s	32h@1min	48h@5min
	32P	4h@12s	24h@1min	48h@5min
	50P	2h@12s	32h@1min	48h@5min
	50P	4h@12s	24h@1min	48h@5min (default)
	50P	12h@12s	48h@1min	96h@5min (default) <sup>2</sup>
Option #H20	16P	4h@12s	24h@1min	48h@5min
	12P	9h@12s	24h@1min	24h@5min
	24P	9h@12s	24h@1min	24h@5min (default)
	24P	12h@12s	12h@1min	12h@5min
	12P	24h@12s	24h@1min	24h@5min
	24P	24h@12s	24h@1min	24h@5min <sup>2</sup>
	50P	12h@12s	48h@1min	96h@5min (default) <sup>2</sup>
Option H30	16P	4h@12s	24h@1min	48h@5min
	16P	5h@12s	24h@1min	24h@5min
	32P	5h@12s	24h@1min	24h@5min
	24P	12h@12s	12h@1min	12h@5min
	32P	9h@12s	12h@1min	12h@5min
	50P	5h@12s	24h@1min	24h@5min (default)
	50P	12h@12s	48h@1min	96h@5min (default) <sup>2</sup>

<sup>1</sup> Extended Database Option

<sup>2</sup> For Monitors with more than 8 MB data flash memory (hardware revision equal or higher than B.00.18)

## Configuring Aperiodic Trend Database

The IntelliVue patient monitor provides a **second trend database** exclusively reserved for aperiodic parameters. Aperiodic parameters are parameters that are measured intermittently, such as NBP, C.O., C.I., PAWP (Wedge), manually entered measurements, or lab results from external devices obtained from the VueLink or IntelliBridge plug-in module.

The following aperiodic database configurations are available:

All Monitors	Trend Transport Database
NBP	200 measurements
Individual Measurements	600 measurements

MP5-MP90	
NBP	300 measurements
Individual Measurements	2000 measurements

MX600-MX900	
NBP	600 measurements
Individual Measurements	4000 measurements

### NOTE

The information stored in the aperiodic database does not contribute to the maximum number of parameters as defined by the monitor's database option (Standard or #C03). This means that aperiodic parameters do not count towards the maximum number of trended parameters allowed and therefore do not have to be considered when configuring the Trend Priorities, see "Configuring Trend Priorities" on page 205.

## Configuring Trend Transport Database

The trend transport database is used for the trend data transport between two monitors. It allows to transport up to 50 periodic numerics of continues parameters (50P 8h@1min) and all aperiodic values of the trend transport database (see "Configuring Aperiodic Trend Database" on page 304) independent of the trend database configuration. You are not able to change this setting, hence in Configuration mode, this setting is shown grayed-out.



## Configuring Event Surveillance Database

The following table illustrates the default event database configurations available with different event options:

Options	Option #C06, Basic Event Surveillance	Option #C07, Advanced Event Surveillance	Option #C04, Neonatal Event Review (NER)
Database Capability	None	None	None
	25 events for 24 hours	25 events for 24 hours	25 events for 24 hours
		25 events for 8 hours	25 events for 8 hours
		50 events for 8 hours	50 events for 8 hours
		50 events for 24 hours	50 events for 24 hours

## Configuring Print Database

The following table illustrates the default print database configurations available:

Options	MX600 - MX800, MP20 - MP90 <sup>1</sup>	MP2, MP5, X2
Database capability	Small <sup>1</sup>	Large

<sup>1</sup> For MP60-90 with less than 8MB data flash memory (hardware revision lower than B.00.18) this setting is to set **None**.

Report types differ considerably in their storage space requirements. ECG Reports, for example, are large reports and require much space, whereas VitalsReports are much smaller. Therefore, it cannot be clearly specified how many reports can be stored in the print database.

With **Print Database** set to **Small**, the monitor can store, for example, about five 3x4 ECG Reports, but only one 12x1 ECG Report.

The **Large** database is only recommended for monitors used in transport. It is about four times larger than the **Small** database and can store more reports accordingly.

### NOTE

The **Large** database might not be available for selection if the Event Surveillance database and the Trend database are configured to large sizes. To disable the **Print Database**, set it to **None**.

## Configuring 12 Lead ECG Database

The maximum number of 12 Lead ECG is **1 Capture**. This database ensures that a captured 12 lead ECG is still available after a monitor reboot. To disable the 12 Lead ECG database storage, set it to **None**. In this case, the 12 Lead ECG database's memory capacity can be used to enlarge another database.

## Configuring SpotCheck Database

The following table illustrates the default SpotCheck database configurations available:

Options	Option #P05 (for MP5 - MP50)	MP5SC
SpotCheck	300 Records	600 Records

The following choices are available:

- **None**
- **300 Records**
- **600 Records**

### NOTE

- If you **Select Smallest**, and the setting **600 Records** is grayed-out, this indicates that the monitor's database memory capacity has been fully allocated. Downsize one of the other databases in order to free up memory. As soon as there is enough memory for the SpotCheck database, **600 Records** is accessible.

**MP5-MP50 only** Make sure that option #P05 is enabled in your monitor.

---

# H Option-Specific Settings

Depending on the H option installed on the monitor, the following settings may be affected regardless of the configuration file loaded onto the monitor:

- Default trend database option and available trend database options, see “Configuring Trend Database” on page 301.
- Supported HighRes Waves, see “Changing the Content of a High Resolution Trend Element” on page 29.
- Support for gas analyzer: only Option #H30 supports the use of a gas analyzer with the IntelliVue monitor.
- Activated Event Groups, see “Configuring Event Surveillance” on page 211.
- Monitor name on Boot/Standby Screen:
  - H10: **The Philips Critical Care Patient Monitor ...**
  - H20: **The Philips Neonatal Patient Monitor ...**
  - H30: **The Philips Anesthesia Patient Monitor ...**
  - H40: **The Philips Critical/Cardiac Care Patient Monitor ...**



# Profiles Overview

You can look up the factory default Profiles, Monitor Settings Blocks, Measurement Settings Blocks, and Screens at the following location of the corresponding IntelliVue Patient Monitor Documentation DVD:

- `:\CurrentRelease\Configuration Guide\Screen Configurations\...`

Under this folder, the factory default Profiles supplied with each possible combination of options are listed.

For example, if you want to look up these details for an **MX800 Revision J.0x with H10 option, 12 Waves Option** you find this information under:

- `:\CurrentRelease\Configuration Guide\Screen Configurations\MX600_MX700_MX800\MX800, H10 A12, WSXGA+, initial, J.0x.xx, Revxxx.pdf`

## NOTE

- If you make changes to Profiles, this document will no longer reflect the factory default configuration. You then must create your own reference by storing printouts and/or electronic images of the Screens you design.
- The initial configuration of your monitor may vary slightly depending on your geography and on the options purchased.

## About the Screen Configurations

When a Screen is created using the Support Tool, the information in the Screen is saved in two formats:

- **.rds**  
This format contains Screen information and can only be read by the Support Tool.
- **.png**  
A bitmap image is created for each Screen. Each Screen field is labeled to tell you which waves, numerics, SmartKeys, and special elements such as screen trends or ST snippets have been configured onto the Screens, and a date stamp tells you when the Screen was last modified.

## Application Areas

The H Option purchased with the monitor defines the clinical application area for which the Screens are designed:

- Option H10 Screens are designed for general purposes

- Option H20 Screens are designed for neonatal application areas
- Option H30 Screens are designed for anesthesia application areas
- Option H40 Screens are designed for cardiac care application areas

### Wave Options

The A Option purchased with the monitor defines the number of waves that can be shown on any Screen. With A12, up to twelve waves can be shown on a Screen, with A06, up to six waves can be shown, and so on.

#### NOTE

- HighResolution Trends, Other Patient Overview waves, Other Devices Overview waves also count against the Axx limit.
- An embedded Loops object counts for 2 waves.

### Using the Screen Library

This Appendix lists the Screens that are supplied with the initial monitor configurations and the Screens available in the demo configuration file.

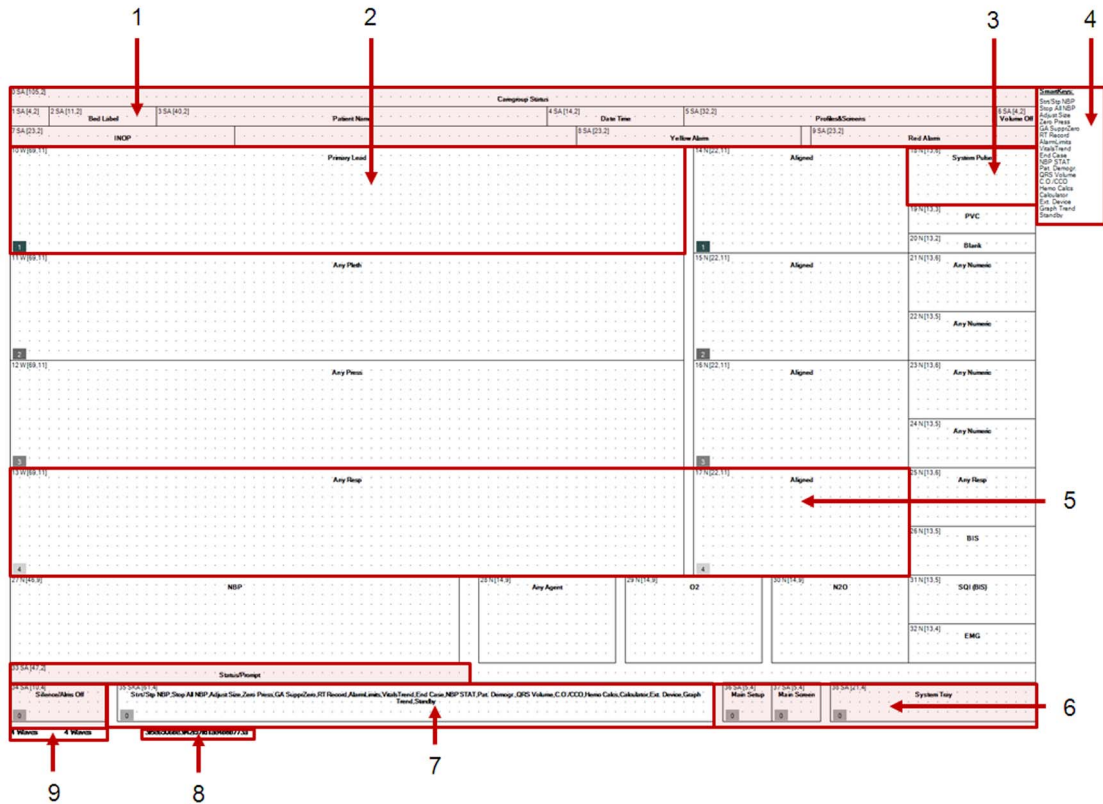
The demo configuration includes Screens that feature, for example:

- **Screen Trends**  
allowing you to display trend segments embedded in the Screen. These could be entitled e.g.: G-08W-3Press-Split-ScreenTrend-xga-Rev004.rds.
- **ST Snippets**  
allowing you to display the current ST snippets superimposed over the baseline snippet permanently on the Screen. These could be entitled e.g.: C-05W-2Press-03ST-snippets-xga-Rev003.rds.
- **Visitors Screen**  
allowing you to hide all waves and numerics for the duration of visiting time. This could be entitled e.g.: G-visitor-screen01-xga-Rev005.rds
- **Example of SXGA Screen**  
This could be entitled: G-12W-1x3ovl-2x2ovl-1split-sxga-Rev004.rds

Other Screens that are not included in the config files provided by the factory can be found in the screen library of the Support Tool.

# Sample Screen Image

Exported sample Screen in PNG format:



Element, Abbreviation		Content
1	Fixed Area (shaded)	Alarm message fields, patient information, etc. Cannot be modified with the Support Tool
2	Wave field, W	Wave label, e.g. "Primary Lead"
3	Numeric fields, N	Numeric label, e.g. "'System Pulse"
4	SmartKey list	List of SmartKeys in the order they will appear on the Screen from left to right
5	Alignment Groups	Numbers in gray shaded boxes indicate different alignment groups
6	Fixed Area (shaded)	Permanent Keys, current operating mode, monitor status prompts Cannot be modified with Support Tool
7	SmartKey area, SKA	SmartKeys in the order listed as listed in 4
8	Checksum	Unique identifier for the Screen
9	File Information	Screen filename and number of waves





# Screens Overview

You can look up the factory default Screens, and additional available Screens for your IntelliVue monitor at the following location on your PC:

- **C:\Program Files\Philips\M3086A\ScreenLibrary\...**

Under this folder, the Screens supplied with each possible combination of options are listed.

For example, if you want to look up these details for an **MX800 Revision J.0x with H10 option, 12 Waves Option** you find this information under:

- **C:\Program Files\Philips\M3086A\ScreenLibrary\J.0x.xx, 2011-04-04\J.0x.xx.screenOverview-Revxxx.xls**

This Excel file gives an overview of all initial and demo configuration Screen names for this monitor release.

For some of the models, you will find a list of Demo Screens available when using the demo configuration file in a monitor. These Screens are also part of the Support Tool Screen Library.

To view or print bitmaps of all Screens supplied with a specific initial or demo configuration, on the Documentation DVD supplied with your IntelliVue monitor, navigate to the folder **Configuration Guide/Screen Configurations/...** and open and print the pdf document that has the same name as the required configuration file.

For example if you want to print all Screens contained in the initial J.0 configuration for an MP70 with application area option H10 and wave option A08, you would open **MP60-90, H10 A08, XGA, initial, J.0x.xx, Revxxx.pdf**.

## NOTE

- If you make changes to Screens, this document will no longer reflect the factory default configuration. You then must create your own reference by storing printouts and/or electronic images of the Screens you design.
- The Screens documented in the Excel document may be subject to slight changes.



# Use Model Configurations

The following pages describe distinct clinical use models along with the configuration/equipment needed to achieve the use model.

The use models are divided into use models in combination with the PIIC, and use models in combination with the PIIC iX.

## Glossary of Terms

The following terms are used to explain the use models:

Term	Definition
<b>SRR</b>	Short Range Radio - radio board internal to the MP2, X2, MP5, or MP5T that allows communication to the SRRR on the telemetry device, and the CL Pods.
<b>SRRR</b>	Short Range Radio Adapter - radio adapter that connects to the telemetry device to allow communication to the SRR in the monitor or the CL Pods.
<b>Host Monitor</b>	Any IntelliVue Patient Monitor MP20-MP90 that has an X2 or an MP5 connected (Companion Mode).
<b>Companion</b>	An X2 or MP5 that is connected to a larger IntelliVue Patient Monitor. When connected, the X2 or MP5 functions as an MMS.
<b>SRL or MSL</b>	Acronyms used interchangeably representing the cable that connects the X2 or MP5 to a larger IntelliVue monitor or connecting the MP2 or X2 to the docking station.
<b>SRR Assignment</b>	Process of creating a short range radio association between a telemetry device, a CL Pod and/or an IntelliVue Patient Monitor.
<b>TAAP</b>	Telemetry As A Parameter - when an IntelliVue telemetry device is directly connected with a cable to an MP5 or MP5T providing near real time ECG on the monitor.
<b>WTAAP</b>	Wireless Telemetry As A Parameter - when an IntelliVue telemetry device communicates to an MP2, X2, MP5, or MP5T via a short range radio providing near real time ECG on the monitor.

## 15 Use Model Configurations

### PIIC only

Term	Definition
<b>Pairing</b>	<p>It is possible to assign a monitor and a telemetry device to the same patient, resulting in the information from both devices being combined in one sector at the PIIC. This is called "pairing" and when a telemetry device and a monitor are paired, the measurement data from the telemetry device will be displayed on the monitor screen.</p> <p>A telemetry device can be:</p> <ul style="list-style-type: none"> <li>any Philips telemetry device.</li> <li>a TRx/TRx+ Intellivue Telemetry system transceiver.</li> </ul>









### PIIC iX only

Term	Definition
<b>Assignment</b>	<p>It is possible to assign multiple pieces of equipment to the same patient, resulting in the information from all devices being combined in one sector at the PIIC iX. This is called "assigning" to a patient.</p>
<b>Free Equipment</b> or <b>Freeing</b>	<p>Equipment needs to be freed when it is no longer used for a patient to prevent patient conflicts and mixing of data when being used for the next patient.</p> <p>When equipment is freed, generally the following actions are executed:</p> <ul style="list-style-type: none"> <li>the patient identification and all other patient demographics of the old patient are cleared</li> <li>the Monitor creates a new Internal Patient Number<sup>1</sup></li> <li>patient category and paced mode are set as specified in the default profile</li> <li>all settings are reset to the default profile</li> <li>patient data in the device is erased.</li> </ul> <p>Depending on the workflow settings, the device may be kept with the bed or monitor or be removed from the bed or monitor.</p> <p>Only free equipment is available in the <b>Add Equipment</b> or the <b>Transfer</b> Window.</p>
<b>Locked Equipment</b>	<p>PIIC iX allows equipment that is always used for the same bed to be locked. The clinical user cannot remove locked equipment from a bed.</p> <p>Locked equipment settings have priority over other equipment workflow settings.</p> <p>If a locked piece of equipment (e.g. X2) is connected to another monitor, a locked device conflict occurs. It is possible to use locked equipment at another location, e.g. to transfer a patient to a destination bed, but the user is notified by a Check Equipment INOP and a status text indicating the Locked Conflict to the user.</p>
<b>Unlocked Equipment</b>	<p>Unlocked equipment may be moved with the patient and used with other locked and unlocked equipment at another bed or at another unit.</p> <p>Unlocked is not a single setting. It is a set of settings configured at PIIC iX to specify workflow behavior of unlocked equipment. For details, see the Configuration Guide of PIIC iX.</p>
<b>Pooled Equipment</b>	<p>Pooled equipment is always Unlocked. It is shared in a defined pool of units and can be moved with patients within this pool.</p> <p>Pooled Equipment is configured at PIIC iX. For details, see Configuration Guide of PIIC iX.</p>

<sup>1</sup> The Internal Patient Number distinguishes between patients when none of the patient identification fields has been entered.

# Symbols

The following symbols are used to explain the use models:

Device	Symbol
PWD Devices	
MX40	
MP20 - MP90 Monitor	
MX600 - MX800 Monitor	
MP5 Monitor	
X2 Monitor	
MP2 Monitor	
PIIC or PIIC iX	

## Use Models with PIIC iX

The following pages describe distinct clinical use models in combination with **PIIC iX** along with the configuration/equipment needed to achieve the use model.

Due to the differing configuration requirements for each use model, the intention is that the hospital unit does not combine several use models in a single area to avoid user confusion.

## Multiple Equipment Use Models

The following use models serve as examples of multiple equipment use models in combination with PIIC iX. Various other setting combinations are possible for different customers' workflow needs.

## Equipment Transfer Settings

IntelliVue Equipment can provide Transfer Settings for automatic transfer and transfer conflict resolution.

The combination of settings in PIIC iX and Monitor define the workflow behavior of the equipment.

### NOTE

Some settings have precedence over others. For more details see below.

If Transfer Settings are made that reflect the customer's workflow or use model, Patient and Equipment Management workflow can be simplified appreciably.

### Equipment to Patient Relation

The basic paradigm of equipment management is “Equipment E is used for Patient P”.

#### Description

The equipment to patient relation can be established in multiple ways:

- at the device itself, enter the patient identification or select the patient from the patient list
- at the monitor, add equipment for an existing patient (manually selected or caused by transfer).

### NOTE

During a pending patient conflict the equipment management functions are restricted: The user must resolve the patient conflict before equipment can be added!

The equipment to patient relation can be terminated by:

- discharge and end case
- transferring the patient without the device
- using the device for a new patient
- manually removing the device
- automatic freeing of the device when not used for some time.

The patient identification and patient data are cleared in the device and the settings are reset to defaults.

Equipment is not free when in admitted state (all required fields are entered and confirmed).

While equipment is connected, any patient management action is executed in all affected devices and therefore the patient identification is updated and thus kept identical in all devices. When a device is freed, the patient identification in this device is cleared. If the patient identification or equipment assignment is changed while the device is not connected, a patient conflict is detected when the device is reconnected.

### Conflicts

The main reasons for patient conflicts are:

- transfer of patient with equipment; e.g. patient is transferred with X2 and connected to a monitor currently used for another patient
- adding equipment currently used for another patient
- offline changes of patient identification or equipment.

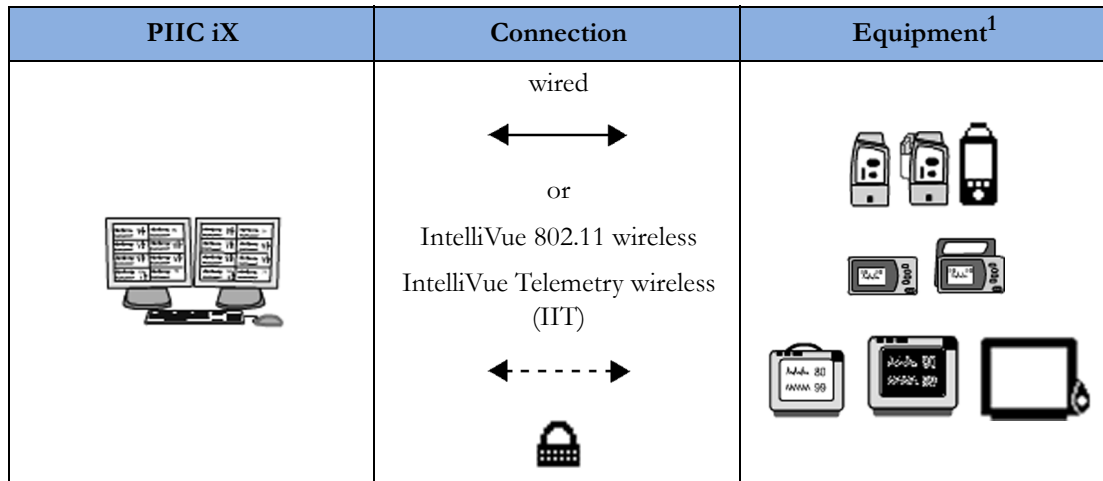
Some of these patient conflicts are automatically resolved by the system or the monitor (e.g. equipment removed while not connected). Some conflicts are resolved by policies (e.g. this type of equipment is not used for transfer), the remaining conflicts must be resolved by the user.

### NOTE

Most conflicts can be avoided by properly freeing the equipment when no longer used for a patient. This is supported by the **Auto Free** and the **Ask For New Pat** settings, see “Configuring Auto Free Settings” on page 250.

## Use Model 1 - Locked Equipment

IntelliVue equipment is locked to a bed at the PIIC iX.



<sup>1</sup> Telemetry devices have limited connectivity options.

### Description

PIIC iX allows locking of equipment which is always used for the same bed. It is locked to a bed. The clinical user cannot remove locked equipment.

- If a locked piece of equipment (e.g. X2) is connected to another monitor, a locked device conflict occurs.
- Specific limitations in the usage apply when used at another location. See also **Restrictions** below.

### NOTE

- The locked device conflict message text is provided by the PIIC iX.
- Locked Settings have precedence over other workflow settings.

### Advantages

- Locked equipment does not require additional steps to assign it to a bed.
- This use model allows transferring a patient with locked equipment to another bed while notifying the user that the equipment should be returned.

### Restrictions

- Locked equipment cannot be used permanently at another location.
- Devices cannot be locked after monitoring has begun.

---

### CAUTION

If locked equipment with wireless option is used at another location, data from that equipment is not integrated into that location's patient record. Locked equipment will source data to the bed assigned at a PIIC iX's sector.

When the patient is transferred with a locked piece of equipment, patient data and settings in the equipment is cleared on patient transfer event.

---

## Configuration

Configuration of Use Model 1 - Locked Equipment	
<b>Required Configuration on Monitor</b>	
Assign equipment label	yes
<b>Workflow</b> setting <b>Use Model</b>	<b>Bedside</b>
<b>Workflow</b> setting <b>Allow Discharge</b>	<b>Yes</b>
<b>Workflow</b> setting <b>Assign to Patient</b>	<b>Yes</b> (Not available in this release)
<b>Tele Workflow</b> settings	<b>Enhanced</b>
<b>Patient Selection</b> setting	depending on individual use model
<b>Auto Free</b> setting	<b>Never</b>
<b>Ask For New Patient</b> setting	depending on individual use model
<b>Settings Upload</b>	depending on individual use model
<b>Trend Upload</b>	depending on individual use model
<b>PW Sync</b>	depending on individual use model
<b>System Settings</b>	depending on individual use model
<b>Required Configuration at PIIC iX for Monitor</b>	
Equipment label requirement	monitor label
Equipment setting <b>Locked / Unlocked</b>	<b>Locked</b>
<b>Workflow</b> setting <b>Keep with Patient</b>	n/a (Locked setting has priority over this setting.)
<b>Workflow</b> setting <b>Clear at Discharge</b>	depending on individual use model

## Troubleshooting - FAQ


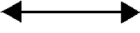
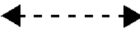

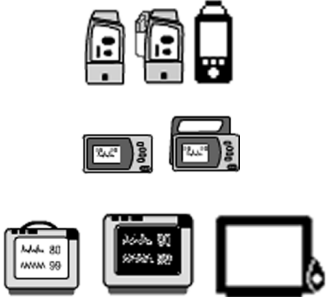
*On my patient monitor, a **Check Equipment INOP** appears. Why is that and what can I do?*

The device is locked to another bed, or the device is configured for use in another clinical unit. In case of emergency, you can use this monitor for your patient. The INOP will remind you to bring back this monitor to the locked bed or assigned unit. Check the status message on the bedside monitor.



## Use Model 2 - Unlocked Equipment

All equipment that is not locked to a bed at the PIIC iX is Unlocked.

PIIC iX	Connection	Equipment <sup>1</sup>
	<p>wired</p>  <p>or</p> <p>IntelliVue 802.11 wireless IntelliVue Telemetry wireless (IIT)</p>  	

<sup>1</sup> Telemetry devices have limited connectivity options.

### Description

Equipment is unlocked by default in the PIIC iX. The clinical user can add and remove unlocked equipment.

- If an unlocked piece of equipment (e.g. X2) is connected to another monitor, it can be used at this location.
- An unlocked piece of equipment may be cleared automatically at discharge (or transfer out of a unit), if configured.

### Advantages

- This use model allows a simple transfer of a patient to another bed.
- There is no need to add equipment at the new location.
- If configured, additional settings allow pieces of equipment to be automatically free for use for another patient without removal from the original bed.

### Restrictions

- If not checked to **Keep with Patient** (PIIC iX setting), equipment will have to be manually added at new location.
- If not checked to **Clear with Discharge** (PIIC iX setting), equipment will have to be manually removed from the bed at discharge.

---

### CAUTION

Unlocked equipment may follow the patient to another destination bed. Selecting a patient at an unlocked equipment will also control the patient assignment of the bed.

If the setting at the PIIC iX does **not** keep the equipment with transfer, the equipment will remain at the original bed, and will discharge the patient from the device.

The device will have to be manually added at the new bed.

---

## Configuration

Configuration of Use Model 2 - Unlocked Equipment	
<b>Required Configuration on Monitor</b>	
Assign equipment label	yes
<b>Workflow</b> setting <b>Use Model</b>	<b>Bedside</b>
<b>Workflow</b> setting <b>Allow Discharge</b>	depending on individual use model
<b>Workflow</b> setting <b>Assign to Patient</b>	n/a (controlled by PIIC iX), (Not available in this release)
<b>Tele Workflow</b> settings	<b>Enhanced</b>
<b>Patient Selection</b> setting	depending on individual use model
<b>Auto Free</b> setting	<b>Never</b>
<b>Ask For New Patient</b> setting	depending on individual use model
<b>Settings Upload</b>	depending on individual use model
<b>Trend Upload</b>	depending on individual use model
<b>PW Sync</b>	depending on individual use model
<b>System Settings</b>	depending on individual use model
<b>Required Configuration at PIIC iX for Monitor</b>	
Equipment label requirement	Monitor label
Equipment setting <b>Locked / Unlocked</b>	<b>Unlocked</b> <sup>1</sup>
<b>Workflow</b> setting <b>Keep with Patient</b>	depending on individual use model
<b>Workflow</b> setting <b>Clear at Discharge</b>	depending on individual use model

<sup>1</sup> Unlocked is not a single setting. It is a set of settings configured at PIIC iX to specify workflow behavior of unlocked equipment.


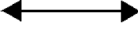
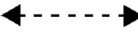

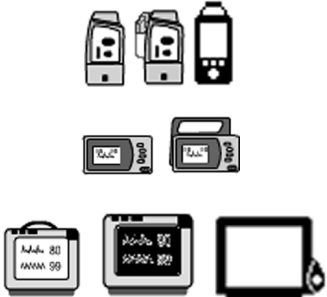

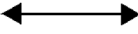
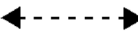


## Troubleshooting - FAQ

*When I transferred my patient with the monitor, the patient's monitor is displayed in the original bed on the PIIC iX. Why is that?*

If your configuration is to **not** keep the unlocked piece of equipment at transfer, the monitor will stay at the original bed and will have to be manually removed. The patient demographic and monitoring history will be removed and the monitor will return to default.

### Use Model 3 - Pooled Unlocked Equipment

Pooled pieces of equipment are set in PIIC iX by creating a Central Supply Unit, entering monitor labels, and then assigning which units will share the pieces of equipment.

PIIC iX	Connection	Equipment <sup>1</sup>
<p>ICU 1</p> 	<p>wired</p>  <p>or</p> <p>IntelliVue 802.11 wireless</p> <p>IntelliVue Telemetry wireless (IIT)</p>  	
<p>ICU 2</p> 	<p>wired</p>  <p>or</p> <p>IntelliVue 802.11 wireless</p> <p>IntelliVue Telemetry wireless (IIT)</p>  	

<sup>1</sup> Telemetry devices have limited connectivity options.

#### Description

All equipment devices that are not locked to a bed at PIIC iX are Unlocked. Only Pooled pieces of equipment can be used in more than one unit. With PIIC iX, all units on the system can share equipment allowing easy transfers to other units.

If pooled equipment is connected to a monitor from another unit that is configured in the equipment pool, it can be used at this location.

#### Advantages

- If unlocked equipment (e.g. X2) is connected to another monitor in case of patient transfer, it can be added to the new bed automatically.
- Unlocked equipment may be cleared automatically in case of discharge or transfer out of a unit by default, if configured.

#### Restrictions

- If not checked to **Keep with Patient** (PIIC iX setting) for Out-Of-Unit Transfer, the piece of equipment will have to be manually added at new location.

- If not checked to **Clear with Discharge** (PIIC iX setting), the piece of equipment will have to be manually removed from the bed at discharge.

Unlocked equipment does not have a locked (secured) connection to a bed.

**CAUTION**

Unlocked Equipment may follow the patient to another destination bed. Selecting a patient at an unlocked equipment will also control the patient assignment of the bed.

When the patient is transferred with pooled equipment, but this piece of equipment is not allowed in the destination unit, patient data and settings in the equipment is cleared on patient transfer event.

If locked equipment with wireless option is used at another location data of monitor is not integrated into that location's patient record. Locked equipment will source data to the sector associated with the locked bed.

**Configuration**

Configuration of Use Model 3 - Pooled Unlocked Equipment	
<b>Required Configuration on Monitor</b>	
Assign equipment label	yes
<b>Workflow</b> setting <b>Use Model</b>	<b>Bedside</b>
<b>Workflow</b> setting <b>Allow Discharge</b>	depending on individual use model
<b>Workflow</b> setting <b>Assign to Patient</b>	<b>Yes</b> (Not available in this release)
<b>Tele Workflow</b> settings	n/a
<b>Patient Selection</b> setting	depending on individual use model
<b>Auto Free</b> setting	<b>Never</b>
<b>Settings Upload</b>	depending on individual use model
<b>Trend Upload</b>	depending on individual use model
<b>PW Sync</b>	depending on individual use model
<b>System Settings</b>	depending on individual use model
<b>Required Configuration at PIIC iX for Monitor</b>	
Equipment label requirement	Monitor label
Equipment setting <b>Locked / Unlocked</b>	<b>Unlocked</b>
Workflow setting <b>Keep with Patient</b>	depending on individual use model
Workflow setting <b>Clear at Discharge</b>	depending on individual use model


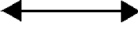
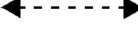



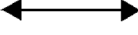
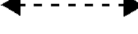

**Troubleshooting - FAQ**

*On my patient monitor, the **Check Equipment INOP** appears, although we have an equipment pool with our PIIC iX?*

The unit you have transferred to is either **not** part of the equipment pool, or the sending unit has configured to **not Keep Pooled Equipment with Patient** in case of **Transfer Out of Unit**.

## Use Model 4 - Transport Equipment

This is a unique setting in the monitor, and allows pieces of equipment to be used for transporting patients without concerns about PIIC iX ADT Workflow settings.

PIIC iX	Connection	Equipment
ICU 1 	wired  or IntelliVue 802.11 wireless  	
ICU 2 	wired  or IntelliVue 802.11 wireless  	

### Description

Transport Monitors can be set up for a specific transport use model.

Equipment set up as Transport:

- operates automatically as a **transport device**, setup for a specific transport scenario
- remains patient-centric throughout the workflow
- setting has priority over unlocked equipment settings of the PIIC iX
- can be set to be in an equipment pool, if desired, but this is not required

### NOTE

If locking a monitor used for transport to a bed, it should **not** be configured as a Transport monitor.

### Advantages

- This use model allows simple transfer of patients with transport pieces of equipment.
- Admitting a new patient at a transport monitor will never affect the other equipment assigned to the patient in the bed.
- When the patient is discharged from the bed or the bed is used for another patient ("New Patient" operation at the patient monitor), it will automatically remove the transport monitor from the equipment list.
- Transport equipment is still assigned to the patient.

### Restrictions

- A Transport piece of equipment is still assigned to the patient upon discharge or transfer, therefore the transport monitor needs to be freed independently of other equipment.
- A transport monitor can lose PIIC iX connectivity, if the assigned bed is used for a different patient.

### Configuration

Configuration of Use Model 4 - Transport Equipment	
<b>Required Configuration on Monitor</b>	
Assign equipment label	yes
<b>Workflow</b> setting <b>Use Model</b>	<b>Transport</b>
<b>Workflow</b> setting <b>Allow Discharge</b>	<b>No</b>
<b>Workflow</b> setting <b>Assign to Patient</b>	<b>Yes</b> (Not available in this release)
<b>Tele Workflow</b> settings	<b>Enhanced</b>
<b>Patient Selection</b> setting	depending on individual use model
<b>Auto Free</b> setting	<b>after specified time</b>
<b>Settings Upload</b>	depending on individual use model
<b>Trend Upload</b>	<b>Yes</b>
<b>PW Sync</b>	<b>Yes</b>
<b>System Settings</b>	depending on individual use model
<b>Required Configuration at PIIC iX for Monitor</b>	
Equipment label requirement	Monitor label
Equipment setting <b>Locked / Unlocked</b>	<b>Unlocked</b>
Workflow setting <b>Keep with Patient</b>	depending on individual use model
Workflow setting <b>Clear at Discharge</b>	depending on individual use model

### Troubleshooting - FAQ

*My Transport Monitor has lost central connection.*

When the current bed is used for a different patient, the transport monitor stays with the current patient. Ensure that before you use the bed for a new patient, you transfer the previous patient out of the bed. Otherwise the patient assigned to the transport monitor is not assigned to a bed in the system.

## Telemetry Use Models with PIIC iX

In PIIC iX there are no specific limitations for telemetry devices. PIIC iX allows assignment of patient worn devices in the same way as patient monitors.

For PIIC iX, the **Tele Workflow** setting defines if the monitor's telemetry settings support PIIC or PIIC iX. To support **PIIC iX**, make sure that the used monitors are set to **Tele Workflow > Enhanced**.

## Standalone X2 Patient Monitor Use Model

In this use model, X2 monitors are used without monitor label setup at PIIC iX. Typically this use model is used in X2s without the wireless interface option.

If an X2 without a label is used as a companion:

- and the **Workflow setting Assign to Patient** is set to **Yes** (Not available in this release), the X2 will follow the patient on transfer.
- and the **Workflow setting Assign to Patient** is set to **No**, the X2 will be removed from the patient.

# Use Models with PIIC

The following pages describe distinct clinical use models in combination with **PIIC** along with the configuration/equipment needed to achieve the use model.

Due to the differing configuration requirements for each use model, the intention is that the hospital unit does not combine several use models in a single area to avoid user confusion.

---

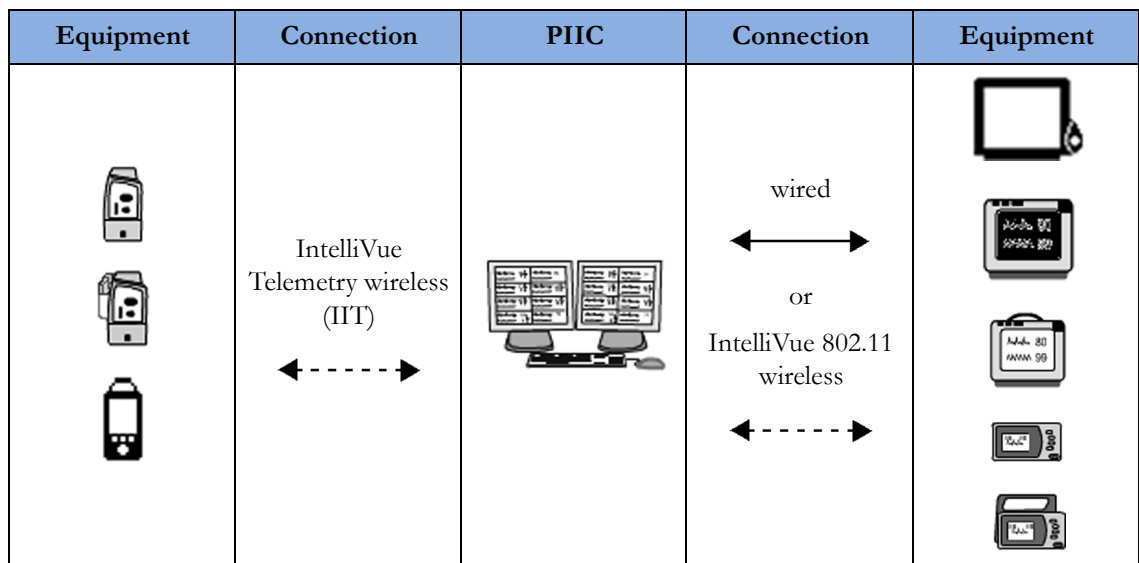
## WARNING

Special consideration is necessary for hospitals that pool their equipment or when biomedical personnel return devices to units to prevent data loss, equipment disconnection and other inoperative conditions. For example, an X2 with a monitor equipment label and SRR enabled (use model 2) should not be used in a unit that needs an X2 with a telemetry device label without SRR enabled (use model 4).

---

## Use Model 1

Telemetry device paired with a networked MPx0, MX800, MP2, X2, or MP5. No direct connection.



## Description

This use model involves pairing any telemetry device to an IntelliVue patient monitor which is connected to a PIIC. In this use model, no direct connection (TAAP cable or short range radio) is required between the telemetry device and the monitor.

- Data from the telemetry device is displayed at the PIIC in the same patient sector as the monitor data, and (with several seconds delay) on the bedside monitor in the embedded **Other Devices Overview** window (formerly called OBO window).

## Advantages

- Integrated data in a single sector at the PIIC.
- Telemetry device data window at bedside to view ECG and SpO<sub>2</sub> from the telemetry device.



## Restrictions

- While ECG Source is the telemetry device, the ECG Out on the Intellivue Patient Monitor is not functional.
  - Pacer adjustments should not be made while paired unless the bedside monitor is the ECG source (ECG delay is too long).
- PIIC only**
- When paired to a telemetry device, the monitor cannot be connected to the PIIC via 1.4 GHz / 2.4 GHz Smart Hopping telemetry radio; it must be LAN connected or utilize the WLAN (802.11) solution.

## Configuration

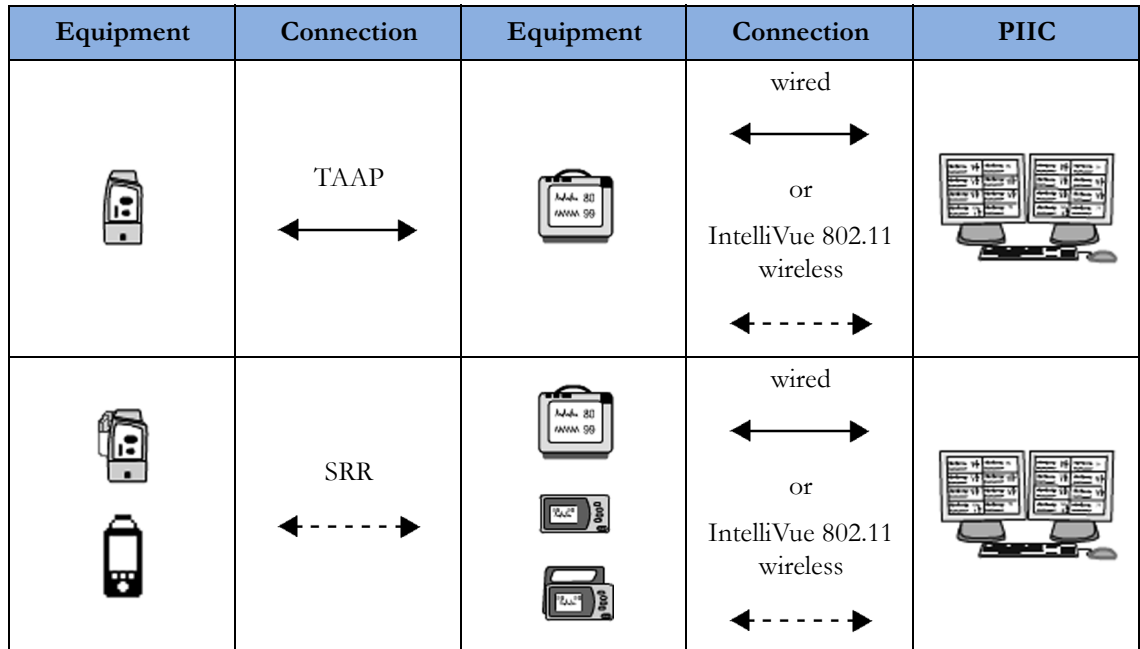
Configuration of Use Model 1	
<b>Required Configuration on Monitor</b>	
<b>Tele Workflow</b>	<b>Restricted</b>
Set <b>Network</b> setting <b>TAAP</b> to	not used for this configuration, can be set to <b>Enabled</b> or <b>Disabled</b>
Assign equipment label	yes
<b>Required Hardware on Monitor</b>	
SRR interface or TAAP connector	not used
IntelliVue Instrument Telemetry (IIT)	IIT cannot be used
<b>Required Configuration at PIIC for Monitor</b>	
Equipment label requirement	Monitor label
<b>Required Configuration at PIIC for Telemetry</b>	
Equipment allowed	SDN Telemetry, IntelliVue Telemetry (ITS)
Equipment label requirement	Telemetry label - SDN or ITS as appropriate

### CAUTION

When you clone a configuration to another monitor, power cycle the IntelliVue patient monitor in order to activate the telemetry device use model. When the use model requires an Equipment label, check that the newly cloned monitor has an Equipment label assigned.

## Use Model 2

Telemetry device paired with a networked MP2, X2, or MP5. Direct connection.



### Description

This use model involves directly connecting a telemetry device to a networked connected MP2, X2, or MP5 which is connected by LAN to a PIIC. The direct connection can be established either via a TAAP cable to an MP5, or by assigning the telemetry device to the MP2, X2, or MP5 via a short range radio link. The X2 or MP5 cannot be connected to a host monitor (Companion Mode).

- If configured, the monitor and the telemetry device are automatically paired at the PIIC when the direct connection is established.
- Data from the telemetry device is displayed at the PIIC in the same patient sector as the X2, MP2, or MP5 data.
- Data from the telemetry device is displayed directly on the monitor. The ECG waves and numerics appear in place of the monitor's own ECG, and SpO2T is displayed as an additional measurement (if available).

### Advantages

- Near real time ECG in room (less than 1 second delay) when connected with cable or short range radio link.
- When the devices are paired and the cable is disconnected or the short range radio link is lost, the screen switches to the embedded telemetry device data window automatically once the 1.4 GHz / 2.4 GHz Smart Hopping telemetry device radio is activated.
- Integrated data in a single sector at the PIIC.

### Restrictions

- The MP2, X2, or MP5 cannot be connected to a host monitor (Companion mode), and cannot use IntelliVue Instrument telemetry (IIT).

- While ECG Source is the telemetry device, the ECG Out on the Intellivue Patient Monitor is not functional.

## Configuration

Configuration of Use Model 2	
<b>Required Configuration on MP2, X2, or MP5</b>	
Set <b>Network</b> setting <b>TAAP</b> to (for wired or wireless)	<b>Enabled</b>
Assign equipment label	yes
<b>SRR</b> (for wireless), (in <b>Setup Hardware</b> )	<b>On</b>
<b>SRR Channel</b> (for wireless), (in <b>Setup Hardware</b> )	<b>11 – 26</b> (service personnel only)
<b>Required Hardware on MP2, X2, or MP5</b>	
SRR interface or TAAP connector	yes
IntelliVue Instrument Telemetry (IIT) interface	IIT cannot be used
<b>Required Configuration at PIIC for MP2, X2, or MP5</b>	
Equipment label requirement	Monitor label
<b>Required Configuration at PIIC for Telemetry</b>	
Equipment allowed	IntelliVue Telemetry only
Equipment label requirement ( <b>PIIC only</b> )	Telemetry device label - IIT
<b>Required Hardware for Telemetry</b>	
Short Range Radio Adapter - SRR or TAAP Cable	yes

### CAUTION

When you clone a configuration to another monitor, power cycle the IntelliVue patient monitor in order to activate the telemetry device use model. When the use model requires an Equipment label, check that the newly cloned monitor has an Equipment label assigned.

## Troubleshooting - FAQ

*I am getting a message on the bottom of the screen that says **No companion mode in this conf or No companion mode support in this telemetry configuration and an INOP MMS Unsupported.** What can I do?*




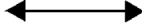
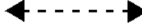

- This message will show anytime you connect an X2 or MP5 to a larger IntelliVue monitor when it is configured specifically for use model 2. If you need this monitor to function as a companion monitor, please refer to the instructions for use model 4.

*I paired the telemetry device and the monitor at the IIC in sector setup but when I bring the telemetry device with SRR-A into the room, it stays on **Other Devices Overview** and never changes to the bedside ECG. What can I do?*

- The telemetry device searches for wireless short range radios in the monitor for 30 seconds on startup or when the check button is pressed to preserve battery life. You can pair at the IIC and insert the batteries when you get to the patient's room so it is searching while in range of the monitor or press the check button when you get to the patient's room.

### Use Model 3

X2 or MP5 declared as telemetry device and paired with a larger monitor. Direct connection - (Companion mode).

Equipment	Connection	Equipment	Connection	PIIC
Companion* 	SRL/MSL 		wired  or IntelliVue 802.11 wireless 	

### Description

This use model involves directly connecting an X2 or MP5 with a 1.4 GHz / 2.4 GHz Smart Hopping telemetry device radio that is declared as a telemetry device at the PIIC to a larger monitor which is connected to a PIIC. The direct connection can be established either via a cable (MSL connection), or by directly attaching the X2 to the MMS mount of a larger monitor.

- If configured, the monitor and the X2 or MP5 with telemetry device labels are automatically paired at the PIIC when the direct connection is established.
- Data from the X2 or MP5 is displayed at the PIIC in the same patient sector as the larger monitor data.
- When connected, the X2 or MP5 is acting as companion (MMS) to the larger host monitor and there is no delay when directly connected.
- When disconnected, the devices remain paired and the X2 or MP5 data appears in the telemetry device data window automatically once the 1.4 GHz / 2.4 GHz Smart Hopping telemetry device radio is activated.

### Advantages

- When the X2 or MP5 are disconnected, the screen switches to the embedded telemetry device data window automatically once the 1.4 GHz / 2.4 GHz Smart Hopping telemetry device radio is activated.
- Integrated data in a single sector at the PIIC.
- Continuous electronic data collection during transport through areas with 1.4 GHz / 2.4 GHz Smart Hopping coverage.

### Restrictions

A telemetry device cannot be used with the X2 or MP5.

## Configuration

Configuration of Use Model 3	
<b>Required Configuration on X2, MP5</b>	
Set <b>Network</b> setting <b>TAAP</b> to	<b>Disabled</b>
Assign equipment label	yes
<b>Required Hardware on X2, MP5</b>	
SRR interface or TAAP connector	no
IntelliVue Instrument Telemetry (ITT) interface	ITT can be used
<b>Required Configuration at PIIC for X2, MP5</b>	
Equipment label requirement	Telemetry device label - ITS

### CAUTION

When you clone a configuration to another monitor, power cycle the IntelliVue patient monitor in order to activate the telemetry device use model. When the use model requires an Equipment label, check that the newly cloned monitor has an Equipment label assigned.

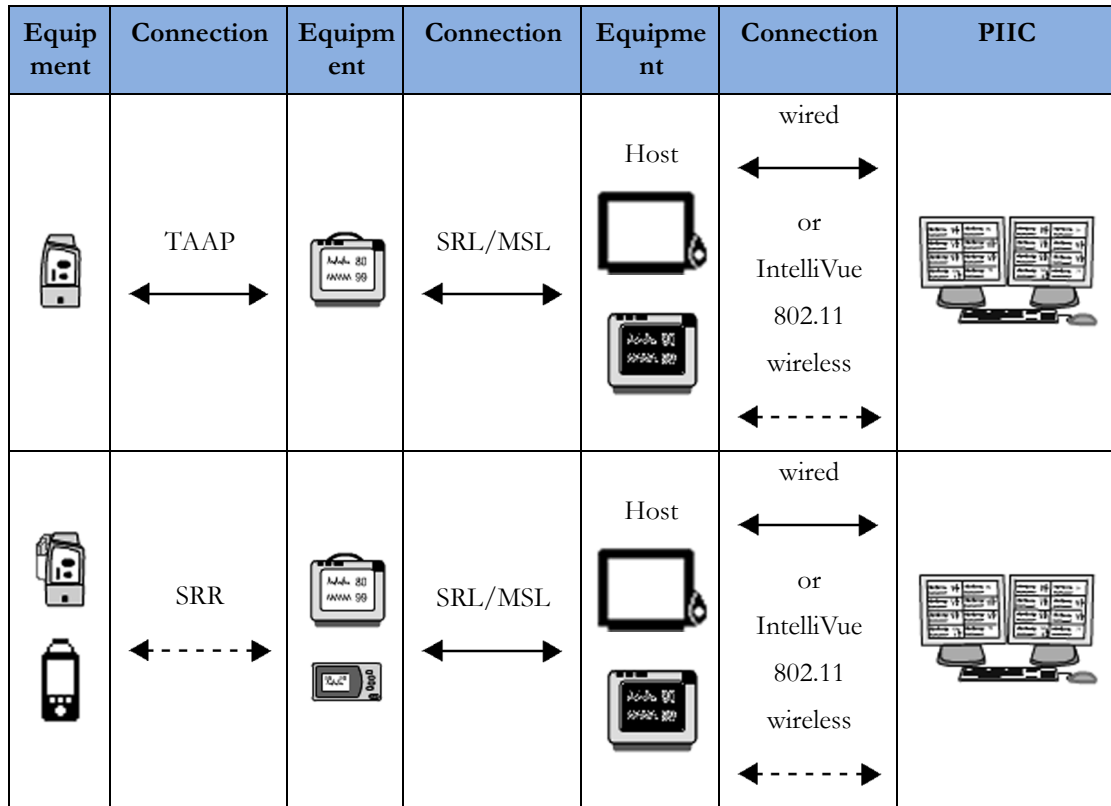
## Troubleshooting - FAQ

*I am not able to assign a telemetry device to the X2 or MP5, the measurement selection icon never changes when I press the check button on the telemetry device. What can I do?*

- This configuration does not support the assignment of a telemetry device to the X2 or MP5. Your X2 or MP5 is the telemetry device in this configuration. If you need the X2 or MP5 to allow the connection of telemetry devices wirelessly, please see the configuration for use model 2, telemetry device paired with a networked MP2, X2, or MP5 - Direct Connection.

## Use Model 4

Telemetry device directly connected to an X2 or MP5 which is connected as a Companion to a larger host monitor.



### Description

It is possible to combine three devices in order get data from a telemetry device directly onto one of the larger monitors (MP20 - MP90). For this use model, the telemetry device must be directly connected to an X2 or MP5 (either via SRR link or via TAAP connector). The X2 or MP5 can then be connected as a companion to a larger host monitor (Companion mode).

- When connected (via TAAP) or assigned (via SRR) to the X2 or MP5, the telemetry device is automatically paired with the host monitor.
- If the host monitor and telemetry device are paired before the telemetry device is assigned to the X2 or MP5, the short range radio connection will be automatically established.
- Data from the telemetry device is displayed on the host monitor. The ECG waves and numerics appear in place of the monitor's own ECG, and SpO2T is displayed as an additional measurement.

### Advantages

- Integrated data in a single sector at the PIIC.
- When connected, data from the telemetry device is displayed directly on the host monitor and if configured, on the X2 or MP5. The ECG waves and numerics appear in place of the monitor's own ECG, and SpO2T is displayed as an additional measurement (if available).

- When the X2 or MP5 is disconnected from the host monitor, the host monitor screen switches to the embedded telemetry device data window automatically once the 1.4 GHz / 2.4 GHz Smart Hopping telemetry device radio is activated.
- When the X2 or MP5 is disconnected, selected data from the X2 or MP5 is sent via the telemetry device over the 1.4 GHz / 2.4 GHz Smart Hopping network to the PIIC. Refer to the PIIC's Instructions for Use for more detail.

## Restrictions

- No ECG Out on bedside while the telemetry device is the ECG source.
- The X2 or MP5 must not have an equipment label.

## Configuration

Configuration of Use Model 4	
<b>Required Configuration on X2, MP5</b>	
Set <b>Network</b> setting <b>TAAP</b> to (for wired or wireless)	<b>Enabled</b>
Assign equipment label	No, needs to be blank
<b>SRR</b> (for wireless) (in <b>Setup Hardware</b> )	<b>On</b>
<b>SRR Channel</b> (for wireless) (in <b>Setup Hardware</b> )	<b>11 – 26</b> (Service Personnel Only)
<b>Required Hardware on MP2, X2, MP5</b>	
SRR interface or TAAP connector	yes
IntelliVue Instrument Telemetry (IIT) interface	IIT cannot be used
<b>Required Configuration at PIIC for Host Monitor (X2, MP5 are not added as equipment at the PIIC)</b>	
Equipment label requirement	Monitor label
<b>Required Configuration at PIIC for Telemetry</b>	
Equipment allowed	IntelliVue telemetry only
Equipment label requirement	Telemetry device label - ITS
<b>Required Hardware for Telemetry</b>	
Short Range Radio Adapter - SRRRA or TAAP Cable	yes

### CAUTION

When you clone a configuration to another monitor, power cycle the IntelliVue patient monitor in order to activate the telemetry device use model. When the use model requires an Equipment label, check that the newly cloned monitor has an Equipment label assigned.

## Troubleshooting - FAQ

*When I disconnect the monitor, X2, or telemetry device from the network to go on transfer, I get an INOP message at the PIIC and the monitor that says Central:Tele Only. What can I do?*

- This INOP only occurs if the host monitor loses connection with the central station.
- You can choose to:










## 15 Use Model Configurations

- Continue with your transfer recognizing that the only data that is being monitored and collected at the IIC is from the telemetry device.
- Reconnect the monitor to the network and take the X2 or MP5 for your transfer, this way the telemetry device data and NBP and SpO<sub>2</sub> are still being monitored and collected at the PIIC and viewable in the **Other Devices Overview** window at the monitor.



# TeleMon Use Model

Telemetry device directly connected to an MP5T, or non-networked MP5, MP2, or X2.

Equipment	Connection	Equipment	Connection	PIIC iX/PIIC
	TAAP ↔		IntelliVue Telemetry wireless IIT ⋯↔	
  	SRR ⋯↔	 	IntelliVue Telemetry wireless IIT ⋯↔	

## Description

This use model involves directly connecting a telemetry device to an MP5T, MP2, X2, or MP5 which is not connected by LAN to a PIIC. The direct connection can be established either via a TAAP cable (MP5 or MP5T only), or by assigning the telemetry device to the MP5T, MP2, X2, or MP5 via a short range radio link.

## Results

- Data from the telemetry device is displayed on the monitor. The ECG waves and numerics appear in place of the monitor's own ECG, and SpO2T is displayed as an additional measurement (if available).
- Selected data from the monitor is sent via the telemetry device over the 1.4 GHz / 2.4 GHz Smart Hopping network to the PIIC. Refer to the patient monitor's Instructions for Use for more detail.

## Advantages

- Near real time ECG in room (less than 1 second delay) when connected with cable or short range radio link.
- Integrated data in a single sector at the PIIC.

## Restrictions

- The MP2, X2, MP5 or MP5T cannot be connected to a host monitor (= no Companion Mode).
- Alarms are independent at the bedside and PIIC.
- While ECG Source is the telemetry device, the ECG Out on the Intellivue Patient Monitor is not functional.
- The settings of the devices are not synchronized.

**NOTE**

Telemetry devices Rev. C.00.xx support TAAP and WTAAP. Telemetry devices Rev. D. support WTAAP and Cableless Measurements.

**Configuration**

Configuration of TeleMon Use Model	
<b>Required Configuration on MP2, X2, MP5</b>	
Set <b>Network</b> setting <b>TAAP</b> to (for wired or wireless)	<b>Enabled</b>
Assign equipment label	Not used in this configuration
<b>SRR</b> (for wireless) (in <b>Setup Hardware</b> )	<b>On</b>
<b>SRR Channel</b> (for wireless) (in Setup Hardware)	<b>11 – 26</b> (Service Personnel Only)
Recommended setting for <b>Tele Discharge</b> (in Global Settings)	<b>OnDevChange</b>
<b>Tele Unassign</b>	<b>1 min</b>
<b>Required Hardware on MP2, X2, MP5</b>	
SRR interface or TAAP connector	yes
IntelliVue Instrument Telemetry (IIT) interface	IIT cannot be used
<b>Required Configuration at PIIC for MP2, X2, MP5</b>	
Equipment label requirement	none needed
<b>Required Configuration at PIIC for Telemetry</b>	
Equipment allowed	IntelliVue Telemetry only
Equipment label requirement	Telemetry Label - ITS
<b>Required Hardware for Telemetry</b>	
Short Range Radio Adapter - SRRA or TAAP Cable	Yes

**CAUTION**

When you clone a configuration to another monitor, power cycle the IntelliVue patient monitor in order to activate the telemetry device use model. When the use model requires an Equipment label, check that the newly cloned monitor has an Equipment label assigned.

**Troubleshooting - FAQ**

*There was a V Tach alarm at the monitor but not at the IIC. Why did this happen?*

- Alarms and settings are not synchronized between the monitor and the telemetry device. Learning happens independently, the beat templates that ST/AR stores at the IIC are not replicated to the monitor when the assignment occurs.

*I assigned the telemetry device with SRR to the monitor at the bedside and my bedside ECG showed up correctly, then my patient went out of the room for a test. When my patient came back from the test the telemetry device did not immediately change back to the bedside ECG. What can I do?*

- The telemetry device searches for wireless radios for 30 seconds on startup or when the check button is pressed to preserve battery life. You can speed up the discovery process upon return by pressing the check button on the telemetry device when you get back to the patient's room.

*The assignment did not stick while my patient went to X-ray. What should I do to make sure this does not happen in the future?*

- When the **non-networked monitor** is turned off or put in standby for more than a minute, the assignment is lost. This is a configuration setting under **Network** that can be changed to **Off** and it is called **Tele Unassign**. The default is **1 min** for all model types.

## General Troubleshooting - FAQ

*I am getting a message on the bottom of the screen that says **Telemetry data available but no telemetry screen is available in the monitor**. What can I do?*

- Ensure that you have a telemetry device screen in your monitor configuration.

*I am getting a message on the bottom of the screen that says **This screen does not show telemetry data**. What should I do?*

- Change the screen to a telemetry device screen to view telemetry device data.
- Check the settings for **Telemetry** screen under **Network** in configuration, ensure that it is not set to **Off**.

**PIIC only** *Some of my sectors have a **!!Check Pairing INOP**, what can I do to get rid of this INOP?*

- Check to ensure that you have chosen the correct device to pair with.
- Make sure that the device you have chosen is not already paired to another sector, if it is paired to another sector, click on sector setup and unpair your device from this sector.

## Short-Range Radio (SRR) Error Conditions

The following table describes error conditions that may occur when the telemetry device is paired with the monitor (MP5, MP2, and X2 IntelliVue Patient Monitors only) via short-range radio capability.

Condition	Description	Action
<b>TELE DISCONNECTED INOP</b> displayed at the monitor and the PIIC.	Short-range radio connection between the telemetry device and MP5T has been lost due to a failure of the short-range radio connection.  There are too many short-range radios operating in the same vicinity (maximum of 3 pairs per radio channel).	If the disconnection is not intentional:  Identify and remove the interference sources.  Reduce the number of devices equipped with short-range radio capability.  Check SRR channel setup.
<b>NO SIGNAL INOP</b> displayed at the PIIC.	The short-range radio is not installed correctly.  There is interference from telemetry or ISM radio sources.  The telemetry device is outside the coverage area (The typical coverage area between the monitor and telemetry device is 15 ft.).	Contact service personnel. Identify and remove the interference source. Make sure the location of the telemetry device is in the coverage area.
<b>BATTERY LOW T INOP</b> displayed at the monitor and the PIIC.	When operating wirelessly (WTAAP), the patient monitor is no longer providing power to the telemetry device, and battery capacity is diminished. 15 minutes of monitoring time remain.	Insert new AA batteries in the telemetry device.
<b>REPLACE BATTERY T INOP</b> displayed at the monitor and the PIIC.	When operating wirelessly (WTAAP), the patient monitor is no longer providing power to the telemetry device, and battery capacity is now depleted. There is <b>no monitoring</b> occurring at either the monitor or the PIIC.	Insert new AA batteries in the telemetry device.

Condition	Description	Action
Absence of successful association sound/visual indicator.	The bedside monitor and the telemetry device are not communicating with each other. Monitoring at the PIIC only.	Repeat the device assignment procedure. Check the telemetry device settings and ensure SRR is started.
<b>CENTRAL: TELE ONLY INOP</b>	When the telemetry device is wirelessly paired with an X2 patient monitor (no label) docked with a larger networked MP/MX series monitor, and the network connection is lost.	Restore the monitor's network connection.
<b>CHECK PAIRING INOP</b>	An X2 patient monitor with a telemetry device label is paired with a larger networked MP/MX series monitor and subsequently the telemetry device is paired with the same monitor. Only one telemetry device can pair with the monitor.	Select the correct device to be paired.
??? appears as telemetry device label in assignment window at bedside monitor.	The equipment label is invalid or there is no label assigned.	Contact service personnel.

A complete list of INOPs can be found in the individual IntelliVue device's Instructions for Use.



# Release-Specific Information

## What's New in this Configuration Guide?

The following table lists the changes compared to the previous revision of the Configuration Guide.

Path	Change, see...	Description	Affected
Equipment Use Models with PIIC iX and PIIC	“Use Model Configurations” on page 315	updated chapter for PIIC iX and PIIC	all monitors
Main Setup > Alarms > Alarm Settings	“Alarms Off Key” on page 139	new setting <b>Alarms Off Key</b>	all monitors
Main Setup > Alarms > Alarm Settings	“Alarms Off Prio” on page 137	new setting	all monitors
Main Setup > Alarms > INOP Severity > Battery Empty	“Battery Empty” on page 146	renaming of the former setting <b>Replace TeleBatt</b> severity changed to <b>Yellow</b>	for monitors with integrated batteries
Main Setup > Alarms > INOP Severity > No Pulse	“No Pulse” on page 147	new in the list of the INOP Severity settings renaming of the former INOP <b>&lt;label&gt; NON-PULSAT.</b>	invasive pressure and SpO <sub>2</sub> measurements
Main Setup > Arrhythmia	“Configuring Arrhythmia” on page 55	new setting	all monitors
Main Setup > Arrhythmia	“Yellow Arrhythmia Alarms” on page 57	new settings	all monitors
Main Setup > Arrhythmia	“Afib/IHR Remind.” on page 58	new setting	all monitors
Main Setup > Databases > Database Config	“Monitor Databases Configuration” on page 299	new aperiodic trend database settings	all monitors
Main Setup > Databases > Database Config	“Monitor Databases Configuration” on page 299	new database settings	MX600-MX800
Main Setup > Databases > Database Config	“Configuring SpotCheck Database” on page 306	new database SpotCheck	MP5 - MP50 (with option #P05) MP5SC
Main Setup > Enter MeasValues > Setup Meas.	“Configuring IAP” on page 88	new with Rev. H	all monitors with invasive pressure
Main Setup > Global Settings	“PatientSelection” on page 243	renaming of the former setting <b>Pat.Sel. Default</b>	MP20 - MP90 MX600 - MX800
Main Setup > Global Settings	“Settings Upload” on page 243	renaming of the former setting <b>MMS Sett. Upload</b>	MP20 - MP90 MX600 - MX800
Main Setup > Global Settings	“Trend Upload” on page 244	renaming of the former setting <b>MMS Trend Upload</b>	MP20 - MP90 MX600 - MX800

## 16 Release-Specific Information

Path	Change, see...	Description	Affected
Main Setup > Global Settings	“PW Sync” on page 244	renaming of the former setting <b>MMS PW Sync</b>	MP20 - MP90 MX600 - MX800
Main Setup > Global Settings	“System Settings” on page 246	new setting	all monitors
Main Setup > Global Settings	n/a	setting <b>AskUser Reminder</b> deleted this setting is now a fixed setting, set to 5 minutes	all monitors
Main Setup > Global Settings	“Tele Workflow” on page 249	new setting	MP2-MP5, X2 MP5SC, MP5T MP5 (with option #P05)
Main Setup > Global Settings > Arrhy Text	“Configuring General Global Settings” on page 240	setting deleted	all monitors
Main Setup > Global Settings > Auto Free	“Configuring Auto Free Settings” on page 250	renaming of the former setting <b>Auto Discharge</b>	all monitors
Main Setup > Global Settings > Auto Free > No Basic Vitals	“Configuring Auto Free Settings” on page 250	setting choices added	all monitors
Main Setup > Global Settings > Demograph.Fields	“Configuring Demographic Field Settings” on page 254	additional choices	all monitors
Main Setup > Global Settings > Quick Admit	“Configuring Quick Admit Settings” on page 256	additional choices	all monitors
Main Setup > Hardware > Standby Image > Display <n> Moving Image	“Standby Image” on page 282	updated layout of <b>Moving Image</b>	all monitors
Main Setup > Hardware > Video > Boot Image	“Boot Image” on page 288	new layout for the settings <b>Basic</b> and <b>Classic</b>	all monitors
Main Setup > Measurements > <label> > Aging Time	“Aging Time” on page 71, and “Aging Time” on page 78	new setting	for monitors with SpO <sub>2</sub> or NBP measurements only
Main Setup > Measurements > BIS	“Configuring BIS” on page 111	new setting	MX600-MX800 MP20 - MP90
Main Setup > Measurements > ECG <or> Pulse > Pulse NotAl INOP	“Configuring ECG/Pulse Alarms” on page 50	renaming of the former setting <b>Inop"Puls NO AL"</b>	all monitors
Main Setup > Measurements > ECG > 12 Lead	“Configuring Capture 12 Lead” on page 166	new filter settings former setting <b>Filter</b> deleted two additional format settings: <b>3x4 ST</b> and <b>3x4 1R ST</b>	all monitors
Main Setup > Measurements > IPI	“Configuring IPI” on page 64	new measurement	for monitors with Oridion Microstream capnometry
Main Setup > Measurements > NBP	“Measurement Time” on page 194	Former <b>"NBP Time"</b> now also available for NBP, SpO <sub>2</sub> and NMT Re-wording of the choices	all monitors
Main Setup > Measurements > NBP > Repeat Time	NBP: “Settings for Specific Options or Monitor Models” on page 73	factory default changed from <b>15 min</b> to <b>10 min</b>	Option #H10, #H20, #H40 (for MP5) MP5SC, MP2, X2
Main Setup > Measurements > NMT	“Measurement Time” on page 194	Former <b>"NBP Time"</b> now also available for NBP, SpO <sub>2</sub> and NMT Re-wording of the choices	all monitors



Path	Change, see...	Description	Affected
Main Setup > Measurements > NMT	“Configuring NMT” on page 114	new NMT measurement	MP40 - MP90 MX600 - MX800
Main Setup > Measurements > ST Analysis	“ST View, STE View” on page 165	ST f/ STE Points on/off switch in ST/STE View	all monitors
Main Setup > Measurements > ST Analysis	“ISO/J Point” on page 61	ISO and J-point detection mode	all monitors
Main Setup > Measurements > ST Analysis	“ST Offset” on page 61	renaming of the former <b>ST Uses</b> setting	all monitors
Main Setup > Measurements > ST Analysis > ST Elevation	“Configuring STE Analysis” on page 62	new ST measurement	all monitors
Main Setup > Measurements > SVR	“Configuring SVR” on page 92	setting range for <b>Set CVP</b> enlarged	MX600-MX800 MP20 - MP90
Main Setup > Network > Other Dev.Screen	“Other Dev.Screen” on page 198	renaming of the former setting <b>Tele Screen</b>	all monitors
Main Setup > Profiles	“Configuring Profiles and Settings Blocks” on page 17	improved user interface	all monitors
Main Setup > ProtocolWatch	“Configuring SSC Sepsis Protocol” on page 219	setting <b>Drotrecogin Alfa</b> deleted	MX600-MX800 MP5 - MP90
Main Setup > Reports > Setup Printers	“Printer Settings Configuration Implications” on page 274	XDS Local Printing available	monitors connected to XDS
Main Setup > Reports > Setup Reports > Report	“Report Type” on page 174	Russian, Greek, Japanese, Chinese, Taiwanese, Korean languages are now supported for 12-Lead ECG report	monitors with 12-Lead ECG
Main Setup > Trends> Trend Groups	“Configuring Trend Groups” on page 203	IPI new in Trend Group Resp	for monitors with Oridion Microstream capnometry
Main Setup > User Interface	“NMT Tone Volume” on page 186	new setting for NMT measurement	MP40 - MP90 MX600 - MX800
Main Setup > User Interface	“Show Sett. Names” on page 186	new setting	all monitors
Main Setup > User Interface	“Profile Name” on page 187	new setting	all monitors
Main Setup > User Interface > Display (x)	“Measurement Time” on page 194	Former " <b>NBP Time</b> " now also available for NBP, SpO <sub>2</sub> and NMT Re-wording of the choices	all monitors
Main Setup > User Interface > Display <n> > Aged Numerics	“Aged Numerics” on page 195	new setting	all monitors

## 16 Release-Specific Information

Path	Change, see...	Description	Affected
Main Setup > User Interface > Oper. <x> RemCtrl	“Configuring Remote Control Keys” on page 236	Remote Control SmartKeys (page 2) exchanged: <b>Lab Results</b> exchanged with <b>Histogram</b> <b>Realtime Recording</b> exchanged with <b>Realtime Report</b>	all monitors with remote control
Main Setup > Workflow	“Configuring Workflow” on page 160	new setting for patient and equipment handling	all monitors
n/a	n/a	monitor models obsolete; deleted in all instances	MP20 with options #M20 and #M21
Support Tool Configuration Editor used for configuration	“Configuring Guardian Early Warning Scoring” on page 221	functionality enhanced to more monitors MEWS protocol added up to 5 configurable protocols available	MP5 SC Option #P05 (for MP5-MP50)

# Index

## A

---

About the IntelliVue Support Tool 15  
About the Screen Configurations 309  
Access Rights 258  
Activated 215  
Add 204  
Add Separatr 205  
Addressograph 176  
Adjust Size 165  
ADT Window 285  
Advanced Event Surveillance Settings 212  
Advantages 319, 321, 323, 325, 328, 330, 332, 334, 337  
Afib/IHR End Dly 56  
Afib/IHR Remind. 58  
Aged Numerics 195  
Agent 129  
Agent Channel 130  
Agent Corr. 101  
Agent Id 130  
Aging Time 71, 78  
Al.Off Enhanced 185  
Alarm AutoLimits Settings Configuration Implications 145  
Alarm Behavior for Assistance Publique in France Only 143  
Alarm Latching Behavior 141  
Alarm Limits 193  
Alarm Low 138  
Alarm Recording Settings Configuration Implications 144  
Alarm Reminder 141  
Alarm Settings Configuration Implications 137  
Alarm Sounds 141  
Alarm Source 51  
Alarm Text 142  
Alarm Volume 137  
AlarmOffReminder 139  
Alarms 60, 63, 114  
Alarms From 83, 91  
Alarms Off 53, 138  
Alarms Off Key 139  
Alarms Off Prio 137  
AlarmsOffAtStart 139  
AlarmSource Sel. 53  
Alias 255  
All 145  
Allow Discharge 160  
Alpha 108  
Altitude 242  
Ambient Pressure 98  
Annotation 178  
Annotations 227  
Apnea Time 102, 103, 107, 130  
Application Areas 309  
ArrhyOff Message 185  
Arrhythmia 56  
Arrhythmia and Visible and Audible Alarm Latching 59  
Arrhythmia Configuration Implications 56  
Arterial Source 88, 89, 93  
Artifact Suppr. 84  
Ask for New Patient Settings Configuration Implications 252  
Ask Paced Mode 253  
Assign to Patient 161  
Assigning the Remote Control to a Monitor 291  
Asystole Detect. 243  
Asystole Thresh. 49  
Auto 51  
Auto Alarms Off 139  
Auto Discharge Settings Configuration Implications 250  
Auto Fill Waves 193  
Auto Filter 165  
Auto Print Dbs 176  
Auto Reports Setting Configuration Implications 177  
Auto Start PC 259  
Auto Win Disable 197  
Auto Window 197, 233  
Auto Window Disp 197  
Auto Window Type 197  
Auto-Calibration 90  
AutoIncrease Vol 142  
Automat. Default 245  
Automatic Period 181  
AutoScreenChange 220  
AutoStandbyAfter 130

Average 68  
Average in Mon. 69  
awRR 102, 130  
awRR Configuration Implications 102

## B

---

Balance Gas 106  
Basic Event Surveillance Settings 212  
Battery Empty 146  
Bed Information Settings Configuration Implications 297  
Bed Label 297  
Beta 108  
BIS 113  
BIS Settings Configuration Implications 112  
Boot Image 288  
Brightness 192  
BSA Form. Adult, BSA Form. Pedi, BSA Form. Neo 170  
Buffer 163, 179  
Buffer A, Buffer B, Buffer C 237  
Bursts 112

## C

---

C.O. 91  
C.O. Configuration Implications 90  
Calc Time Ref 170  
Calculations Settings Configuration Implications 170  
Calibration Val 95  
Caregroup 198  
CareGroup Status 197  
Caregroup Tone 199  
CaregroupToneVol 199  
Catheter Factor 95  
CCI High Limit, CCI Low Limit 91  
CCO 92  
CCO Configurations Implications 91  
CCO From 92  
CCO High Limit, CCO Low Limit 91  
Central Config 227  
CentralMonitoring 198  
Change 204  
Changing Elements on a Second/Third Display 25

- Changing ST Alarm Limits 62
- Changing the Combination of Settings Blocks in an Existing Profile 19
- Changing the Content of a High Resolution Trend Element 29
- Changing the Content of a Numeric Element 29
- Changing the Content of a Screen Trend Element 29
- Changing the Content of a Wave Element 29
- Changing the Content of Screen Elements 29
- Changing the Monitor's Default Profile 23
- Changing the Selection and Sequence of Global SmartKeys 235
- Changing the Size and Position of Screen Elements 32
- Channel 296
- Channel 1 - 4 228
- Chest Gain 167
- Chg Printer Name 275
- Clipping 163, 179
- CO2 100
- CO2 Configuration Implications 100
- CO2 Correction, MetabolismFactor 98
- Color 49, 117, 152, 233
- Color Support 276
- Column 151, 155, 181
- Column Value 36, 153
- Column Width 36, 153
- Combined Arrhythmia Alarms 58
- Companion Settings for Specific Options or Monitor Models 187
- Config Printer 275
- Configuration 320, 322, 324, 326, 329, 331, 333, 335, 338
- Configuration Recommendations when using an X2 or MP5 with a Telemetry Label 253
- Configuration Settings 40
- Configuring 12 Lead ECG Database 305
- Configuring a Centrally Connected Printer 277
- Configuring a Different List of SmartKeys for Each Screen 32
- Configuring a Global List of SmartKeys for All Screens 33
- Configuring a Locally USB-Connected Printer 276
- Configuring a Monitor to Capture Alarm Events in the Print Database During Transport 278
- Configuring a Second/Third Main Display 24
- Configuring Alarm Recordings 144
- Configuring Alarm Recordings Settings 223
- Configuring Alarms 135
- Configuring an Embedded CSA Window 37
- Configuring an Embedded Graph Trend Window 35
- Configuring an Embedded Histogram Window 35
- Configuring an Embedded Other Bed Window 38
- Configuring an Embedded Vital Signs Trend Window 34
- Configuring Aperiodic Trend Database 304
- Configuring Arrhythmia 55
- Configuring Arrhythmia Alarm Recordings 59
- Configuring Ask for New Patient Settings 252
- Configuring Auto Alarm Limits 145
- Configuring Auto Free Settings 250
- Configuring Auto Reports 177
- Configuring awRR from Capnometry 102
- Configuring Bed Information Settings 296
- Configuring BIS 111
- Configuring C.O. 89
- Configuring Calculations 170
- Configuring Capture 12 Lead 166
- Configuring CCO 91
- Configuring CO2 from Capnometry 99
- Configuring Country-Specific Settings 265
- Configuring CPP 87
- Configuring CSA Buffers 237
- Configuring CSA Reports 179
- Configuring Databases 300
- Configuring Delayed Recordings Settings 223
- Configuring Delta SpO2 72
- Configuring Delta Temperature 121
- Configuring Demographic Field Settings 254
- Configuring ECG 46, 164
- Configuring ECG Reports 178
- Configuring ECG/Pulse Alarms 50
- Configuring EEG 107
- Configuring EEG Montages 109
- Configuring Event Annotations 218
- Configuring Event Surveillance 211
- Configuring Event Surveillance Database 305
- Configuring Function Keys 235
- Configuring General Global Settings 240
- Configuring General Hardware Settings 282
- Configuring General Recordings Settings 222
- Configuring Global SmartKeys 233
- Configuring Guardian Early Warning Scoring 221
- Configuring HiRes Trend Recordings Settings 226
- Configuring Horizon Trend Settings 148
- Configuring IAP 88
- Configuring INOP Severity 146
- Configuring IntelliBridge 124
- Configuring IntelliVue Remote Control (Wireless Mode) 291
- Configuring Interfaces and Input Device Settings 290
- Configuring Invasive Pressure 78
- Configuring IPI 64
- Configuring IPI Settings Configuration Implications 65
- Configuring Manual Data Entry 260
- Configuring Multiple Display Settings 284
- Configuring NBP 73
- Configuring Network Settings 195
- Configuring NMT 114
- Configuring One Locally USB-Connected and One Centrally Connected Printer 278
- Configuring One Locally XDS-Connected and One Centrally Connected Printer 278
- Configuring Other Report Settings 176
- Configuring PPV 88
- Configuring Predictive Temperature 120
- Configuring Print Database 305
- Configuring Printers 273
- Configuring Profiles and Settings Blocks 17
- Configuring ProtocolWatch 156
- Configuring Pulse from Invasive Pressure 86
- Configuring Pulse from SpO2 71
- Configuring QT Analysis 63
- Configuring Quick Admit Settings 256
- Configuring Realtime A Recordings Settings 224
- Configuring Realtime B Recordings Settings 225
- Configuring Realtime C Recordings Settings 225
- Configuring Recordings 222
- Configuring Remote Control Keys 236

Configuring Remote Display Settings 257  
Configuring Reports 171  
Configuring Resp 103  
Configuring Screen Trend Settings 147  
Configuring Screen Trends 33  
Configuring Screens 27  
Configuring Screens on an XDS Remote Display 29  
Configuring Setup Internal PC Settings 258  
Configuring SmartKeys 32  
Configuring SO2 94  
Configuring Special Screen Settings 33  
Configuring Spirometry 104  
Configuring SpO2 66  
Configuring SpotCheck Database 306  
Configuring SpotCheck Monitoring 158  
Configuring Sp-vO2 95  
Configuring SRR Channels 295  
Configuring SSC Sepsis Protocol 219  
Configuring ST Analysis 60  
Configuring ST Map 156  
Configuring STE Analysis 62  
Configuring SVR 92  
Configuring System Pulse 54  
Configuring TeG10 99  
Configuring tcpO2, tcpCO2 97  
Configuring Temperature 117  
Configuring the Cardiac Output Window 161  
Configuring the CSA Window 163  
Configuring the Drug Calculator 238  
Configuring the Gas Analyzer 124  
Configuring the Loops Window 162  
Configuring the Wave Channel Speed 33  
Configuring the Wedge Window 162  
Configuring Timer Selection and Order Settings 259  
Configuring Timers 229  
Configuring Trend Database 301  
Configuring Trend Groups 203  
Configuring Trend Priorities 205  
Configuring Trend Reports 180  
Configuring Trend Scales and Trend Units 207  
Configuring Trend Transport Database 304  
Configuring Trend Windows 150  
Configuring User Interface Settings 182  
Configuring User Interface Settings - Keys 233  
Configuring Video Settings 286  
Configuring Vital Signs Recording 154

Configuring VueLink 123  
Configuring Workflow 160  
ConfirmAlarmsOff 248  
Conflicts 318  
Cont. Imp. Check 113  
Correction 131  
CPP Configuration Implications 87  
Creating New Profiles 20  
Creating New Screens 28  
CSA Buffers Settings Configuration Implications 237  
CSA Reports Settings Configuration Implications 179  
CSA Window Settings Configuration Implications 163  
Cuff NotDeflated 147  
Cuff Overpress 146  
Current 115  
Cursor 153  
Cursor Range 37, 153  
Curve 36, 153  
CVP Thresh. Unit 158  
CVP Threshold 157  
CVP, RAP, LAP, UVP Settings 80  
CyanRelayLatency, Yel.RelayLatency 142  
Cyclic Check 113

## D

Data Export 1, Data Export 2 283  
Data Source 35, 152  
Date of Birth 255  
Default Color 123  
Default Profile 242  
Delay Time 229  
Delete 204  
Deleting a Settings Block or Profile 22  
Delta 108  
Delta Extreme High, Delta Extreme Low 85  
Delta ExtrTachy, Delta ExtrBrady 52  
Delta SpO2 Configuration Implications 72  
Delta Temp, Measurement 122  
Delta Temperature Configuration Implications 122  
Demographic Field Settings Configuration Implications 254  
Description 318, 319, 321, 323, 325, 328, 330, 332, 334, 337  
Detection 104  
Device Alarms 123  
Dia. High Clamp, Dia. Low Clamp 85  
Direction 232

Disable Timer 98  
Display 187  
Display 1 188  
Display 1, Display 2, Display 3 284  
Display 2 190  
Display 3 191  
Display Layout 284  
Display Screens 13  
Display Settings for Specific Options or Monitor Models 188  
Display Type 290  
Display Units 193  
Displaying a Clock on the Main Screen 31  
Displaying a ProtocolWatch Status Indicator on the Main Screen 31  
Displaying the NMT application on the Main Screen 31  
Displaying Timers on the Main Screen 30  
Documenting Monitor Configurations 39  
Done Tone 77  
Duplex Option 276

## E

ECG 47  
ECG AL. Off Inop 49  
ECG Cable Color 243  
ECG Configuration Implications 47  
ECG Gain 178, 227  
ECG Leads Off 146  
ECG Reports Configuration Implications 178  
ECG Settings Configuration Implications 165  
ECG/Arrhy Alarms 52  
ECG/Arrhythm 51  
ECG/Pulse Alarms Configuration Implications 51  
EEG 109  
EEG Configuration Implications 108  
EEG Montages Configurations Implications 110  
EEG Speed 185  
EMG 112  
Encounter Id Lbl 256  
End Case Record 154  
Entering and Leaving Configuration Mode 15  
Episode Type 216  
Equipment Label 297  
Equipment to Patient Relation 318  
Equipment Transfer Settings 317  
Event Annotations Settings Configuration

Implications 219  
Event Surv. Window 285  
Event Surveillance Settings Configuration  
Implications 215  
Extd. Auto OnOff 70  
Extreme Alarms 84

## **F**

---

Factory Default Settings for Monitor  
Models 40  
Fallback 49  
Filter 48, 83  
First SpO2 / Second SpO2 72  
First Temp, Second Temp 122  
Fix Pacer Amplit 165  
FMS 1 Keys 285  
FMS 2 Keys 285  
Format 167  
Frequency Scale 164, 179  
Function Keys Configuration  
Implications 236

## **G**

---

Gain 167  
Gas Analyzer - AGT, AGT1, AGT2  
Settings 126  
Gas Analyzer - awRR Settings 125  
Gas Analyzer - CO2 Settings 124  
Gas Analyzer - DES Settings 129  
Gas Analyzer - ENF Settings 128  
Gas Analyzer - General Settings 124  
Gas Analyzer - HAL Settings 127  
Gas Analyzer - ISO Settings 128  
Gas Analyzer - MAC Settings 127  
Gas Analyzer - N2O Settings 126  
Gas Analyzer - O2 Settings 126  
Gas Analyzer - SEV Settings 128  
Gas Analyzer Configuration  
Implications 129  
Gas Corr. 101  
Gas Press Unit 171  
Gender 255  
General Global Settings Configuration  
Implications 242  
General Settings Common to all Monitor  
Models 182, 203  
General Settings for Specific Options or  
Monitor Models 182  
General Troubleshooting - FAQ 339  
Getting Started 17  
Global Settings 14, 239  
Global SmartKeys 234

Global SmartKeys Configuration  
Implications 234  
Global Speed 185  
Global Style 148  
Glossary of Terms 315  
GM Keys 285  
Graphical Trend Report 180  
Graphical Trend Window Settings for  
Specific Monitors 150  
Group Name 215  
Group Type 215

## **H**

---

H Option-Specific Settings 307  
Hardware Settings 14, 281  
Hardware Settings Configuration  
Implications 282  
Hb Unit 171  
Hb/Hct Entry 95  
Hct or Hb 95  
Heat Switch Off 98  
HeatPowerDisplay 98  
Height Unit, Weight Unit 245  
Hemo Calcs 171  
Hemo Press Unit 170  
Hide Alarm Info 193  
Hide Keys 194  
High Alarm Delay, Low Alarm Delay,  
Desat Alarm Delay 70  
High Limit / Low Limit 52  
High Pass Filter, Low Pass Filter, AC  
Filter 166  
Histogram Window 152  
Histogram Window Settings Common for  
all Monitor Models 151  
Horizon High, Horizon Low 149  
Horizon Trend Settings Configuration  
Implications 149  
HorizonArrowTime 148  
Hospital Label 297  
How Can I Get a Support Tool License  
Key? 16  
How to Read the Configuration Tables 40  
HR Alarms 58  
Humidity Corr. 130  
HumidityCorr 101

## **I**

---

ICP, IC1, IC2 Settings 82  
IIT 199  
imCO2 100  
Impedance Limit 109

IncreaseVolDelay 142  
INOP Severity Settings Configuration  
Implications 146  
Inspired O2, Inspired Agent, Inspired  
Temp 107  
Interactions 293  
Interfaces 283  
Interval 151, 155, 156, 159, 181  
Interval time 159  
Invasive Pressure Configuration  
Implications 83  
IPI 65  
ISO Point 61  
ISO/J Point 61

## **J**

---

J Point 61

## **K**

---

Keep Blinking 142  
Keyboard 283

## **L**

---

Label 92, 94, 120, 232  
Label Set 248  
LAN Data Export 249  
Last Name, First Name, Middle Name 254  
Last Name, First Name, Middle Name,  
Encounter Id, Patient Cat. Paced, Date  
of Birth 257  
Lead Placement 48  
Lead Sequence 169, 178  
Lead-Dependent Settings Common to all  
Monitor Models 61  
Lead-Independent Settings Common to all  
Monitor Models 60  
LED Brightness 143  
Lifetime Id 257  
Lifetime Id Lbl 255  
Lifetime Id, Encounter Id 255  
Light Intensity 94  
Line Frequency 243  
Loading a Screen on a Second/Third  
Display 25  
Low Alarm 65  
Low Filter, High Filter 109  
Low Filter, High Filter, Notch Filter 113  
Low Limit 65  
LowDose Steroids 220

## **M**

---

MAC 131

MACawk 131  
Manual Data Entry Settings Configuration Implications 264  
Max Hold 101  
MDF 108  
Mean High Clamp, Mean Low Clamp 85  
Mean Only 83  
Meas. Deactivate 186  
Meas. Sel.Window 285  
Meas. Selection 186  
Measmt. Prompts 120  
Measurement 72, 87, 89, 93  
Measurement Label 144, 145  
Measurement Settings 13, 45  
Measurement Time 78, 117, 194  
Measuring Mode 90  
Menu LineSpacing 193  
Mercury Cal 84  
Method 90  
MMS Keys 185  
Mod.LeadPlacment 48  
Mode 68, 106, 115, 120  
Modifying an Existing Profile 18  
Modifying an Existing Screen 28  
Modifying an Existing Settings Block 20  
Monitor Databases Configuration 299  
Monitor Settings 14, 133  
Multiple Display Settings Configuration Implication 284  
Multiple Equipment Use Models 317  
MV 106  
My Patients 297

---

**N**

N2O Corr. 101  
NBP 159  
NBP Alarm Suppr. 70  
NBP Configuration Implications 77  
Neonatal Event Review Settings 215  
Network Settings Configuration Implications 197  
NMT 115  
NMT Settings Configuration Implications 114  
NMT Tone Volume 116, 186  
No Al. til Breath 130  
No Al.til Breath 106  
No Basic Vitals 251, 253  
No Pulse 147  
NoCentrMonMinVol 143  
Non-Sustain VTach 58

Not Applicable 41  
Notification 232  
Notification Type 215  
Numeric Average 109

---

**O**

Occlusion 147  
Oper. 1 Fn. Keys 236  
Oper. 1 RemCtrl 236  
Oper. 1 Windows, Oper. 2 Windows 285  
Oper. 2 Fn Keys 236, 237  
Operating 187  
Operation Mode 41  
Orientation 175  
Other Dev.Screen 198  
Other Report Settings Configuration Implications 176  
Other Settings 123  
OtherBed Colors 199  
Overlap 229  
OverlapGridStyle 194  
Oxy Calcs 171  
Oxygen Corr. 101

---

**P**

P, ABP, ART, Ao, UAP, FAP, BAP, P1, P2, P3, P4 Settings 79  
Paced Mode 13  
Pair of PVCs 59  
PAP Settings 81  
Paper Size 275  
Paper Speed 167  
Parameters 217  
Password 258  
Patient Alarm 159  
Patient Category 12  
PatientSelection 243  
Pause Al. 5Min, Pause Al. 10Min 138  
Pause Thresh. 56  
PC Audio 259  
Perfusion 68  
Period 36, 152, 154, 181  
Phase A, Phase B, Phase C, Phase D, every 77  
Port 275  
Power Loss Sound 248  
Power Off 250, 252  
PPF 108  
PPV Configuration Implications 89  
PPV From CCO 92  
Predictive Temperature Configuration

Implications 120  
Predictive Temperature Label 121  
Preferred Label 121  
Pressure Label 83  
Primary Lead, Secondary Lead, Analysis Mode 47  
Printer 274  
Printer Configuration Examples 276  
Printer Settings Configuration Implications 274  
Printer Status 275  
Printing a Test Report 279  
Profile Name 187  
Profile Settings 43  
Profiles 11, 41  
Profiles and Settings Implications for Companion Mode 14  
Profiles Overview 309  
Prompt Volume 184  
Protocol 158  
ProtocolWatch Application Settings Configuration Implications 157  
ProtWatch Window 285  
Pulse 51, 86  
Pulse (NBP) 77  
Pulse Alarms 52  
Pulse from Invasive Pressure Configuration Implications 86  
Pulse from SpO2 Configuration Implications 71  
Pulse NotAl INOP 53  
Pulse Width 116  
PulseAlarms Tele 53  
PVCs/min 57  
PW Sync 244

---

**Q**

QRS Low 184  
QRS Type 243  
QRS Volume 184  
QT Analysis 64  
QT Analysis Configuration Implications 63  
QT Lead 63  
QTc Formula 64  
Quick Admit Settings Configuration Implications 256  
QuickAdmitDischg 257

---

**R**

Range 36, 119, 153  
Recorder 228  
Recording Strip Code 226



Recordings Settings Configuration Implications 226

Red Alarm Volume, Yell.AlarmVolume, Inop Volume 138

RedAlarmInterval, Yel.Al. Interval 142

Reference 78

Relay1 Sensitiv., Relay2 Sensitiv. Relay3 Sensitiv 142

Release-Specific Information 343

Reminder Time 141

Remote Control Assignment Rules 292

Remote Control Key Configuration Implications 236

Remote Controls 247

Remote Display Settings Configuration Implications 258

Renaming a Settings Block or Profile 22

Renaming EEG Montages 110

Repeat Time 115

Report Size 175

Report Type 174

Reports Configuration Implications 174

Resolution 276, 289

Resp 103

Resp Configuration Implications 103

RespiratorySpeed 185

Restrictions 319, 321, 323, 326, 329, 330, 332, 335, 337

Results 337

Return To 198

RF Access Code 199

Rhythm Lead 1, 2, 3 169

RL Shunt 90

RRspir 107

Run of PVCs 59

Run Time 232

## S

Sample Screen Image 311

Scale 156, 205

Scale Delta 149

Scales, Gridlines 112

Screen Trend Configuration Implications 147

Screens Overview 313

ScreenTrend Time 147

SEF 108, 112

SEF Threshold 109

Select Montage 110

Selecting Leads for ST Analysis 61

Sensor Disconnect 248

Sequential 168

Service Mode Settings 297

Set CVP 93

Setting for Common Monitor Models 66

Setting Up an End Case Report 178

Settings 252

Settings Common to a 102

Settings Common to all Monitor Models 46, 50, 54, 55, 62, 63, 65, 71, 72, 73, 79, 81, 82, 86, 87, 88, 89, 91, 92, 97, 99, 103, 107, 111, 114, 118, 120, 121, 135, 144, 145, 146, 147, 149, 156, 157, 160, 161, 162, 163, 166, 170, 171, 176, 177, 178, 179, 207, 218, 220, 229, 237, 240, 250, 254, 256, 257, 258, 265, 296

Settings for Specific Monitor Models 80

Settings for Specific Options of Monitor Models 100

Settings for Specific Options or Monitor Models 41, 50, 67, 73, 80, 81, 87, 90, 94, 96, 103, 111, 119, 122, 123, 135, 144, 154, 157, 158, 160, 162, 164, 177, 195, 205, 241, 259, 260, 273, 282, 284, 286

Settings for Specific Options or Special Monitor Models 47

Settings Upload 243

Setup Agent 129

Setup Internal PC Settings Configuration Implications 259

Shift Duration 220

Short-Range Radio (SRR) Error Conditions 340

Show 57

Show ImpedValues 113

Show Sett. Names 186

Show ST In Wave 193

Show Unit 152

Show Units 155, 181

Signal Quality 68

Silence Key 248

Simultaneous 169

Site Time 98

Site Timer 98

Size 290

SmartAlarmDelay 69

Smoothing CSA 109

Smoothing Rate 113

SO2 94

SO2 Configuration Implications 94

Some ECG AI INOP 58

Sort Up, Sort Down 205

Speed 178, 229

Spirometry 106

Spirometry - AWF Settings 104

Spirometry - AWP Settings 104

Spirometry - AWV Settings 105

Spirometry - Gas Compensation Settings 105

Spirometry - General Settings 104

Spirometry - RRspir Settings 105

Spirometry Configuration Implications 106

SpO2 68, 159

SpO2 Configuration Implications 68

SpO2 Source 96

SpotCheck Monitoring Settings Configuration Implications 159

Sp-vO2 / Measurement 96

Sp-vO2 Configuration Implications 96

SR 112

SRR 284

SRR Channel Settings Configuration Implications 296

SSC Sepsis Protocol Settings Configuration Implications 220

ST Analysis 60

ST Analysis Configuration Implications 60

ST Map Settings Configuration Implications 156

ST Offset 61

ST View, STE View 165

Standalone X2 Patient Monitor Use Model 327

Standby 251, 252

Standby Brightn. 192

Standby Image 258, 282

Standby Time 220

Start Time 77

StartUp Time 220

STE 62

STE Alarm Limits 63

Stimul. Modes 116

Stimulation 115

ST-Index 60

Style 205

Suppress Alarms 116

SVR Configurations Implications 92

SVT HR 57

SVT Run 57

Symbols 317

Sync Out Chan 1 49

Sync Out Chan 2 49

SyncPulse Sensit, SyncPulse Marker 49

Sys. High Clamp, Sys. Low Clamp 85

System Pulse 54

System Pulse Configuration Implications 54



System Settings 246

## T

---

TAAP 249

Tachy Clamp, Brady Clamp 53

Target Device 175

tcpO2, tcpCO2 97

tcpO2, tcpCO2 Configuration  
Implications 97

Tele Discharge 244

Tele Disconnect. 146

Tele Workflow 249

Telemetry Use Models with PIIC iX 327

TeleMon Use Model 337

TeleUnassign 250

Temperature Configuration  
Implications 119

Temperature Label 119

Theta 108

Time 168

Timeline 152

Timeout 1st, TimeOut 2nd 58

Timer Selection and Order Settings  
Configuration Implications 259

Timer Settings Configuration  
Implications 232

Timer Volume 186

Timer Window 285

TOFcnt High Lim 114

Tone Mod. Type 184

Tone Modulation 184

Touch Tone Volume 185

TP 108, 112

Transducer Temp. 98

TransportBrightn 192

TransportProfile 247

Trend Group 151, 154, 181

Trend Groups Settings Configuration  
Implications 204

Trend Priority 206

Trend Priority Settings Configuration  
Implications 206

Trend Report Settings Configuration  
Implications 181

Trend Scales and Trend Unit Settings  
Configuration Implications 211

Trend SEF, Trend MDF, Trend PPF 163,  
179

Trend Upload 244

Trend Window Settings Configuration  
Implications 151

Trigger Condition 218

Troubleshooting - FAQ 320, 322, 324, 326,  
331, 333, 335, 338

TV 106

Type 232

## U

---

Understand Profiles and Settings 11

Understanding Configuration 9

Understanding Configuration  
Implications 39

Understanding Configuration Settings 39

Understanding H Options 42

Understanding Monitor Settings 133

Understanding Screen Settings 27

Unique Monitor Settings 14, 201

Unit 36, 119, 121, 149, 153

Unlocking a Settings Block or Profile 23

Upper, Lower 36, 37, 153

Use Model 160

Use Model 1 328

Use Model 1 - Locked Equipment 319

Use Model 2 330

Use Model 2 - Unlocked Equipment 321

Use Model 3 332

Use Model 3 - Pooled Unlocked  
Equipment 323

Use Model 4 334

Use Model 4 - Transport Equipment 325

Use Model Configurations 315

Use Models with PIIC 328

Use Models with PIIC iX 317

User Interface - XDS Remote Display  
Settings Configuration Implications 195

User Interface Companion Settings  
Configuration Implications 187

User Interface Display Settings  
Configuration Implications 192

User Interface General Settings  
Configuration Implications 184

Using Configuration Tables 39

Using the Configuration Pop-up Keys 17

Using the Screen Library 310

## V

---

Va Lead, Vb Lead 48

Value Lifetime 116, 120

Vent Calcs 171

Vent Rhythm 56, 59

Video 282

Video Settings Configuration  
Implications 288

Visual Latching, Audible Latching 140

Vital Sign Window 152

Vital Sign Window Settings for Specific  
Monitor Models 150

Vital Sign Window, Graphical Trend  
Window 151

Vital Signs Recording Settings  
Configuration Implications 154

Vital Signs Report 180

VP Pressure 77

VTach 58

VTach HR 56

VTach Run 56

VueLink Configuration Implications 123

## W

---

Wave Line Style 194

Wave Options 310

Wave Scale, Show Gridlines 109

Wave Style 194

What Can I Configure with the Support  
Tool? 16

What is Configuration Mode? 10

What's New in this Configuration  
Guide? 343

Which Monitor Models is this Guide for? 9

Who Can Change the Monitor  
Configuration? 11

Who is this Guide for? 9

Workflow Settings Configuration  
Implications 160

## Y

---

Yellow Arrhythmia Alarms 57





Part Number 453564322741  
Published in Germany 04/12



**PHILIPS**