



Configuration Guide

Avalon Fetal Monitor

FM20, FM30, FM40, FM50

For monitor release J.3 with software revision J.3x.xx

Patient Monitoring

PHILIPS

Table of Contents

1 Release-Specific Information	5
What's New in this Software Revision?	5
2 Understanding Configuration	7
Who is this Guide for?	7
Which Monitor Models is this Guide for?	7
What is Configuration Mode?	8
Who Can Change the Monitor Configuration?	8
Avalon Fetal Monitor Software	9
Understand the Configurable Software Elements	9
Entering and Leaving Configuration Mode	11
About the IntelliVue Support Tool	12
3 Configuring Active and Default Settings	13
Active Settings	13
User Defaults	13
Factory Defaults	13
4 Understanding Configuration Settings	15
How to Read the Configuration Tables	15
Understanding Configuration Implications	16
Documenting Monitor Configurations	16
5 Measurement Settings	23
Configuring FHR/DFHR	23
Configuring Toco	26
Configuring IUP	27
Configuring HR from MECG	28
Configuring Pulse (Toco)	31
Configuring SpO2	32
Configuring Pulse from SpO2	34
Configuring NBP	37
Configuring Temperature	42
Configuring iTymp	43
6 Monitor Settings	47
Understanding Monitor Settings	47
Configuring Alarms Settings	47
Configuring INOP Severity	56
Configuring User Interface Settings	57

Configuring Fetal Recorder Settings	63
Configuring NST Timer	69
Configuring NST Report	71
Configuring Bed Information	83
Configuring Edit Notes	83
7 Global Settings	85
<hr/>	
Configuring General Global Settings	85
Configuring Auto Free Settings	87
Configuring Ask for new Pat Settings	89
Demograph.Fields Settings	90
Quick Admit Settings	93
8 Hardware Settings	95
<hr/>	
Configuring General Hardware Settings	95
Configuring SRR Settings	98
Configuring OBR (OB Radio) Settings	100
Configuring Bed Information Hardware Settings	101
Index	103
<hr/>	

Release-Specific Information

What's New in this Software Revision?

The following table lists the changes compared to the previous software release.

Path	Description	Change, see...
Main Setup > Measurements > NBP > Mode > Sequence	new measurement mode	“Mode” on page 40
Main Setup > Measurements > NBP > Mode > Sequence > Setup Sequence	new measurement mode	“Setup Sequence” on page 40
Main Setup > Measurements > NBP > Measurement Time Main Setup > User Interface > Measurement Time	renaming of the former setting NBP Time	“Measurement Time” on page 41 “Measurement Time” on page 61
Main Setup > Measurements > NBP > Aging Time	new setting	“Aging Time” on page 41
Main Setup > Measurements > Announcement Tone	new setting	“Announcement Tone” on page 40
Main Setup > Measurements > Automatic Start	new setting	“Automatic Start” on page 41
Main Setup > Measurements > iTymp	new infrared temperature measurement	“Configuring iTymp” on page 43
Main Setup > Measurements > Configure Temp	new manual data entry temperature measurement	“Configuring Temperature” on page 42
Main Setup > Alarms > Alarm Settings > Alarms Off Prio	new setting	“Alarms Off Prio” on page 48
Main Setup > Alarms > Alarm Settings > Pause Al. 5min / Pause Al. 10 min	new settings	“Pause Al. 5 min, Pause Al. 10 min” on page 50
Main Setup > Alarms > Alarm Settings > Alarm Off Reminder	new setting	“AlarmOffReminder” on page 50
Main Setup > Alarms > Alarm Settings > Alarm Reminder	new setting	“Alarm Reminder” on page 52
Main Setup > Alarms > Alarm Settings > Reminder Time	new setting	“Reminder Time” on page 53
Main Setup > Alarms > Alarm Settings > Coincidence Tone	Coincidence INOP now with Tone	“Coincidence Tone” on page 54

1 Release-Specific Information

Path	Description	Change, see...
Main Setup > Alarms > Alarm Settings > Keep Blinking	new setting	“Keep Blinking” on page 55
Main Setup > Alarms > Alarm Settings > Relay1 Sensitiv., Relay2 Sensitiv., Relay3 Sensitiv.	new setting	“Relay1 Sensitiv., Relay2 Sensitiv., Relay3 Sensitiv.” on page 55
Main Setup > Alarms > Alarm Settings > CyanRelayLatency, Yel.RelayLatency	new setting	“CyanRelayLatency, Yel.RelayLatency” on page 55
Main Setup > Alarms > INOP Severity	new settings	“Configuring INOP Severity” on page 56
Main Setup > User Interface > Aged Numerics	new setting	“Aged Numerics” on page 62
Main Setup > Patient Demogr.	renaming of the former operation Admit/Dischrg	n/a
Main Setup > NST Report > Short Term Var.	change of the factory default to Off	“Short Term Var.” on page 72
Main Setup > Global Settings > Auto Free	new settings	“Configuring Auto Free Settings” on page 87
Main Setup > Global Settings > Demograph.Fields > Last name; First Name	new setting choices	“Last Name, First Name, Middle Name” on page 90
Main Setup > Global Settings > Demograph.Fields > Alias	new setting	“Alias” on page 90
Main Setup > Global Settings > Demograph.Fields > Date of Birth	new setting choices	“Date of Birth” on page 91
Main Setup > Global Settings > Demograph.Fields > Lifetime Id Lbl	new setting choices	“Lifetime ID Lbl” on page 91
Main Setup > Global Settings > Quick Admit	new settings	“Quick Admit Settings” on page 93
Main Setup > Hardware > IP Config	new setting choice	“IP Config” on page 101
Main Setup > Hardware > SRR	new settings	“Configuring SRR Settings” on page 98
Main Setup > Hardware > OBR	new settings	“Configuring OBR (OB Radio) Settings” on page 100

Understanding Configuration

Who is this Guide for?

This book is for anyone making permanent changes to the configuration of an Avalon fetal 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.
 - Changing the configuration may alter the way the monitor performs when monitoring patients. Do not change any setting 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 Avalon fetal monitors FM20, FM30, FM40, FM50 release J.x with software J.xx.xx.

This guide cannot be used for other monitor models, or Avalon fetal 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.

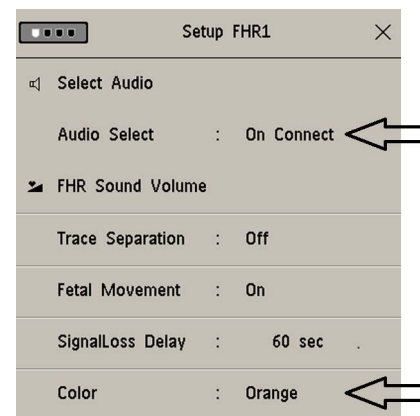
FM40 - FM50 only For example, if a certain section does not apply to the FM20 or FM30, or - in other words - only applies to monitor models FM 40 or FM50, it would be indicated like this paragraph.

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's configuration. It is an extension of the Monitoring Mode; it contains all of the settings available in the Monitoring Mode plus some settings that are accessible only in the Configuration Mode.

For example, when you access the Setup FHR1 menu in Monitoring Mode, you will only be able to see and change these settings:

In Configuration Mode, additional settings are visible:



In Monitoring Mode you can change the settings, but cannot permanently store the changes to the monitor's configuration. In Configuration Mode you can change and permanently store the settings to the monitor's 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.

Data Privacy and Network Security Requirements

CAUTION

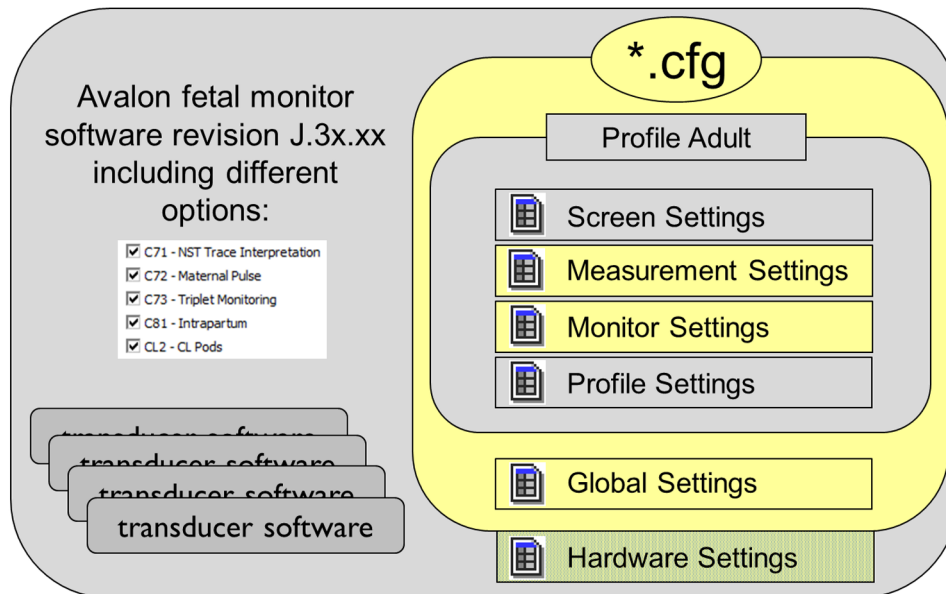
The customer is responsible for complying with applicable data privacy regulations. Network infrastructure must be protected from unauthorized access.

Avalon Fetal Monitor Software

The Avalon fetal monitor's software consists of several elements:

- the **general software**, e.g. Avalon FM revision J.3x.xx, including different **software options**, e.g. #C71 for the NST Trace Interpretation.
- the **configurable software** (*.cfg) which is accessible with the IntelliVue Support Tool, e.g. H70 A01, 50Hz, Scale 240, VGA, FM20-50, NBP, NST TI, initial, J.30.01, Rev001.cfg
- the **individual transducer's software**, e.g. the Toco MP software

The graphic below shows these software elements. Only the yellow elements are accessible for configuration to customize the monitor.



Understand the Configurable Software Elements

The Avalon fetal monitor is highly configurable. The following elements are part of the **Configuration File (*.cfg)** and can be cloned from one to another monitor:

- Profile and Profile Settings (not configurable in Avalon fetal monitors)
- Screen Settings (not configurable in Avalon fetal monitors)
- Measurement Settings
- Monitor Settings
- Global Settings
- Hardware Settings

WARNING

- Some of the configurable software elements are not available in an Avalon fetal monitor. However, in the IntelliVue Support Tool's Configuration Editor they might be visible.
- In order to keep the monitor working properly, you must not modify any of the following elements:
 - Profile and Profile's name
 - Patient Category
 - Paced Mode
 - Screens
 - Measurement Settings block's name
 - Monitor Settings block's name

Display Screens

A Screen defines the overall selection, size, and position of measurement waves, numerics and SmartKeys on the monitor display.

In Avalon fetal monitors, the Screens are automatically assigned depending on the measurements that are connected to the fetal monitor.

Measurement Settings

Measurement Settings are 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 23.

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. In the Support Tool the Monitor Settings are split into Normal and Unique Monitor Settings.

For a complete list of all Monitor Settings, see “Monitor Settings” on page 47.

Global Settings

Global Settings are typically set once at monitor installation by service personnel, and include settings such as **Line Frequency**. 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 configuration (cfg.) file.

For a complete list of Global Settings, see “Global Settings” on page 85.

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 the **IP Address** setting. Any changes you make to the Hardware Settings configuration are automatically stored. There is no need to save them in an extra step. Most Hardware Settings **cannot** be cloned from a monitor's configuration file (*.cfg), an exception would be the OBR Settings, see “Configuring OBR (OB Radio) Settings” on page 100.

For a complete list of Hardware Settings, see “Hardware Settings” on page 95, or refer to the Service Guide of your monitor model provided on the Documentation DVD supplied with your monitor.

Entering and Leaving Configuration Mode

Switching between Monitoring Mode 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** in the center of the Screen while you are in Configuration Mode.

Before you leave the Configuration Mode, always be sure to save any changes you made under **Main Setup > Defaults > Save Defaults**.

To return to

- the previously saved User Defaults, select **Load Defaults**.
- the Factory Defaults, select **Factory Defaults**.

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 center of the Screen or
 - 3 switch the monitor off, then switch it on again.
- The monitor performs a Hot Start in Monitoring Mode with the same settings (Active Settings), if it is switched off and on again **within one minute**.
 - The User Default Settings are loaded if the monitor is switched on again **after more than one minute**, and the **Automat. Default** setting is set to **Yes**, see “Automat. Default” on page 86.

About the IntelliVue Support Tool

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

What Can I Configure with the Support Tool?

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

You cannot change individual Monitor and Measurement Settings with the Support Tool.

For a detailed description of the differences between IntelliVue and Avalon monitor configurations, refer to the chapter **Understanding Avalon Fetal Monitor Configurations** in the Support Tool Instructions for Use.

For a description how to read the monitor's configuration settings, refer to the chapter **Using the Configuration Editor** in the Support Tool Instructions for Use.

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 receive this 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 role (e.g. Biomed, Customer Engineer, or Configuration Expert), and your level of training.

License keys are issued to individuals and they **must 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 Active and Default Settings

Avalon fetal monitors have different levels of settings.

Active Settings

The configuration that is used when the monitor is running are the **Active Settings**. They are representing the latest adjustments that were made by the user. The **Active Settings** are preserved over power fail, but are not permanently stored.

In Monitoring Mode, the user can modify the **Active Settings**:

- individually by entering the monitor or measurements setup menus, or
- by loading the **User Defaults** into the **Active Settings** by selecting:
 - **Main Setup > Defaults > Load Defaults**, or
 - the SmartKey **Defaults**

Changes to the **Active Settings** cannot be permanently stored.

User Defaults

In addition, the monitor holds one complete configuration in persistent memory. This configuration is called **User Defaults**, and can be loaded into the **Active Settings**. In the **User Defaults** the user keeps the settings for her/his personal configuration.

The **User Defaults** are loaded into **Active Settings** whenever the monitor needs to reset to defaults, e.g. if a patient is discharged, or if the monitor was turned off for longer than one minute (if **Main Setup > Global Settings > Automat. Default** is set to **Yes**).

In Configuration Mode the user can store **Active Settings** permanently into the **User Defaults**:

- **Main Setup > Defaults > Save Defaults**

Factory Defaults

The **Factory Defaults** is a complete configuration pre-defined at the factory. You cannot modify it.

3 Configuring Active and Default Settings

In Configuration Mode only, these can be loaded into the **Active Settings** with:

- **Main Setup > Defaults > Factory Default**

You can use the **Factory Defaults** as the basis for producing your User Defaults.

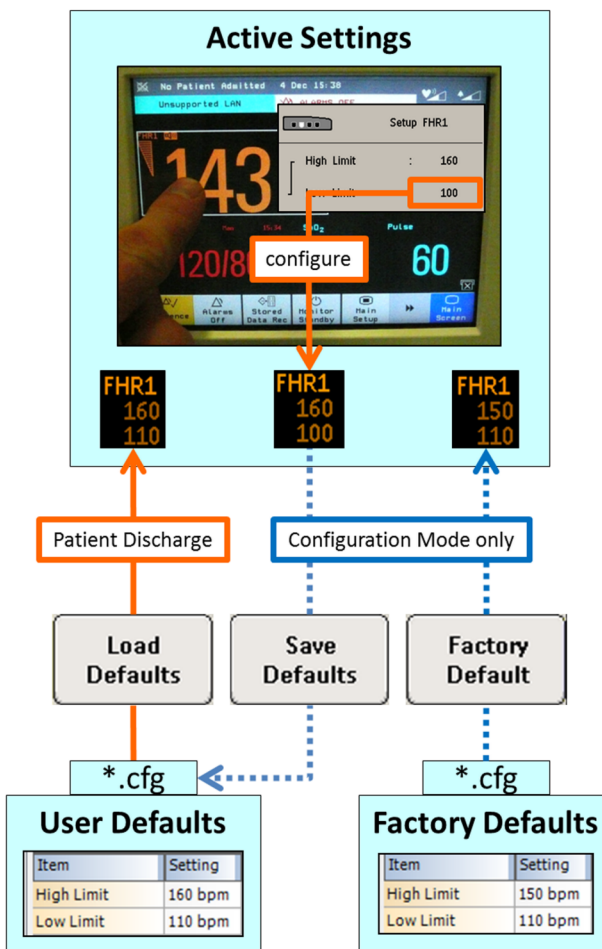
CAUTION

This resets all settings to factory defined values, but be aware that some values will differ from those with which the fetal monitor was originally shipped from the factory. After loading the Factory Defaults, check the settings, and if necessary, change them to the settings you normally use.

Some settings will be set to **<Unknown>**. Make sure to change the following setting to the setting choices/ranges you want to use:

- **Recorder Speed**
- **Scale Type**
- **Frequency Band**
- **Channel**

The **Battery Empty** INOP Severity setting will be set to **Yellow**. Make sure to change it back to **Cyan** if this was the user's choice.



Understanding Configuration Settings

The Avalon fetal monitor is shipped with pre-configured Factory Default settings. 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 the monitor configurations.

The settings documented here are valid for Avalon Fetal Monitors release J.x with software J.xx.xx.

How to Read the Configuration Tables

The following table is an example of a configuration table as you will find it in the sections of this Configuration guide.

The “breadcrumb trail” in the table header indicates where this setting is located in the monitor. For example, **Main Setup > Measurements > FHR <x>** means that the FHR settings are part of the Measurements Settings block. To access the setting in the monitor in the **Main Setup** menu, select **Measurements**, and then select **FHR <x>**.

Configuration Table Example

Measurement Settings: Main Setup > Measurements > FHR <x>

Setting Item	Mode	Factory Default	Choice/Range
Select Audio	C, M	n/a	n/a
Audio Select	C	On Connect	On Connect, Manual Only
FHR Sound Volume	C, M	6	0 ... 10
High Limit	C, M	150	70 ... 210 bmp, in steps of 10 bmp
Low Limit	C, M	110	60 ... 200 bmp, in steps of 10 bmp
Alarms	C, M	On	On, Off
Trace Separation	C, M	Off	On, Off
Fetal Movement	C, M	On	On, Off
High Delay	C, M	60 sec	10 ... 300 sec, in steps of 10 second
Low Delay	C, M	60 sec	10 ... 300 sec, in steps of 10 second
SignalLoss Delay	C, M	60 sec	10 ... 300 sec, in steps of 10 second

4 Understanding Configuration Settings

Setting Item	Mode	Factory Default	Choice/Range
Color	C	Orange	Red, Green, Yellow, Blue, Magenta, Cyan, White, Pink, Orange, Light Green, Light Red

Setting Item

The left most column in each table lists the individual configuration items. These items correspond to the menu items in the relevant setup menu at 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

Factory Default

This section deals with the Factory Default settings for each configuration item.

Choice/Range

This lists the possible configurable choices or ranges for the settings.

Not Applicable

Whenever you see a statement in the setting tables starting with "not applicable" (as in **Select Audio**), this can mean that the setting appears as a menu item in the related setup menu, but cannot be stored in the monitor's configuration (if necessary, the exact reason is given in the context).

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 monitor's Instructions for Use. Always ensure that the monitor users are aware of the configuration settings.

Documenting Monitor Configurations

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

If you change any of the Factory Default settings, you may want to 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.

Generating a Configuration Report

**Avalon FM
Rel. G.0 or
later**

The Support Tool lets you generate a configuration report in .pdf format. The .pdf files generated by the Configuration Editor can be opened with Adobe Reader 6.0 or later. The latest version of the Adobe Reader™ is available for free at the Adobe website:

<http://www.adobe.com/products/acrobat/readstep2.html>

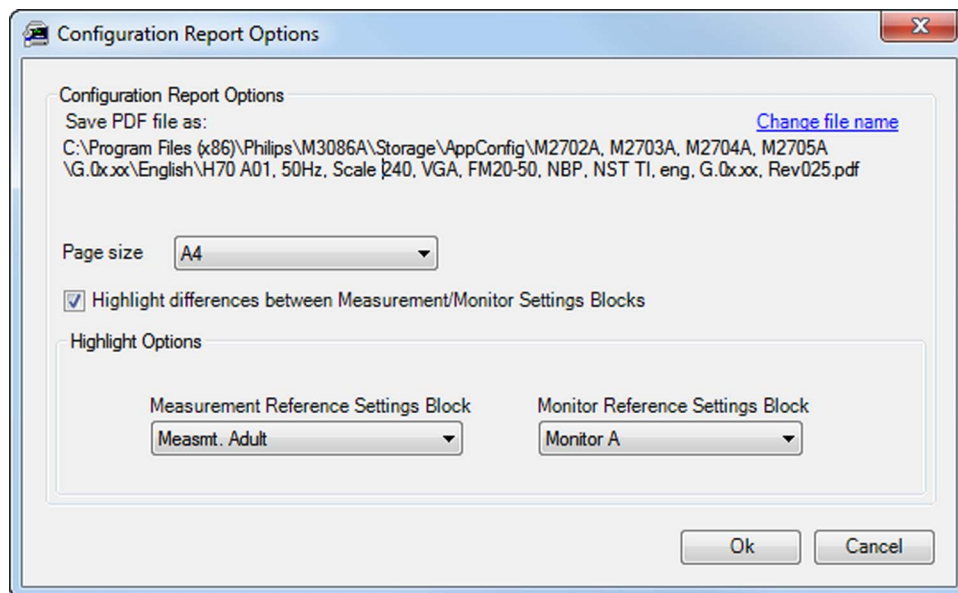
Currently, configuration reports can only be generated in languages that use the Roman 8 character set, i.e. Western European languages.

Before you generate a configuration report, you must also be aware of the following limitations:

- Viewing individual configuration settings and generating a detailed configuration report is only supported for configurations that were cloned from Avalon fetal monitors with software release G.0 or later.
- Settings marked with an asterisk (*) may not be accurately displayed in the Configuration Editor, or in configuration reports.

To generate a configuration report:

- 1 Open the configuration in the Configuration Editor.
- 2 Check the configuration for annotated settings. If necessary correct the annotated setting, following the procedure described under **Correcting Annotated Settings** in the Support Tool Instructions for Use.
- 3 If you do not want to show all settings in the report, define the selection of settings that should be included, see “Selecting the Settings Included in a Configuration Report” on page 19.
- 4 Select **File > Configuration Report**. This opens the **Configuration Report Options** window.



- 5 Select a format in the drop-down box **Page Size**. Possible choices are **A4**, and **Letter**. The **Highlight Options** on this page are not applicable for Avalon fetal monitors.
- 6 The file name and location on the hard drive where the configuration report will be saved to is shown under **Save pdf file as**. To change the file name or location, click on **Change file name**, select a location on your hard drive, type in a file name, and select **OK**.
- 7 Open the configuration report.

4 Understanding Configuration Settings

A configuration report is the perfect documentation of an Avalon fetal monitor's configuration, when you hand it over to a customer:

- The first page of the configuration report lists the complete information of this specific configuration, e.g. ".cfg" name, creation time of the configuration, and creation time of the report.
- In the configuration report, the settings are presented in a tabular format, similar to the configuration tables in this Avalon Configuration Guide. Each Settings Block (e.g. **Measmt. Adult**) is shown in a separate column.

Enable the bookmarks in the Adobe Reader for user-friendly navigation and on screen review.

The screenshot shows the Adobe Reader interface with a configuration report. On the left is a 'Bookmarks' pane with a tree view containing 'Configuration Report', 'Measurements', 'MECG/Pulse Alarms', 'MECG', 'OB', 'FHR', 'Pulse', 'FHR', 'FHR', 'FHR1', 'FHR2', 'FHR3', 'DFHR', 'Toco', 'IUP', and 'Pulse'. The main content area is titled 'PHILIPS IntelliVue Patient Monitor Configuration Report' and contains three tables. Each table has a blue breadcrumb trail at the top and a gray category header below it.

Main Setup --> Measurements --> Pulse	
Measurements > MECG/Pulse Alarms	
Item	Measmt. Adult
High Limit	120 bpm
Low Limit	50 bpm
Alarms	On
^ ExtrTachy	20 bpm
Tachy Clamp	200 bpm
^ ExtrBrady	20 bpm
Brady Clamp	40 bpm

Main Setup --> Measurements --> MECG	
Measurements > MECG	
Item	Measmt. Adult
Color	Red

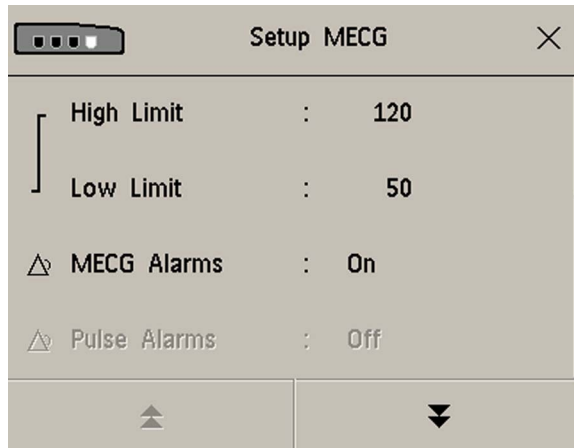
Main Setup --> Measurements --> FHR	
Measurements > OB > FHR	
Item	Measmt. Adult
FHR Volume	6
Audio Select	On Connect

The "breadcrumb trail" in the table header (shaded in blue) indicates the path you should follow to access the same settings in the monitor.

The "breadcrumb trail" underneath (shaded in gray) reflects the table's position in the settings structure. It also indicates the category the settings belong to. In this example, **Measurements > MECG/ Pulse Alarms** means that the settings in this table are measurement settings.

In this example:

- 1 Connect an MECG cable to the Avalon monitor.
- 2 Change **Main Setup > Alarms > Alarm Settings > Alarm Mode** from **INOP only** to **All**.
- 3 Select **Main Setup > Measurements > MECG** to open the **Setup MECG** menu.
- 4 To configure MECG/Pulse Alarms settings in the **Main Setup** menu, select **Measurements**, then select **ECG**, and then select **ECG/Pulse Alarms**.
- 5 Change the settings and store them under **Main Setup > Defaults > Save Defaults**.



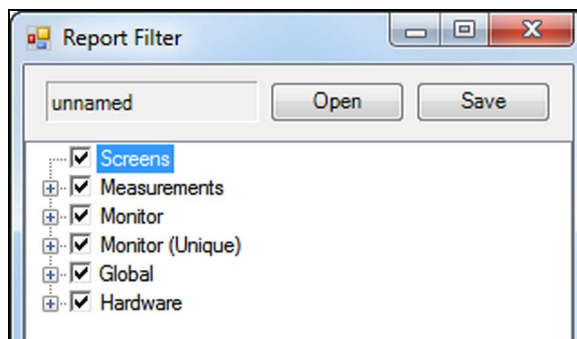
Selecting the Settings Included in a Configuration Report

The Configuration Editor lets you:

- select which settings you want to include in the configuration report, and
- store your selection for future use.

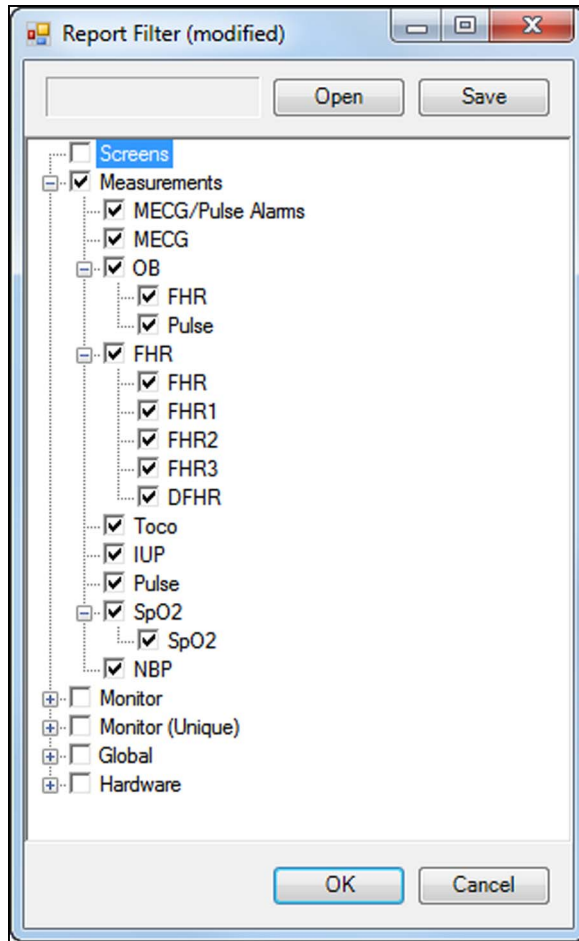
To select the settings you want to include in the report:

- 1 Select **View > Report Filter...** This opens the **Report Filter** window.
- 2 In the configuration structure, click on the "+" symbol to navigate to the required setting. By default all settings are included. This is indicated by a check mark .
- 3 Click on the check box next to a setting's name to remove the check mark, and to exclude the setting.
- 4 Select **OK**.



For example, if you want to create a PDF file with a summary of all Measurement settings of an Avalon fetal monitor's configuration, you would deselect all settings except the Measurement Settings:

4 Understanding Configuration Settings



If you now generate a Configuration Report, it will summarize the Measurement Settings only:

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 all information on configuration implications at the end of each section before you make any configuration changes.

Configuring FHR/DFHR

Measurement Settings: Main Setup > Measurements > FHR <x>

Measurement Settings: Main Setup > Measurements > DFHR <x>

FHR<n>, DFHR<n> Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
Select Audio	C, M	n/a	n/a
Audio Select	C	On Connect	On Connect, Manual Only
FHR Volume	C, M	6	0 to 10
High Limit	C, M	150	70 .to 210 bmp, in steps of 10 bmp
Low Limit	C, M	110	60 to 200 bmp, in steps of 10 bmp
Alarms	C, M	On	On, Off
Trace Separation	C, M	Off	On, Off
Fetal Movement ¹	C, M	On	On, Off
ArtifactSuppress ²	C, M	On	On, Off
DECG Wave ²	C, M	Off	On, Off
High Delay	C, M	60 sec	10 to 300 sec, in steps of 10 second
Low Delay	C, M	60 sec	10 to 300 sec, in steps of 10 second
SignalLoss Delay	C, M	60 sec	10 to 300 sec, in steps of 10 second
Color	C	Orange	Red, Green, Yellow, Blue, Magenta, Cyan, White, Pink, Orange, Light Green, Light Red

¹ in the **Setup FHR <x>** menu only

² in the **Setup DFHR <x>** menu only

FHR<n>, DFHR<1> Configuration Implications

Select Audio

This is not a setting. Press **Select Audio** to select the audio source for an FHR/DFHR channel.

Audio Select

Use the **Audio Select** setting **On Connect** to automatically change the the FHR/DFHR audio to the most recently connected FHR source. Select **Manual Only** to select the FHR/DFHR audio individually.

FHR Sound Volume

Use the **FHR Sound Volume** to select the FHR/DFHR sound volume level. Select **Off** to switch off the sound.

High Limit, Low Limit, High Delay, Low Delay, SignalLoss Delay

All FHRs, including DECG, share the same alarm limits and delays, and can be set from any FHR/DFHR channel.

Alarms

Use this setting to switch FHR/DFHR **Alarms On** or **Off**. Your monitor must be configured to **Alarm Mode > All** to enable alarms in general.

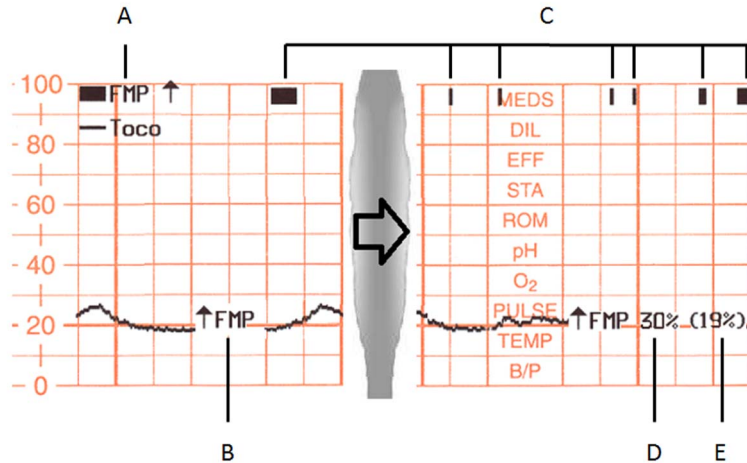
Trace Separation

This setting is accessible in this menu, but is actually a Monitor Setting, see “Trace Separation” on page 67.

Fetal Movement

The **Fetal Movement** setting switches the Fetal Movement Profile (FMP) **On** and **Off**:

- FMP activation symbol (A)
- FMP start symbol (B)
- FMP "activity blocks" (C)
- FMP statistics (D/E)



FMP can be enabled from any FHR channel, even though the fetal movement detection itself only applies to **FHR1**.

ArtifactSuppress

Use the **ArtifactSuppress** setting to enable (**On**), or disable (**Off**) the artifact suppression. Rapid **DFHR** changes, as e.g. caused by artifacts, will lead to a question mark in the DFHR numeric field, and a gap in the recorded **DFHR** trace. Switch **Off** the artifact suppression if you suspect fetal arrhythmia.

DECG Wave

Use the **DECG Wave** setting to switch this wave on the Screen **On** and **Off**.

Color

There is one color setting for each (D)FHR measurement channel (1, 2, 3). Adjusting the color in the **Setup FHR1** menu defines the color in the **Setup DFHR1** menu at the same time.

Configuring Toco

Measurement Settings: Main Setup > Measurements > Toco

Toco Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
Set Baseline	C, M	n/a	n/a
Gain	C, M	100%	50%, 100%
Color	C	Green	Red, Green, Yellow, Blue, Magenta, Cyan, White, Pink, Orange, Light Green, Light Red

Toco Configuration Implications

Set Baseline

This is not a setting. Select **Set Baseline** to reset the Toco baseline to **20** on the display and the trace.

NOTE

If the Toco value is negative for more than five seconds, the Toco baseline is automatically reset to **0**. Since the lowest value on the scale is **0**, the recorder is then again able to print any following contraction on the paper trace.

Gain

Use the **Gain** setting to define the Toco sensitivity. If the Toco sensitivity is too high with **100%**, and the Toco trace for example exceeds the paper scale, you can reduce the Toco sensitivity to **50%**.

Color

Use the **Color** setting to define the Toco color.

NOTE

The color settings for Toco and IUP are independent.

Configuring IUP

Measurement Settings: Main Setup > Measurements > IUP

IUP Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
Zero IUP	C, M	n/a	n/a
Unit	C, M	mmHg	mmHg, kPa
Color	C	Green	Red, Green, Yellow, Blue, Magenta, Cyan, White, Pink, Orange, Light Green, Light Red

IUP Configuration Implications

Set Baseline

This is not a setting. Select **Zero IUP** to reset the IUP to zero (**0**) on the display and the trace.

NOTE

If the IUP value is negative for more than five seconds, the IUP baseline is automatically reset to **0**. Since the lowest value on the scale is **0**, the recorder is then again able to print any following contraction on the paper trace.

Unit

Use the **Unit** setting to define the unit. Choices are **mmHg** and **kPa**.

Color

Use the **Color** setting to define the IUP color.

NOTE

The color settings for Toco and IUP are independent.

Configuring HR from MECG

Measurement Settings: Main Setup > Measurements > MECG

HR (MECG) Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
High Limit	C, M	120 bpm	31 to 300 bpm in steps of 1 bpm (31 to 40 bpm) in steps of 5 bpm (40 to 300 bpm)
Low Limit	C, M	50 bpm	30 to 295 bpm in steps of 1 bpm (30 to 40 bpm) in steps of 5 bpm (40 to 295)
MECG Alarms	C, M	On	On, Off
QRS Volume	C, M	This setting is accessible in this menu, but is actually a Monitor Setting, see “QRS Volume” on page 58.	
ΔExtrTachy	C	20 bpm	0 to 50 bpm, in steps of 5 bpm
Tachy Clamp	C	200 bpm	150 to 240 bpm, in steps of 5 bpm
Δ ExtrBrady	C	20 bpm	0 to 50 bpm, in steps of 5 bpm
Brady Clamp	C	40 bpm	30 to 100 bpm, in steps of 5 bpm
Color	C	Red	Red, Green, Yellow, Blue, Magenta, Cyan, White, Pink, Orange, Light Green, Light Red

HR (MECG) Configuration Implications

Your monitor must be configured to **Alarm Mode > All** to enable the **MECG/Pulse** alarms.

NOTE

If you change one of these settings in the **Setup MECG** menu, this will also change it in the **Setup Pulse** menu and vice versa.

High Limit, Low Limit

HR (MECG) and **Pulse (SpO2)** share the same alarm limits. These alarm limits apply to the current alarm source, either **HR** or **Pulse**.

MECG Alarms

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

NOTE

If **MECG** is active, **Pulse Alarms** from **SpO2** is grayed out and switched off.

QRS Volume

The **QRS Volume** setting defines the default volume of the **QRS Tone**. The **QRS Tone** is derived from either the **MECG** or **Pulse from SpO2**, depending on which is currently selected as the **Alarm Source**.

NOTE

This setting is accessible in this menu, but is actually a Monitor Setting, see “QRS Volume” on page 58.

Delta ExtrTachy, Delta ExtrBrady

Extreme bradycardia and extreme tachycardia alarms are based on the **HR** limit alarms. Use the **Δ ExtrTachy** and **Δ ExtrBrady** setting to define the difference between the heart rate limit and the extreme limit.

For example, if the **HR High Limit** is 120 bpm, and the **Δ ExtrTachy** is 20 bpm, the resulting *****Extreme Tachy** alarm would be generated if the HR is higher than 140 bpm (see graphic below).

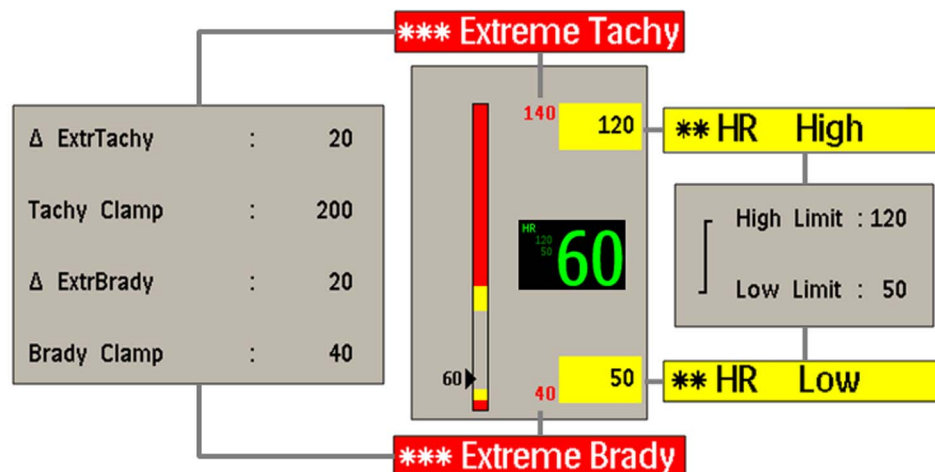
NOTE

HR and **Pulse** share the same alarm limits. The **Δ ExtrTachy** and **Δ ExtrBrady** settings apply to the currently selected alarm source, either **HR** or **Pulse**.

Tachy Clamp, Brady Clamp

The **Brady Clamp** and **Tachy Clamp** setting allows you to configure a safety threshold for the extreme bradycardia and tachycardia alarm limits.

For example, if the **HR Low Limit** is 50 bpm, and the **Δ ExtrBrady** setting is 20 bpm (50 bpm - 20 bpm = 30), with a **Brady Clamp** set at 40, an *****Extreme Brady** alarm would be generated if the HR is lower than 40 bpm.

**NOTE**

HR and **Pulse** share the same alarm limits. The **Tachy Clamp** and **Brady Clamp** settings apply to the currently selected alarm source, either **HR** or **Pulse**.

Color

Use the **Color** setting to define the **HR (MECG)** color.

NOTE

- If you change one of the **Color** settings in the **Setup ECG** menu, this will also change it in the **ECG Wave** menu and vice versa.
- The color settings for **HR (ECG)** and **Pulse (SpO2)** are independent.
- The color for **Pulse (SpO2)** can only be changed in the **Setup SpO2** menu.

Configuring Pulse (Toco)

Measurement Settings: Main Setup > Measurements > Pulse (Toco)

Pulse (Toco) Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
Measurement	C	Enabled	Enabled, Disabled
Trace	C, M	This setting is stored as a monitor setting, see "Trace" on page 68.	
"No MP" Warning	C	On	On, Off
Color	C	Green	Red, Green, Yellow, Blue, Magenta, Cyan, White, Pink, Orange, Light Green, Light Red

Pulse (Toco) Configuration Implications

Measurement

The maternal pulse of a Toco MP transducer can be disabled to make it behave like a "Toco" transducer without MP capability.

"No MP" Warning

It can be configured whether a persistent warning message should be displayed every time a Toco transducer without MP capability is connected to the monitor. Use the **"No MP" Warning** setting to switch this warning **On** and **Off**.

Color

Use the **Color** setting to define the **Pulse (Toco)** color.

Configuring SpO2

Measurement Settings: Main Setup > Measurements > SpO2

SpO2 Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
High Limit	C, M	100	51 to 100%, in 1% steps
Low Limit	C, M	90	50 to 99%, in 1% steps
Desat Limit	C, M	80	50 to 99%, in 1% steps
Alarms	C, M	On	On, Off
QRS Volume	C, M	1	0 (Off) to 10
Tone Modulation	C, M	This setting is actually a Monitor setting, see “Tone Modulation” on page 58.	
Tone Mod. Type	C	This setting is actually a Monitor setting, see “Tone Mod. Type” on page 58.	
Signal Quality	C	On	On, Off
Record on Trace	C	every 5 min	every 1 min, every 5 min
Send to OB Sys	C	every 5 min	every 1 min, every 5 min
High Alarm Delay	C	10 sec	0 to 30 sec, in 1 second steps
Low Alarm Delay	C	10 sec	0 to 30 sec, in 1 second steps
Desat Delay	C	20 sec	0 to 30 sec, in 1 second steps
NBP Alarm Suppr.	C	On	On, Off
Color	C	Cyan	Red, Green, Yellow, Blue, Magenta, Cyan, White, Pink, Orange, Light Green, Light Red

SpO2 Configuration Implications

The **On/Off** state of the **SpO2** measurement cannot be pre-configured. **SpO2** is automatically switched **On** when an SpO₂ sensor is connected to the monitor.

High Limit, Low Limit, Desat Limit

Use these settings to configure the **High Limit**, **Low Limit**, and the **Desat Limit**.

Alarms

Use the **Alarms** setting to switch **SpO2 Alarms On** or **Off**. Your monitor must be configured to **Alarm Mode > All** to enable alarms in general.

QRS Volume

The **QRS Volume** setting defines the default volume of the **QRS Tone**. The **QRS Tone** is derived from either the **MECG** or **Pulse from SpO2**, depending on which is currently selected as the **Alarm Source**.

NOTE

This setting is accessible in this menu, but is actually a Monitor Setting, see “QRS Volume” on page 58.

Signal Quality

Set **Signal Quality** to **Off**, if you do not want the signal quality indicator to be displayed next to the SpO₂ numeric on the Screen.

NOTE

The appearance of the signal quality indicator depends as well on the available space on the Screen, and might not be visible on some Screens although it is configured to **On**.

Record on Trace

Use the **Record on Trace** setting to configure how often the SpO₂ value (including Pulse from SpO₂) is printed on the paper.

The choices are:

- **every 5 min**
- **every 1 min**

NOTE

This setting is stored in the Monitor Settings block of the configuration.

Send to OB Sys

Use the **Send to OB Sys** setting to configure how often the SpO₂ value is transmitted to a connected OB system.

The choices are:

- **every 5 min**
- **every 1 min**

NOTE

- This setting is stored in the Monitor Settings block of the configuration.
- Together with the **Record on Trace** setting (see above), the following setting rule applies:

Combinations	Allowed			Not allowed
Record on Trace	every 5 min	every 5 min	every 1 min	every 1 min
Send to OB Sys	every 5 min	every 1 min	every 1 min	every 5 min

High Limit, Low Limit, High Delay, Low Delay, SignalLoss Delay

The alarm delay settings define the amount of time that the averaged SpO₂ value needs to be above or below the corresponding alarm limits before an alarm is activated.

NBP Alarm Suppr.

Set the **NBP Alarm Suppr.** setting to **On** to suppress INOPs that would otherwise be generated when you measure NBP on the same limb as SpO₂. If **NBP Alarm Suppr.** is configured to **On**, the monitor automatically remembers the SpO₂ value measured before cuff inflation, and suppresses any SpO₂ INOPs while the cuff is inflated.

Color

Use the **Color** setting to define the **SpO2** and **Pulse from SpO2** color.

Configuring Pulse from SpO2

Measurement Settings: Main Setup > Measurements > Pulse

Pulse (SpO2) Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
High Limit	C, M	120 bpm	31 to 300 bpm in steps of 1 bpm (31 to 40 bpm) in steps of 5 bpm (40 to 300 bpm)
Low Limit	C, M	50 bpm	30 to 295 bpm in steps of 1 bpm (30 to 40 bpm) in steps of 5 bpm (40 to 295)
Pulse Alarms	C, M	On	On, Off
QRS Volume	C, M	This setting is accessible in this menu, but is actually a Monitor Setting, see “QRS Volume” on page 58.	
ΔExtrTachy	C	20 bpm	0 to 50 bpm, in steps of 5 bpm
Tachy Clamp	C	200 bpm	150 to 240 bpm, in steps of 5 bpm
Δ ExtrBrady	C	20 bpm	0 to 50 bpm, in steps of 5 bpm
Brady Clamp	C	40 bpm	30 to 100 bpm, in steps of 5 bpm
Color	C	Cyan	Red, Green, Yellow, Blue, Magenta, Cyan, White, Pink, Orange, Light Green, Light Red

Pulse (SpO2) Configuration Implications

Your monitor must be configured to **Alarm Mode > All** to enable the **MECG/Pulse** alarms.

NOTE

If you change one of these settings in the **Setup MECG** menu, this will also change it in the **Setup Pulse** menu and vice versa.

High Limit, Low Limit

HR (MECG) and **Pulse (SpO2)** share the same alarm limits. These alarm limits apply to the current alarm source, either **HR** or **Pulse**.

Pulse Alarms

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

NOTE

If **MECG** is active, **Pulse Alarms** from **SpO2** is grayed out and switched off.

QRS Volume

The **QRS Volume** setting defines the default volume of the **QRS Tone**. The **QRS Tone** is derived from either the **MECG** or **Pulse from SpO2**, depending on which is currently selected as the **Alarm Source**.

NOTE

This setting is accessible in this menu, but is actually a Monitor Setting, see “QRS Volume” on page 58.

Delta ExtrTachy, Delta ExtrBrady

Extreme bradycardia and extreme tachycardia alarms are based on the **Pulse** limit alarms. Use the Δ **ExtrTachy** and Δ **ExtrBrady** setting to define the difference between the heart rate limit and the extreme limit.

For example, if the **Pulse High Limit** is 120 bpm, and the Δ **ExtrTachy** is 20 bpm, the resulting *****Tachy (Pulse)** alarm would be generated if the **Pulse** is higher than 140 bpm (see graphic below).

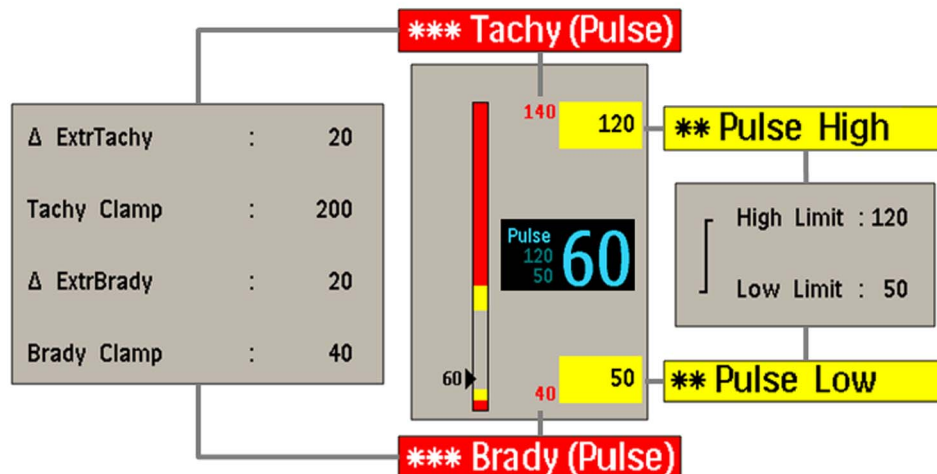
NOTE

HR and **Pulse** share the same alarm limits. The Δ **ExtrTachy** and Δ **ExtrBrady** settings apply to the currently selected alarm source, either **HR** or **Pulse**.

Tachy Clamp, Brady Clamp

The **Brady Clamp** and **Tachy Clamp** setting allows you to configure a safety threshold for the extreme bradycardia and tachycardia alarm limits.

For example, if the **Pulse Low Limit** is 50 bpm, and the Δ **ExtrBrady** setting is 20 bpm (50 bpm - 20 bpm = 30), with a **Brady Clamp** set at 40, a *****Brady (Pulse)** alarm would be generated if the **Pulse** is lower than 40 bpm.



NOTE

HR and **Pulse** share the same alarm limits. The **Tachy Clamp** and **Brady Clamp** settings apply to the currently selected alarm source, either **HR** or **Pulse**.

Color

Use the **Color** setting to define the **Pulse (SpO2)** color.

NOTE

- The color settings for **HR (MECG)** and **Pulse (SpO2)** are independent.
- The color for **Pulse (SpO2)** can only be changed in the **Setup SpO2** menu.

Configuring NBP

Measurement Settings: Main Setup > Measurements > NBP

NBP Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
Alarms from	C, M	Sys.	Sys., Dia., Mean, Sys & Dia, Dia & Mean, Sys & Mean, Sys&Dia&Mean
Sys.High	C, M	160	95 to 270 mmHg
Sys. Low	C, M	90	30 to 155 mmHg
Dia.High ¹	C, M	90	55 to 245 mmHg
Dia. Low ¹	C, M	50	10 to 85 mmHg
Mean High ¹	C, M	110	65 to 255 mmHg
Mean Low ¹	C, M	60	20 to 105 mmHg
Alarms	C, M	On	On, Off
Start/Stop	C, M	n/a	n/a
Repeat Time ²	C, M	15 min	1 min, 2 min, 2.5 min, 3 min, 5 min, 10 min, 15 min, 20 min, 30 min, 45 min, 1 h, 2 h, 4 h, 8 h, 12 h, 24 h
Mode	C, M	Manual	Manual, Auto, Sequence
Phase A ³	C, M	4 times	Off, 1 time to 30 times, Continuous
every ³	C, M	5 min	1 min, 2 min, 2.5 min, 3 min, 5 min, 10 min, 15 min, 20 min, 30 min, 45 min, 1 h, 2 h, 4 h, 8 h, 12 h, 24 h
Phase B ³	C, M	4 times	Off, 1 time to 30 times, Continuous
every ³	C, M	10 min	1 min, 2 min, 2.5 min, 3 min, 5 min, 10 min, 15 min, 20 min, 30 min, 45 min, 1 h, 2 h, 4 h, 8 h, 12 h, 24 h
Phase C ³	C, M	4 times	Off, 1 time to 30 times, Continuous
every ³	C, M	15 min	1 min, 2 min, 2.5 min, 3 min, 5 min, 10 min, 15 min, 20 min, 30 min, 45 min, 1 h, 2 h, 4 h, 8 h, 12 h, 24 h
Phase D ³	C, M	4 times	Off, 1 time to 30 times, Continuous
every ³	C, M	30 min	1 min, 2 min, 2.5 min, 3 min, 5 min, 10 min, 15 min, 20 min, 30 min, 45 min, 1 h, 2 h, 4 h, 8 h, 12 h, 24 h
NBP	C	On	On, Off
Stop All	C, M	n/a	n/a
Veni Puncture	C, M	n/a	n/a
Unit	C	mmHg	mmHg, kPa
Done Tone	C	Off	On, Off
Announcement Tone ⁴	C	Off	On, Off
Start Time	C	Synchronized	Synchronized, NotSynchron.
VP Pressure	C	60 mmHg	20 to 120 mmHg in 5 mmHg steps
Reference	C	Auscultatory	Auscultatory, Invasive

5 Measurement Settings

Setting Item	Mode	Factory Default	Choice/Range
Measurement Time	C	Timestamp	Time to Next
Aging Time	C	10 min	1 min, 2 min, 2.5 min, 3 min, 5 min, 10 min, 15 min, 20 min, 30 min, 45 min, 1 h, 2 h
Automatic Start ⁴	C	Off	Off, Slow, Fast
Color	C	Red	Red, Green, Yellow, Blue, Magenta, Cyan, White, Pink, Orange, Light Green, Light Red

¹ The availability of these settings is depending on the **Alarms from** setting.

² This setting is only visible when **Mode** is set to **Auto**.

³ These settings are only visible when **Mode** is set to **Sequence**, and you select **Setup Sequence** in the **Setup NBP** menu.

⁴ Only available for NBP measurements with a cableless NBP pod.

NBP Configuration Implications

Alarms from

Your monitor must be configured to **Alarm Mode** > **All** to enable alarms in general.

The **Alarms from** setting provides you a list of selections to decide whether alarms are derived from the systolic, diastolic, or mean NBP. Choices are:

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

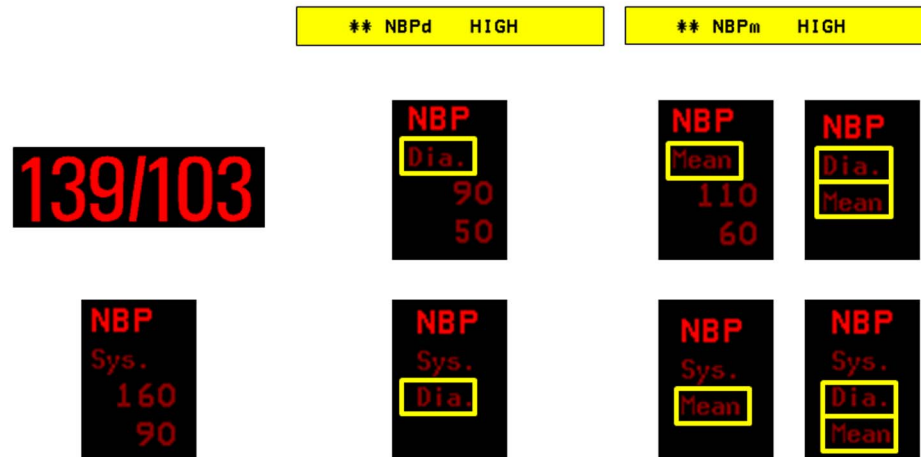
The chosen combination is displayed directly under the NBP label on the Screen as following:

NBP Sys. 160 90	NBP Dia. 90 50	NBP Mean 110 60	NBP Sys. Dia.	NBP Dia. Mean	NBP Sys. Mean	NBP Sys. Dia. Mean
---------------------------------	--------------------------------	---------------------------------	----------------------------	----------------------------	----------------------------	------------------------------------

Depending on the chosen **Alarm from** setting, for an NBP value of for example **139/103**, the following alarms will be issued:

Alarms from	Issued Alarm
Sys.	No alarm issued
Dia.	NBPd High
Mean	NBPm High
Sys & Dia	NBPd High

Alarms from	Issued Alarm
Dia & Mean	NBPm High
Sys & Mean	NBPm High
Sys&Dia&Mean	NBPm High



Sys. High, Sys. Low, Dia. High, Dia. Low, Mean High, Mean Low

Use the systolic, diastolic, and mean < Pressure> High, < Pressure> Low, settings to define the alarm limits.

- **Diastolic limit settings** are only visible when **Alarms from** is set to:
 - Dia
 - Sys & Dia
 - Dia & Mean
 - Sys&Dia&Mean.
- **Mean limit settings** are only visible when **Alarms from** is set to:
 - Mean
 - Dia & Mean
 - Sys & Mean
 - Sys&Dia&Mean

Alarms

Use the **Alarms** setting to switch **NBP alarms On** or **Off**. Your monitor must be configured to **Alarm Mode** > **All** to enable alarms in general.

Start/Stop

This is not a setting.

Select **Start/Stop** to start or to stop a single **NBP measurement**, **Auto NBP measurements**, or a **Sequence of NBP measurements**.

Repeat Time

Use the **Repeat Time** setting to define the repetition times for the **Auto** mode of NBP measurements. This setting is only visible when **Mode** is set to **Auto**.

Mode

Use the **Mode** setting to select the NBP measurement mode. Choices are **Manual**, **Auto**, or **Sequence**.

Setup Sequence

These settings are only visible if **Mode** is set to **Sequence**, and you select **Setup Sequence** in the **Setup NBP** menu. This opens the **Setup Sequence** window with the setting items:

- **Phase A**
- **Phase B**
- **Phase C**
- **Phase D**
- **every**

You can then define up to four measurement cycles (phases A to D) 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**.

NBP

Use the **NBP** setting to switch the NBP measurement **On** or **Off**.

Stop All

This is not a setting.

Select **Stop All** to stop a single **NBP measurement**, **Auto NBP measurements**, or a **Sequence of NBP measurements**.

Veni Puncture

This is not a setting.

Select **Veni Puncture** to start a **Veni Puncture** inflation.

Unit

Use the **Unit** setting to define the unit. Choices are **mmHg** and **kPa**.

Done Tone

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

AnnouncementTone

Use the **AnnouncementTone** setting to switch the announcement tone for an NBP measurement that starts in a CL NBP pod **On** or **Off**.

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.

VP Pressure

The **VP Pressure** setting determines the cuff pressure used during a **Veni Puncture** inflation. The cuff deflates automatically after 170 seconds, if it is not manually deflated beforehand. Choices are from **20 mmHg** to **120 mmHg** in steps of 5 mmHg.

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.

For further information, see the Application Note on NBP.

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 the 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 is also accessible in **Main Setup > User Interface > Measurement Time**.

Aging Time

The setting **Aging Time** determines the time after which the NBP numeric is aged. Choices are from **1 min** to maximum **24 h**.

An aged numeric is presented as defined in the **Aged Numerics** setting, see “Aged Numerics” on page 62.

Automatic Start

Use the **Automatic Start** setting to define if a cableless NBP measurement cycle (**Mode: Auto** or **Sequence** only) is started automatically after the NBP pod is plugged in the cradle.

Choices are:

- **Off**
- **Slow**: starts the measurement cycle within 1 - 2 minutes

- **Fast:** starts the measurement cycle within a few seconds.

Color

Use the **Color** setting to define the NBP color.

Configuring Temperature

Global Settings: Main Setup > Measurements > Configure Temp

The manually entered temperature measurement is actually a Global Setting. If you change Global Settings they do not need to be saved. However, since **Enter Temp** appears in the **Measurements** window it is listed in this chapter of the Configuration Guide.

To manually enter a temperature value, select **Main Setup > Measurements > Enter Temp**.

Temperature Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
Label	C	Temp	n/a
Unit	C	°C	°C, °F
Color	C	White	Red, Green, Yellow, Blue, Magenta, Cyan, White, Pink, Orange, Light Green, Light Red
Interval	C	1 h	30 min, 1 h, 2 h, 3 h, 4 h, 6 h, 8 h, 12 h, 24 h
Msmnt	C	Off ¹	On, Off

¹ Entering a manually measured temperature switches the **Msmnt** automatically **On**.

Temperature Configuration Implications

Label

The **Label** setting **Temp** for manual data entries for temperature cannot be changed.

Unit

Use the **Unit** setting to define the unit. Choices are **°C** and **°F**.

Color

Use the **Color** setting to define the for the manually entered temperature measurement.

Interval

Use the **Interval** setting to define the time after which a manually entered temperature value becomes invalid (no value is then displayed).

Msmnt

Use the **Msmnt** setting to define whether the selected measurement will be **On** or **Off**.

Configuring iTt ymp

Measurement Settings: Main Setup > Measurements > iT<label>¹

- iTt ymp
- iToral
- iTcore
- iTrect

¹ current infrared temperature (iT) label as transmitted by the infrared thermometer.

iTt ymp Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
High Limit ¹	C, M	39.0	36.1 to 42.0 in steps of 0.1
Low Limit ¹	C, M	36.0	33.0 to 35.0 in steps of 0.5 35.1 to 38.9 in steps of 0.1
Alarms ¹	C	On	On, Off
iTt ymp ²	C	Off	On, Off
Label	C	iTt ymp	iTt ymp, iToral, iTcore, iTrect
Unit	C	°C	°C, °F
Color	C	White	Red, Green, Yellow, Blue, Magenta, Cyan, White, Pink, Orange, Light Green, Light Red
Value Lifetime	C	1 h	30 min, 1 h, 2 h, 4 h, 6 h, 8 h, 12 h, 24 h
Enter Temp	C, M	n/a	n/a

¹ This setting is only available if **Main Setup > Alarms > Alarm Settings** is set to **All**.

² The temperature label **iTt ymp** changes automatically depending on the label that is transmitted by the infrared thermometer.

iTt ymp Configuration Implications

High Limit, Low Limit

Use the **High Limit** and **Low Limit** settings to configure the following iT temperature labels:

- iTt ymp
- iToral
- iTcore
- iTaxil¹
- iTrect

Choices are:

- from **33.0°C** to **35.0°C** in steps of 0.5°C
- from **35.1°C** to **42.0°C** in steps of 0.1 °C

NOTE

¹The label **iTaxil** is currently not supported by the Covidien Genius 2 infrared thermometer.

WARNING

The limit settings can be set differently for each label. Make sure that you configure alarm limit settings for all possible labels.

Alarms

Use the **Alarms** setting to switch infrared temperature alarms **On** or **Off**. Your monitor must be configured to **Alarm Mode > All** to enable alarms in general.

iTt ymp

Use the **iTt ymp**¹ setting to switch the infrared temperature measurement **On** or **Off**.

¹ The temperature label **iTt ymp** changes automatically depending on the label that is transmitted by the infrared thermometer.

Label

Use the **Label** setting to set the alarm limits differently for each infrared temperature label.

The following choices are available:

- **iTt ymp**¹
- **iToral**
- **iTcore**
- **iTaxil**²
- **iTrect**

NOTE

¹Only values labeled with **iTt ymp** are transmitted to a connected IntelliSpace Perinatal system.

²The label **iTaxil** is currently not supported by the Covidien Genius 2 infrared thermometer.

Unit

Use the **Unit** setting to define the unit. Choices are **°C** and **°F**.

Color

Use the **Color** setting to define the infrared temperature measurement color.

Value Lifetime

Use the **Value Lifetime** setting to define the time after which an aperiodic infrared temperature numeric value is deleted from the Screen.

Choices are: **30 min, 1 h, 2 h, 4 h, 6 h, 8 h, 12 h, 24 h**.

Enter Temp

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

If you enter a value via the on-screen keyboard, the infrared temperature label automatically changes to **Temp***.

Monitor Settings

This section lists all the settings grouped in the Monitor Settings block. Read all 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.

Configuring Alarms Settings

Monitor Settings: Main Setup > Alarms > Alarm Settings

Alarms Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
Alarm Volume	C, M	5	0 to 10
Alarms Off Prio	C	Red & Yellow	Red & Yellow, Yellow Only, Not Allowed
Alarms Off	C	2 min	1 min, 2 min, 3 min, Infinite
Pause Al. 5min	C	Enabled	Enabled, Disabled
Pause Al. 10 min	C	Enabled	Enabled, Disabled
AlarmOffReminder	C	Off	On, Off
AlarmsOffAtStart	C	No	No, Yes
Alarm Mode	C	INOP only	INOP only, All
Visual Latching	C	Red & Yellow	Red & Yellow, Red Only, Off
Audible Latching	C	Red & Yellow	Red & Yellow, Red Only, Off
Alarm Reminder	C	On	On, ReAlarm, Off
Reminder Time	C	3 min	1 min, 2 min, 3 min

Setting Item	Mode	Factory Default	Choice/Range
Alarm Sounds	C	Traditional	Traditional, ISO
RedAlarmInterval	C	10 sec	5 sec, 10 sec, 15 sec
Yel.Al. Interval	C	20 sec	10 sec, 20 sec, 30 sec
Alarm Low	C	4	0 to 10
Red Alarm Volume	C	AlarmVol. +2	AlarmVol. +0, AlarmVol. +1, AlarmVol. +2
Yell.AlarmVolume	C	AlarmVol. +0	AlarmVol. +0, AlarmVol. +1, AlarmVol. +2
INOP Volume	C	AlarmVol. +0	AlarmVol. +0, AlarmVol. +1, AlarmVol. +2
AutoIncrease Vol	C	2 Steps	Off, 1 Step, 2 Steps
IncreaseVolDelay	C	20 sec	10 sec, 20 sec, 30 sec
Coincidence Tone	C	immediately	immediately, after 30 sec, after 60 sec
Keep Blinking	C	No	Yes, No
Relay1 Sensitiv.	C	R&Y&C	Red, Red&Yell, Red&Cyan, R&Y&C
Relay2 Sensitiv.	C	Red & Yell	Red, Red&Yell, Red&Cyan, R&Y&C
Relay3 Sensitiv.	C	Red	Red, Red&Yell, Red&Cyan, R&Y&C
CyanRelayLatency	C	0 sec	0 sec, 2 sec, 5 sec
Yel.RelayLatency	C	5 sec	0 sec, 2 sec, 5 sec, 10 sec
Alarm Text	C	Standard	Standard, Enhanced

Alarms Configuration Implications

Alarm Volume

Use the **Alarm Volume** 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:

- **Alarms Off** (if the **Alarms Off** setting is set to **Infinite**):
 - via Smart Key
 - via **Alarm Settings** menu operation
- **Pause Alarms** (if the **Alarms Off** setting is set to **1 min, 2 min, 3 min**):
 - via Smart Key
 - via **Alarm Settings** menu operation

Possible choices are:

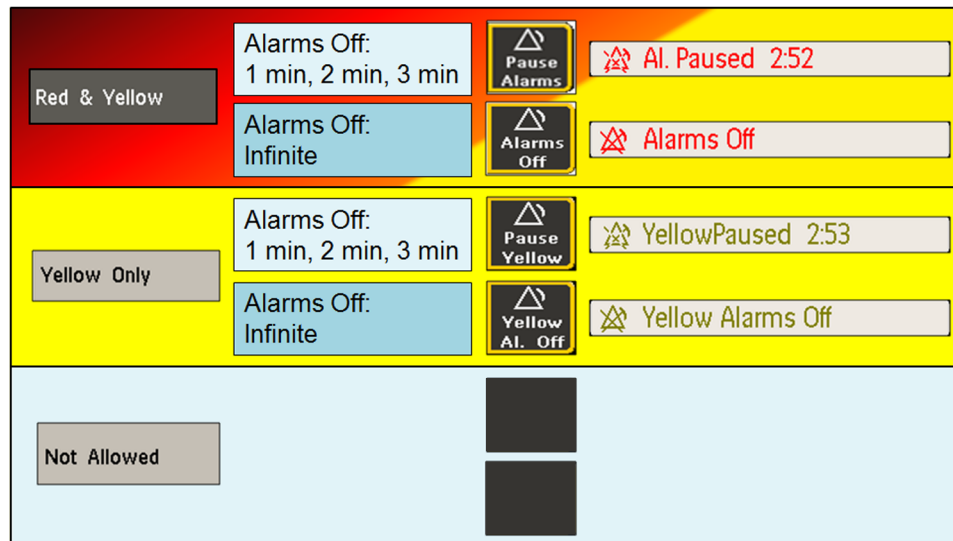
- **Red & Yellow**
- **Yellow Only**
- **Not Allowed**

The following table applies:

Setting	Alarm Type	Visual Alarm	Audible Alarm
Red & Yellow	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
Yellow Only¹	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
Not Allowed	No possibility to turn main alarms Off .		

¹ This setting is only available if **Main Setup > Alarms > Alarm Settings** is set to **All**.

The **Alarms Off/Pause Alarms** SmartKey, and the alarm flag on the Screen change their text automatically and accordingly as following:



Alarms Off

Your monitor must be configured to **Alarm Mode > All** to enable alarms in general.

Use this setting to determine how long the monitor's alarm capabilities will be switched off if 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.

Pause Al. 5 min, Pause Al. 10 min

If the **Pause Al. 5min**, or the **Pause Al. 10 min** settings are **Enabled**, the user can extend the alarm pause to 5 minutes or to 10 minutes. If they are set to **Disabled**, the pop-up keys are grayed out and disabled. If the **Alarms Off** setting is set to **Infinite**, these settings are automatically disabled.

The **PauseAl. 5 min** or **PauseAl. 10 min** pop-up keys appear only in the **Alarm Messages** and **Review Alarms** windows.

AlarmOffReminder

If the **AlarmOffReminder** setting is **Enabled**, the monitor issues a prompt (**All vital parameters or parameter alarms are off.**), together with 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:

- **FHR, DFHR**
- **HR from MECC**
- **Pulse from SpO2**

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, and
- the last main alarm state was set to off or paused.

Alarm Mode

There are two possible alarm modes for the monitor:

All: Patient alarms and INOPs are enabled, with all audible and visual indicators active.

INOP only: Only INOPs are enabled, with audible and visual indication active.

NOTE

In **INOP only** mode, no patient alarms are enabled or indicated. No alarm limits or alarm off icons are displayed. No patient alarm settings are available in the setup menus.

Visual Latching, Audible Latching

The alarm latching settings define how the alarm indicators behave when you do not acknowledge them.

- When alarms are set to non-latching, their indicators end when the alarm condition ends.
- Switching alarm latching on, means that the visual and/or audible alarm indications are still displayed or announced after the alarm condition ends. The indications last until you acknowledge them.

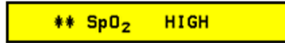
The choices for **Visual Latching** and **Audible Latching** are:

- **Red&Yellow**
- **Red Only**
- **Off**
- The choices can be combined to give the following settings:

Visual Latching	Audible Latching
Red&Yellow	Red&Yellow
Red&Yellow	Red Only
Red Only	Red Only
Red Only	Off
Off	Off

Red and Yellow Measurement Alarm Latching Behavior

The following table explains the behavior if an alarm has **not** been acknowledged:



Alarm Condition	Non-latching alarms	Visual and audible latching	Visual latching, audible non-latching
Alarm condition still present	Alarm lamp on Alarm message visible Numeric flashing Alarm tone on		
Alarm condition no longer present	Alarm lamp off No Alarm message visible No flashing numeric Alarm tone off	Alarm lamp on Alarm message visible Numeric flashing Alarm tone on	Alarm lamp on Alarm message visible Numeric flashing Alarm tone off

The following table explains the behavior if an alarm has been acknowledged:



Alarm Condition	Non-latching alarms	Visual and audible latching	Visual latching, audible non-latching
Alarm condition still present	Alarm lamp off Alarm message visible Numeric flashing Alarm tone off Audible Alarm Reminder (if configured)		
Alarm condition no longer present	Alarm lamp off No Alarm message visible No flashing numeric Alarm tone off		

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.Al. Interval

Use the **RedAlarmInterval** or **Yel.Al. Interval** 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

Alarm Low

Use the **Alarm Low** 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**

AutoIncrease Vol

Use the **AutoIncrease Vol** 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.

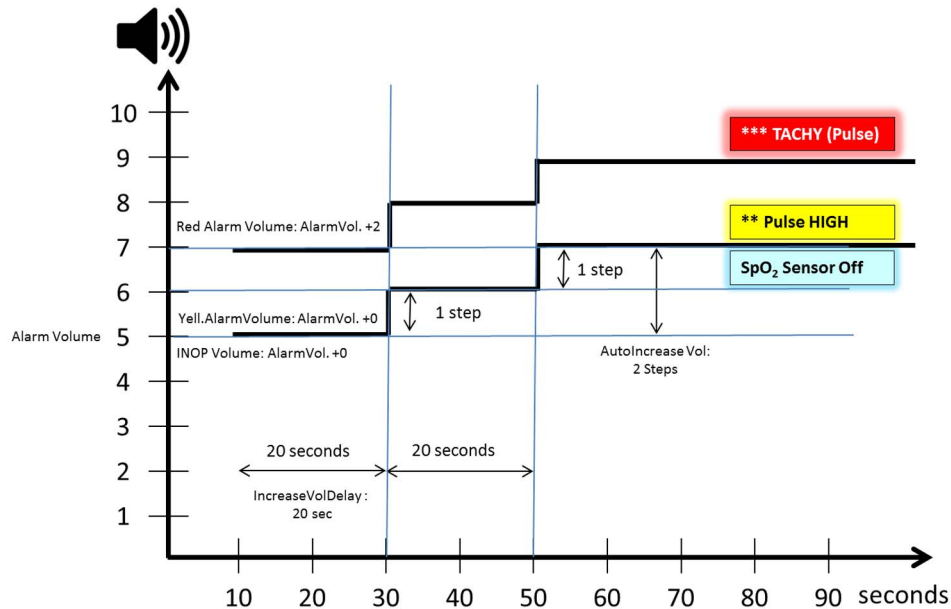
IncreaseVolDelay

Use the **IncreaseVolDelay** setting to define the interval after which the **Alarm Volume** increases in steps.

Choices are **10 sec, 20 sec, 30 sec.**

The following example shows how the settings **Alarm Volume, Red Alarm Volume, Yell.AlarmVolume, INOP Volume, AutoIncrease Vol,** and **IncreaseVolDelay** work together in case of alarming (using the factory default settings; see table below):

Setting Item	Factory Default
Alarm Volume	5
Red Alarm Volume	AlarmVol. +2
Yell.AlarmVolume	AlarmVol. +0
INOP Volume	AlarmVol. +0
AutoIncrease Vol	2 Steps
IncreaseVolDelay	20 sec



Coincidence Tone

Immediately after the detection of a coincidence a **cyan INOP Coincidence** (with tone) is generated.

Use the **Coincidence Tone** setting to define the time when a yellow INOP **!!Coincidence** is generated.

Choices are:

- **immediately:** to generate a yellow INOP **!!Coincidence** immediately after the coincidence detection
- **after 30 sec:** to generate a yellow INOP **!!Coincidence** after 30 seconds after the coincidence detection
- **after 60 sec:** to generate a yellow INOP **!!Coincidence** after 60 seconds after the coincidence detection

Keep Blinking

Use the **Keep Blinking** 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 Sensitiv.**, **Relay2 Sensitiv.**, **Relay3 Sensitiv.** settings 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.

When you use a nurse call relay that is connected to the traditional nurse call connector (phone jack), only **Relay1 Sensitiv.** must be specified.

The nurse call relay follows the status of the alarm tones. When the alarms are silenced, switched off, or paused at the monitor, no alarms will be indicated on the nurse call relay.

NOTE

If the **Alarm Volume** is set to **0**, the nurse call is still active, and acts if alarm tones would be audible.

CyanRelayLatency, Yel.RelayLatency

Use the **CyanRelayLatency**, **Yel.RelayLatency** settings 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 **** SpO₂ Low**
- **Enhanced:** Alarm texts are displayed as numeric values, for example, **** SpO₂ 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.

Configuring INOP Severity

Monitor Settings: Main Setup > Alarms > INOP Severity

INOP Severity Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
ECG Leads Off	C	Cyan	Cyan, Yellow, Red
Battery Empty	C	Cyan	Cyan, Yellow, Red
Cuff Overpress	C	Cyan	Cyan, Yellow, Red
Cuff NotDeflated	C	Cyan	Cyan, Yellow, Red
No Pulse	C	Cyan	Cyan, Yellow, Red

INOP Severity Settings Configuration Implications

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.

NOTE

If you reset the fetal monitor configuration with **Main Setup > Defaults > Factory Default**, this INOP Severity setting is reset to **Yellow**.

Check the settings together with the Fetal Recorder settings.

Battery Empty

Set **Battery Empty** to **Yellow** 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.

NOTE

- The batteries of the Avalon FM20 and FM30 issue a yellow "**Battery Empty**" INOP.
- The batteries of the Avalon CL transducers and the NBP and SpO2 pods issue a cyan "**Battery Empty**" INOP.
- This setting does not apply for "**Battery Low**" INOPs.
- If you reset the fetal monitor configuration with **Main Setup > Defaults > Factory Default**, this INOP Severity setting is reset to **Yellow**.
Check the settings together with the Fetal Recorder settings.

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.

No Pulse

Set **No Pulse** to **Yellow** or **Red** if you want the INOPs **SpO₂ No Pulse** to be signaled as a yellow or red INOP.

Configuring User Interface Settings

Monitor Settings: Main Setup > User Interface

Unique Monitor Settings: Main Setup > User Interface

User Interface Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
QRS Volume	C, M	0	0 to 10
QRS Low	C	0	0 to 10
QRS Type ¹	C	QRS Tone	QRS Tone, QRS Tick
Prompt Volume	C	8	0 to 10
Tone Modulation	C, M	Yes	Yes, No
Tone Mod. Type	C	Enhanced	Standard, Enhanced
Global Speed	C, M	25 mm/sec	6.25 mm/sec, 12.5 mm/sec, 25 mm/sec, 50 mm/sec
Touch ToneVolume	C	1	0 to 10
Timer Volume	C, M	4	0 to 10
Global SmartKeys	C	see “Global SmartKeys Factory Defaults” on page 59	see: “Global SmartKeys Choices” on page 60
Brightness	C, M	Optimum	1 to 10, Optimum
Standby Brightn.	C	Optimum	1 to 10, Optimum
TransportBrightn ²	C	4	1 to 10, Optimum
Display Units	C	No	Yes, No
Alarm Limits	C	Yes	Yes, No
Measurement Time	C	Timestamp	Timestamp, Time to Next
NBP Sys/Dia only	C	Yes	Yes, No
Wave Line Style	C	Thin	Thin, Medium, Thick, Extra Thick
Aged Numerics	C	Standard	Standard, Grayed Out, Blanked

¹ **QRS Type** is a Global Setting, see “QRS Type” on page 86

² only for FM20/FM30 with battery option

User Interface Configuration Implications

QRS Volume

The **QRS Volume** setting defines the default volume of the **QRS Tone**. The **QRS Tone** is derived from either the **HR from MECG** or **Pulse from SpO₂**, depending on which is currently selected as the alarm source.

QRS Low

The **QRS Low** setting defines the minimum **QRS Tone** volume that can be selected by the user while in Monitoring Mode.

QRS Type

Use the **QRS Type** setting to configure the type of the QRS sound which can be high pitched (e.g. for Japan) or low pitched.

The choices are **QRS Tone** and **QRS Tick**.

For both types, the frequency and rhythm information is derived from either the **MECG/DECG** or **Pulse**, depending on which is currently active.

If the parameter **Tone Modulation** is set to **Yes** (see “Tone Modulation” on page 58), the **QRS Type** automatically switches to **QRS Tone**.

NOTE

The **QRS Type** setting is actually a Global Setting.

Prompt Volume

The **Prompt Volume** setting 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 SpO₂ tone will change with the measured signal strength.

Tone Mod. Type

The **Tone Mod. Type** 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 SpO₂ 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 making it hard to hear a frequency change per % saturation.

Global Speed

The **Global Speed** setting defines the speed of all waves on the Screen.

Touch ToneVolume

The **Touch Tone Volume** setting defines the volume of the tone you hear every time you select a field on the monitor's screen. You may want to set this to **0** if you want to operate the monitor in a quiet environment.

Timer Volume

The **Timer Volume** setting determines the volume of the notification tone for the timer.

Global SmartKeys

Use the **Global SmartKeys** setting to define the selection and sequence of the SmartKeys on the Screen.

Global SmartKeys Factory Defaults

The **Global SmartKeys** appear by factory default in the following order:

- **Toco/IUP Bsl**
- **FRStart/Stop**
- **PaperAdvance**
- **Pat. Demogr.**
- **Enter Notes**
- **Strt/Stp NBP¹**
- **Stop All NBP¹**
- **Repeat NBP¹**
- **Pause Alarms/Alarms Off**
- **Stored Rec**
- **Standby**
- **Main Setup**
- **Timer²**
- **NST Report²**

¹ in monitors with NBP measurement only

² in monitors with NST Trace Interpretation application (#C71) only

Global SmartKeys - Changing the Selection and Sequence

To change the selection of the Global SmartKeys:

- 1 Select **Main Setup > User Interface > Global SmartKeys**.
- 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).
- 4 To delete a SmartKey from the list of configured SmartKeys, select it in the list, then select the pop-up key **Delete**.
- 5 To move a SmartKey to a different position, use the **Sort Up** and **Sort Down** pop-up keys.

Global SmartKeys Choices

The complete list of **Global SmartKeys** in their sort order is:

- **FRStart/Stop**
- **Start Rec**
- **Stop Rec**
- **PaperAdvance**
- **Set Marker**
- **Enter Notes**
- **Record ECG**
- **Stored Rec**
- **NST Report²**
- **Sound Vol-Up**
- **SoundVolDown**
- **Toco/IUP Bsl**
- **Tele Info**
- **Call Patient**
- **Pause Alarms**
- **Defaults**
- **Main Setup**
- **Strt/Stp NBP¹**
- **NBP Start¹**
- **NBP Stop¹**
- **Stop All NBP¹**
- **Repeat NBP¹**
- **NBP Modes¹**
- **Enter Temp**
- **Timer²**
- **Standby**
- **Pat. Demogr.**
- **Blank Key**

¹ in monitors with NBP measurement only

² in monitors with NST Trace Interpretation application (#C71) only

Brightness

The **Brightness** setting defines the default brightness for monitoring. For **Brightness**, the choice **Optimum** is equivalent to **8**.

Standby Brightn.

The **Standby Brightn.** setting lets you choose a brightness setting for when the monitor is in Standby. For **Standby Brightn.**, the choice **Optimum** is equivalent to **1**.

TransportBrightn

FM20, FM30 with #25 only The **TransportBrightn** setting defines the display brightness when the monitor is running on battery power. For **TransportBrightn**, the choice **Optimum** is equivalent to **4**.

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.

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 is also accessible in **Main Setup > Measurements > NBP > Measurement Times**.

NBP Sys/Dia only

Use the **NBP Sys/Dia Only** setting to define how the NBP values are presented on the Screen. Choices are:

- **Yes** for **systolic/diastolic**, e.g. 120/80
- **No** for **systolic/diastolic (mean)**, e.g. 120/80 (95)

Wave Line Style

The **Wave Line Style** setting lets you configure the thickness of all waves. For better visibility over a distance you might want to use **Medium** or **Thick**. The choices are:

- **Thin**
- **Medium**
- **Thick**
- **Extra Thick**

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

Configuring Fetal Recorder Settings

Monitor Settings: Main Setup > Fetal Recorder

Fetal Recorder Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
Start/Stop	C, M	n/a	n/a
Paper Advance	C, M	n/a	n/a
Record ECG Wave	C, M	n/a	n/a
Stored Data Rec	C, M	n/a	n/a
Recorder Speed ^{1, 2}	C, (M)	3 cm/min	1 cm/min, 2 cm/min, 3 cm/min
Scale Type ¹	C	US	Internat'l, US
Trace Style FHR1	C	Thick	Thin, Medium, Thick, Extra Thick
Trace Style FHR2	C	Medium	Thin, Medium, Thick, Extra Thick
Trace Style FHR3	C	Extra Thick	Thin, Medium, Thick, Extra Thick
Trace Style Toco	C	Thick	Thin, Medium, Thick, Extra Thick
Trace Style HR	C	Thin	Thin, Medium, Thick, Extra Thick
Wave Style ECG	C	Thin	Thin, Medium, Thick, Extra Thick
ECG Wave	C, M	Separate	Separate, Overlap
Notes Recording	C	Along	Across, Along
Auto Start	C	Off	On, Off
Confirmed Stop	C	Off	On, Off
Change Rec Speed	C	Config	Monitoring, Config
Bridge Paperout	C	On	On, Off
NST Autostart	C	On	On, Off
NST Autostop	C	Off	On, Off
Paper Save Mode	C, M	Off	On, Off
Trace Separation	C, M	Off	On, Off
Separation Order	C	Standard	Classic, Standard

¹ factory default depends on the country-specific factory configuration, in conjunction with **Line Frequency**

² in Monitoring Mode only available if **Change Rec Speed** is set to **Monitoring**

Fetal Recorder Configuration Implications

Start/Stop

This is not a setting. Press **Start/Stop** to start or stop the fetal recorder.

Paper Advance

This is not a setting. Press **Paper Advance** to activate paper form feed, and to stop automatically when a paper mark is detected, or after timeout.

Record ECG Wave

This is not a setting. Press **Record ECG Wave** to start recording the **MECG** or **DECG** wave on the paper.

Stored Data Rec

This is not a setting. Press **Stored Data Rec** to open the **Stored Data Recording** window to select a patient for recording.

Recorder Speed

Use the **Recorder Speed** setting to select the recording speed.

This setting is in Monitoring Mode only available if **Change Rec Speed** is set to **Monitoring**, see “Change Rec Speed” on page 65.

NOTE

- If you reload the monitor with **Main Setup > Defaults > Factory Default**, the **Recorder Speed** setting is set to **Unknown**, and the INOP **FetRec Chk Config** is issued. Select the **Recorder Speed** you want to use.
- The **Recorder Speed** setting is actually a Global setting. Your choice is automatically stored (it has not to be saved under **Main Setup > Defaults > Save Default**).

Scale Type

Use the **Scale Type** setting to define the used paper scale. Two scales are supported:

Select **US** for grid scale 30 - 240 (U.S./Canada)

Select **Internat'l** for grid scale 50 - 210 (Europe/Japan)

NOTE

- If you reload the monitor with **Main Setup > Defaults > Factory Default**, the **Scale Type** setting is set to **Unknown**, and the INOP **FetRec Chk Config** is issued. Select the **Scale Type** you want to use.
- The **Scale Type** setting is actually a Global setting. Your choice is automatically stored (it has not to be saved under **Main Setup > Defaults > Save Default**).

Trace Styles FHR1/FHR2/FHR3, Toco, HR

Use the **Trace Style FHR, Toco, HR** settings to select one of the following trace styles:

- **Thin**
- **Medium**
- **Thick**
- **Extra Thick**

The Trace style selected for **FHR1, FHR2, FHR3** also applies to **DFHR1, DFHR2, DFHR3**.

NOTE

In order to identify traces on the paper recording, it is strongly recommended to use different **Trace Styles** for traces that appear very close together.

Wave Style ECG

Use the **Wave Style ECG** settings to select one of the following **Trace Styles**:

- **Thin**
- **Medium**
- **Thick**
- **Extra Thick**

Your selection applies to **MECG** waves as well as to **DECG** waves.

ECG Wave

The **ECG Wave** setting defines the recording format of ECG waves. Choices are **Separate** or **Overlap**. Your selection applies to **MECG** waves as well as to **DECG** waves.

Notes Recording

Use the **Notes Recording** setting to select the orientation in which notes will be recorded on the paper: **Along** the recording direction of the traces and waves or **Across** the traces and waves.

Auto Start

Use the **Auto Start** setting to define if the recorder starts automatically after power on or not. Choices are **On** and **Off**.

Confirmed Stop

Use to **Confirmed Stop** setting to configure whether stopping the recorder via a SmartKey, or via the Start/Stop menu item is an action that has to be confirmed or not.

Choices are **On** and **Off**.

NOTE

This setting does not affect the **Stop Recording** pop-up key within the **Stored Data** recording application.

Change Rec Speed

Use the **Change Rec Speed** setting to configure whether the **Recorder Speed** setting (see “Recorder Speed” on page 64) can be changed in Configuration Mode only, or also in Monitoring Mode.

Choices are **Monitoring** or **Config**.

NOTE

The **Change Rec Speed** setting is actually a Global setting. A setting change does not have to be changed if you leave the Configuration Mode. It takes effect immediately.

Bridge Paperout

Use the **Bridge Paperout** setting to switch the **Bridge Paperout** recording application **On** or **Off**.

If the paper trace recording was interrupted by a paper out event, the fetal recorder starts recording with the data stored in the trace memory, before continuing with the real-time data.

NST Autostart

Use the **NST Autostart** setting to define if the fetal recorder starts when the **NST Timer** gets started or not.

Choices are **On** and **Off**.

NST Autostop

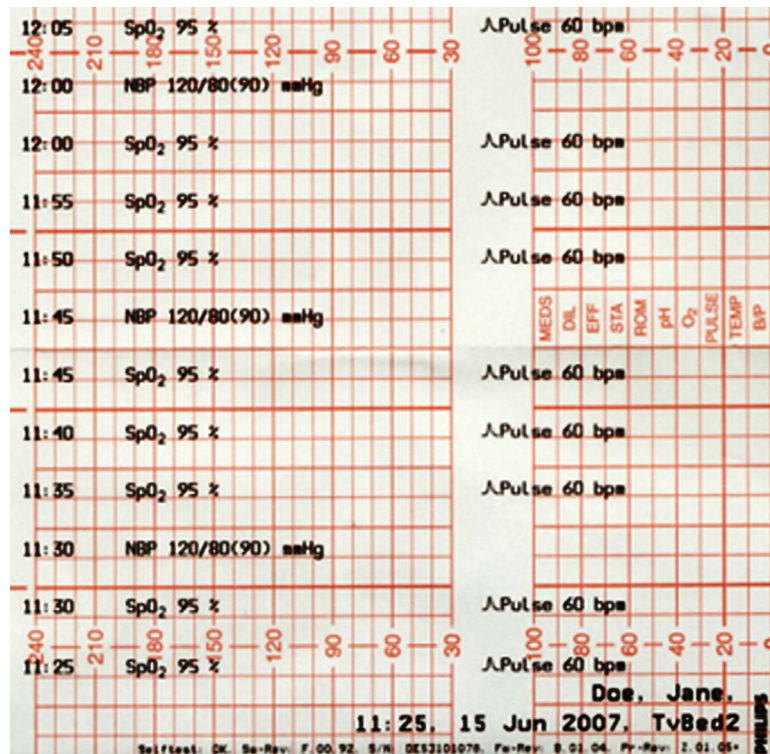
Use the **NST Autostop** setting to define if the fetal recorder automatically stops when the **NST Timer** has elapsed or not.

Choices are **On** and **Off**.

Paper Save Mode

Set the **Paper Save Mode** setting to **On** to record maternal vital signs using less paper than during normal trace recording. The **Paper Save Mode** recording starts as soon as the recorder is stopped.

Choices are **On** and **Off**.



- Every NBP measurement is recorded with a timestamp of the measurement.
- SpO₂, pulse, and maternal heart rate are recorded every five minutes.
- If there is no valid maternal measurement recorded for more than one hour, the recorder stops and a notifying message is issued.
- If a valid measurement is made, the recorder starts again automatically.

Trace Separation

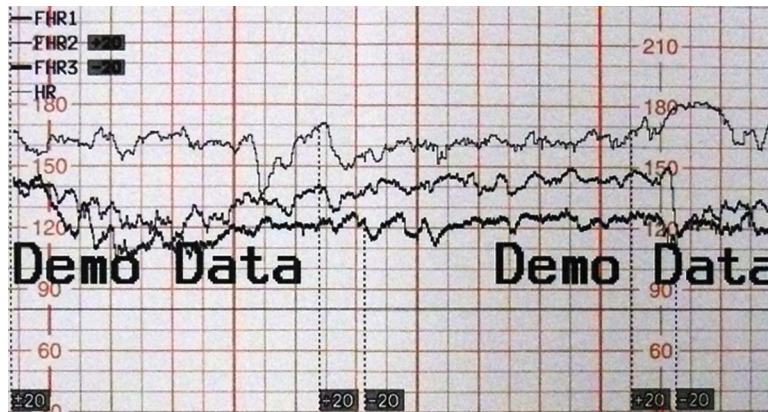
If the **Trace Separation** setting is set to **On**, the recorded FHR traces will be separated from each other with an offset as configured in the **Separation Order** setting.

Choices are **On** and **Off**.

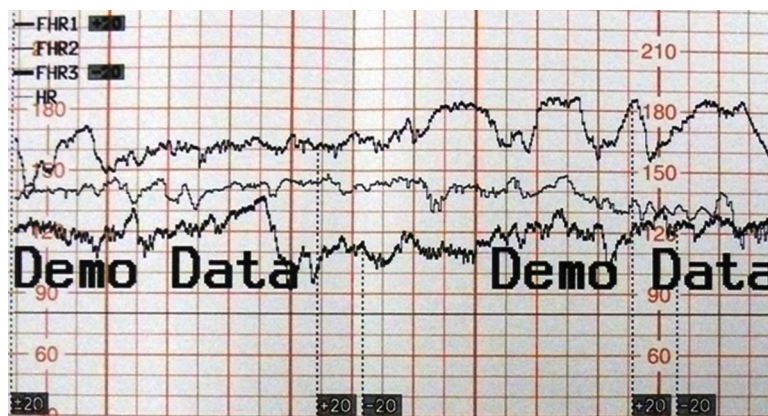
Separation Order

Use the **Separation Order** setting to define the order of the recorded FHR/DFHR traces if **Trace Separation** is set to **On**.

- **Separation Order > Standard:**
 - FHR1 trace is not shifted
 - FHR2 trace is shifted 20 bpm up
 - FHR3 trace is shifted 20 bpm down
 - see the trace below:



- **Separation Order > Classic** (was used in Series 50 monitors):
 - FHR1 trace is shifted 20 bpm up **when other FHR/DFHR measurements are present**
 - FHR2 trace is not shifted
 - FHR3 trace is shifted 20 bpm down
 - see the trace below:



Trace

Use the **Trace** setting to switch the trace capability of **Pulse (Toco) On** and **Off**.

When switched off, the **Pulse (Toco)** trace will not be recorded, and the **Pulse (Toco)** trace date will also not be transmitted to a connected IntelliSpace Perinatal/OB TraceVue system.

NOTE

This setting appears only in the **Setup Pulse (Toco)** menu.

Configuring NST Timer

Unique Monitor Settings: Main Setup > NST Timer

NST Timer Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
Run Time	C	20 min	10 min to 60 min, in steps of 5 min
Notification	C	Sound	Alarm, Sound, No Sound
Timer	C	Off (On ¹)	On, Off
Timer Volume	C, M	4	0 to 10

¹ On when option #C71 (NST Trace Interpretation) is available

NST Timer Configuration Implications

Run Time

Use the **Run Time** setting to define the time frame where the NST trace interpretation observes the set criteria.

Choices are from **10 min** to **60 min** in steps of 5 min.

Notification

The **Notification** setting 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.

NOTE

When the **Run Time** of the **NST Timer** expires, the notification sound is issued, its color changes from blue to green, and the timer continues to count until the **NST Report** stops.



Timer

Use the **Timer** setting to switch the **NST Timer On** or **Off**.

Choices are **On** and **Off**.

NOTE

- When the **NST Timer** is switched **Off**, **NST Analysis** will also be switched **Off**.
- When **NST Analysis** is switched **On**, the **NST Timer** will also be switched **On**.
- The **Timer** setting is actually a Global setting. A setting change does not have to be changed if you leave the Configuration Mode. It takes effect immediately.

Timer Volume

User the **Timer Volume** setting to define the volume of the notification sound, in case the **Notification** setting is set to **Alarm** or **Sound**.

Choices are from **0** to **10**.

Configuring NST Report

Monitor Settings: Main Setup > NST Report > Setup

NST Report Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
NST Analysis	C, M	On	On, Off
Guideline	C	NICHD 2008, v01	NICHD 2008, v01
Report Recording	C, M	Immediately	Manual, After Recorder Stop, Immediately
Auto Trace Rec.	C	No	Yes, No
Short Term Var.	C	Off	On, Off
Max. Decelerat.	C	0	0 to 15
Min. Accelerat.	C	2	0 to 20
Baseline Limits	C	Guideline	Manual, FHR Alarm Limits, Guideline
Baseline High ¹	C	150 bpm	120 bpm to 210 bpm, in steps of 10 bpm
Baseline Low ¹	C	110 bpm	120 bpm to 210 bpm, in steps of 10 bpm
Variability Lim.	C	Guideline	Manual, Guideline
Variability High ²	C	25 bpm	5 bpm to 30 bpm, in steps of 1 bpm
Variability Low ²	C	5 bpm	0 bpm to 10 bpm, in steps of 1 bpm
FHR Available	C	90 %	50 % to 100%, in steps of 5 %

¹ only available if **Baseline Limits** is set to **Manual**

² only available if **Variability Lim** is set to **Manual**

NST Report Configuration Implications

Only available on monitors with option #C71 (NST Trace Interpretation).

NST Analysis

Use the **NST Analysis** setting to switch the **NST Report** trace interpretation **On** and **Off**.

Choices are **On** and **Off**.

NOTE

- When **NST Analysis** is switched **On**, the **NST Timer** will also be switched **On**.
- When the **NST Timer** is switched **Off**, **NST Analysis** will also be switched **Off**.

Guideline

The **Guideline** setting defines the **NST Report** guideline. The only choice so far is **NICHD v01**.

NOTE

The **Guideline** setting is actually a Global Setting. A setting change does not have to be changed if you leave the Configuration Mode. It takes effect immediately.

Report Recording

Use the **Report Recording** setting to select what triggers the **NST Report**:

- **Manual:**
A report will be recorded, when you select the **Record Report** pop-up key.
- **After Recorder Stop:**
A report will automatically be recorded as soon as the recorder is idle.
- **Immediately:**
A report will automatically be recorded directly after finishing or stopping the **NST Report**. A running real-time trace will be paused during printout.

Auto Trace Rec.

Use the **Auto Trace Rec.** setting to define the recording behavior if the **NST Criteria** of a current **NST Report** are not met, or the **NST Trace** interpretation has been stopped manually.

- **Yes:** The **NST Report** and the stored trace episode that belongs to the current report will automatically be recorded on paper.
- **No:** No automatic report or trace recording will take place.

Short Term Var.

Use the **Short Term Var.** setting to define if STV (Short Term Variability) is displayed and recorded. Choices are **On** and **Off**.

Max. Decelerat.

Use the **Max. Decelerat.** setting to define the maximum number of decelerations for an **NST Report**. Choices are **0** to **15**, in steps of 1.

Min. Accelerat.

Use the **Min. Decelerat.** setting to define the minimum number of accelerations for an **NST Report**. Choices are **0** to **20**, in steps of 1.

Baseline Limits

Use the **Baseline Limits** setting to define how the baseline limits for an **NST Report** are defined. Choices are:

- **Manual:** The baseline limits can be configured manually.
- **FHR Alarm Limits:** The baseline limits are defined by the **FHR/DFHR** alarm limits.
- **Guideline:** The baseline limits are defined by the selected guideline.

Baseline High

Use the **Baseline High** setting to define the highest baseline value acceptable for an **NST Report**. Choices are **120 bpm** to **210 bpm**, in steps of 10 bpm.

This setting is only available if the parameter **Baseline Limits** is set to **Manual**.

Baseline Low

Use the **Baseline Low** setting to define the lowest baseline value acceptable for an **NST Report**. Choices are **60 bpm** to **140 bpm**, in steps of 10 bpm.

This setting is only available if the parameter **Baseline Limits** is set to **Manual**.

Variability Lim.

Use the **Variability Limits** setting to define how the variability limits for an **NST Report** are defined.

Choices are:

- **Manual:** The variability limits can be configured manually.
- **Guideline:** The variability limits are defined by the selected guideline.

Variability High

Use the **Variability High** setting to define the highest variability value acceptable for an **NST Report**. Choices are **5 bpm** to **30 bpm**, in steps of 1 bpm.

This setting is only available if the parameter **Variability Lim.** is set to **Manual**.

Variability Low

Use the **Variability Low** setting to define the lowest variability value acceptable for an **NST Report**. Choices are **0 bpm** to **10 bpm**, in steps of 1 bpm.

This setting is only available if the parameter **Variability Lim.** is set to **Manual**.

FHR Available

Use the **FHR Available** setting to define the minimum availability of a valid FHR/DFHR value in percent for an **NST Report**.

Choices are **50 %** to **100 %**, in steps of 5 %.

NST Report Recording Use Models

In the following use models, the NST trace interpretation and the **NST Report** can run in the background. The main difference of these use models is to either use the **NST Report** online on the Avalon fetal monitor's screen, or to print out the **NST Report** and traces on paper.

There are two menus where you can customize the **NST Report** recording to your institution's preference, in the **Setup NST Report** menu, and in the **Fetal Recorder** menu.

Setup NST Report Menu Settings

Main Setup > NST Report > Setup > Setup NST Report > Report Recording > Immediately see: "Report Recording" on page 72

Main Setup > NST Report > Setup > Setup NST Report > Auto Trace Rec > No see: "Auto Trace Rec." on page 72

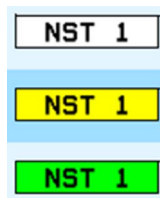
Setup Fetal Recorder Menu Settings

Main Setup > Fetal Recorder > NST Autostart see: "NST Autostart" on page 66

Main Setup > Fetal Recorder > NST Autostop see: "NST Autostop" on page 66

Symbols

The following symbols are used in the following **NST Report Recording** use models:



- A green NST symbol indicates that the criteria are met.
- A yellow NST symbol indicates that the criteria are not met.
- A white NST symbol indicates that the NST report is ongoing.

Recording of Stored Data Traces

The maximum length of the stored trace will vary depending on the number of active measurements, but will cover at least one hour of trace data. If you want to ensure that the whole trace is printed for longer than one hour, it is recommended to start the recorder while NST trace interpretation is running.

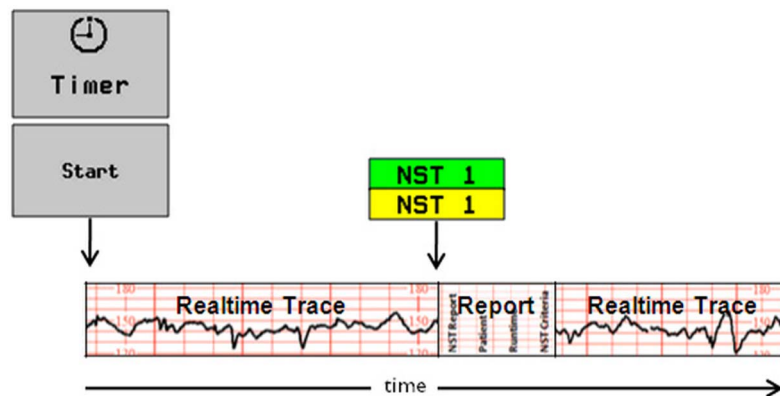
Focus on Paper-Based Use Models

Recording Trace and NST Report Automatically

This is the factory default behavior of your Avalon fetal monitor.

To configure this use model, configure the following settings:

Setting Item	Mode
Main Setup > NST Report > Setup > Setup NST Report > Report Recording > Immediately	C, M
Main Setup > NST Report > Setup > Setup NST Report > Auto Trace Rec > No	C
Main Setup > Fetal Recorder > NST Autostart > On	C
Main Setup > Fetal Recorder > NST Autostop > Off	C

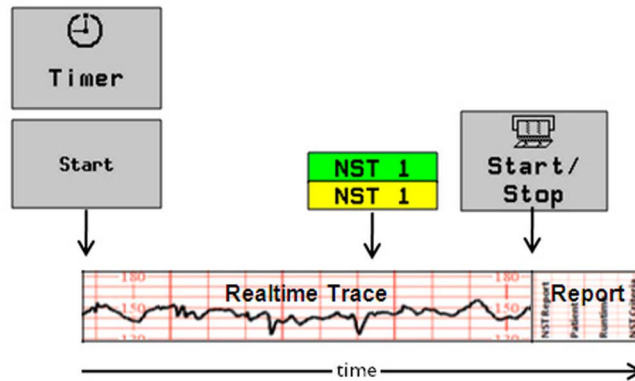


- The real-time trace recording begins upon starting the NST trace interpretation.
- As soon as the **NST** trace interpretation is finished or stopped, the recorder pauses the real-time recording to print the **NST Report**.
- Then the real-time recording continues.

Recording Trace Automatically and NST Report Manually After Recorder Stop

To configure this use model, configure the following settings:

Setting Item	Mode
Main Setup > NST Report > Setup > Setup NST Report > Report Recording > After Recorder Stop	C, M
Main Setup > NST Report > Setup > Setup NST Report > Auto Trace Rec > No	C
Main Setup > Fetal Recorder > NST Autostart > On	C
Main Setup > Fetal Recorder > NST Autostop > Off	C

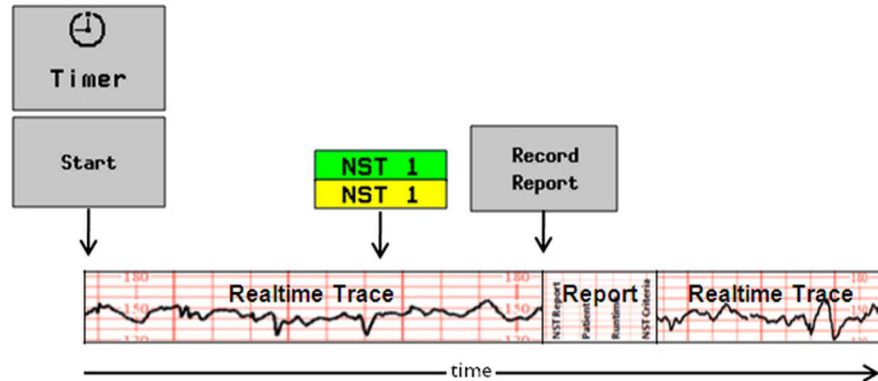


- The real-time trace recording begins upon starting the NST trace interpretation.
- When the NST trace interpretation is finished or stopped, the recorder continues real-time recording.
- The **NST Report** is printed if you stop the recorder with the **Start/Stop** SmartKey.

Recording Trace Continuously and NST Report Manually

To configure this use model, configure the following settings:

Setting Item	Mode
Main Setup > NST Report > Setup > Setup NST Report > Report Recording > Manual	C, M
Main Setup > NST Report > Setup > Setup NST Report > Auto Trace Rec > No	C
Main Setup > Fetal Recorder > NST Autostart > On	C
Main Setup > Fetal Recorder > NST Autostop > Off	C

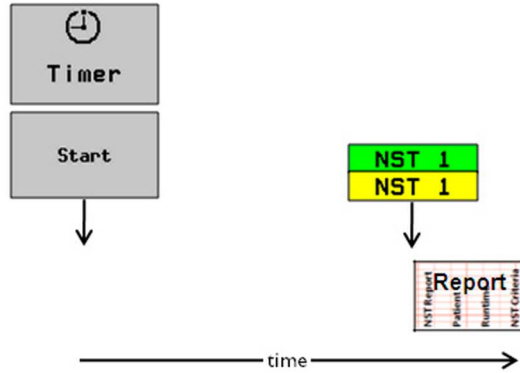


- The real-time trace recording begins upon starting the NST trace interpretation.
- When the NST trace interpretation is finished or stopped, the recorder continues real-time recording.
- The **NST Report** is printed if you stop the recorder with the **Record Report** SmartKey.

Recording NST Report Only and Automatically

To configure this use model, configure the following settings:

Setting Item	Mode
Main Setup > NST Report > Setup > Setup NST Report > Report Recording > Immediately	C, M
Main Setup > NST Report > Setup > Setup NST Report > Auto Trace Rec > No	C
Main Setup > Fetal Recorder > NST Autostart > Off	C
Main Setup > Fetal Recorder > NST Autostop > Off	C



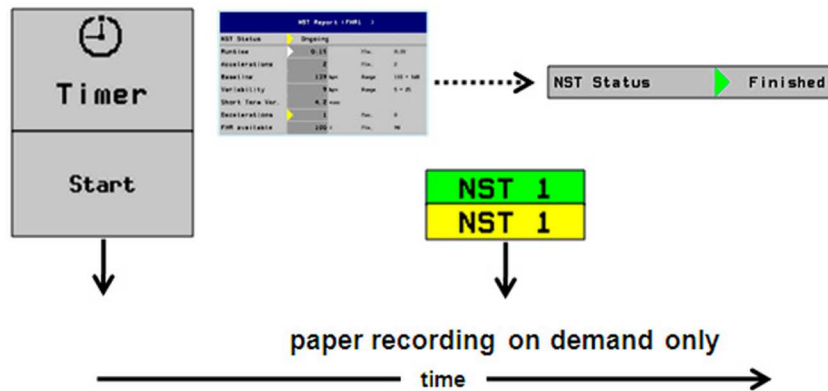
- As soon as the NST trace interpretation is finished or stopped, the recorder prints the **NST Report**.

Focus on Paper-Saving Use Models

NST Status Display Only

To configure this use model, configure the following settings:

Setting Item	Mode
Main Setup > NST Report > Setup > Setup NST Report > Report Recording > Manual	C, M
Main Setup > NST Report > Setup > Setup NST Report > Auto Trace Rec > No	C
Main Setup > Fetal Recorder > NST Autostart > Off	C
Main Setup > Fetal Recorder > NST Autostop > On	C

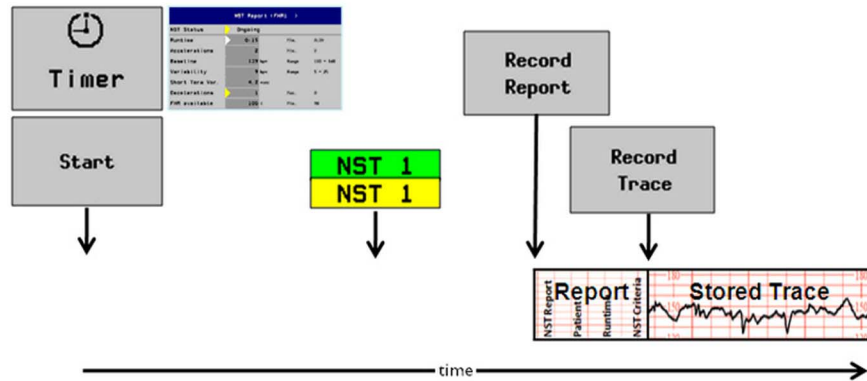


- The NST trace interpretation and the **NST Report** run completely online and paperless.
- However, if necessary, a paper recording of the current patient's NST record and trace can be printed manually.

Recording NST Report and Stored Trace On Demand

To configure this use model, configure the following settings:

Setting Item	Mode
Main Setup > NST Report > Setup > Setup NST Report > Report Recording > Manual	C, M
Main Setup > NST Report > Setup > Setup NST Report > Auto Trace Rec > No	C
Main Setup > Fetal Recorder > NST Autostart > Off	C
Main Setup > Fetal Recorder > NST Autostop > On	C

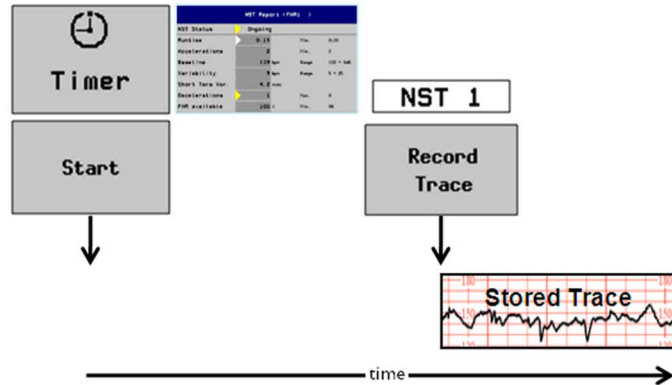


- The NST trace interpretation runs completely paperless.
- When the **NST Report** is finished (green), or stopped (yellow), you can print out the **NST report** until the next NST trace interpretation is started, or the patient is discharged.

Stored Trace Recording On Demand for Ongoing NST Trace Interpretation

To configure this use model, configure the following settings:

Setting Item	Mode
Main Setup > NST Report > Setup > Setup NST Report > Report Recording > Manual	C, M
Main Setup > NST Report > Setup > Setup NST Report > Auto Trace Rec > No	C
Main Setup > Fetal Recorder > NST Autostart > Off	C
Main Setup > Fetal Recorder > NST Autostop > On	C

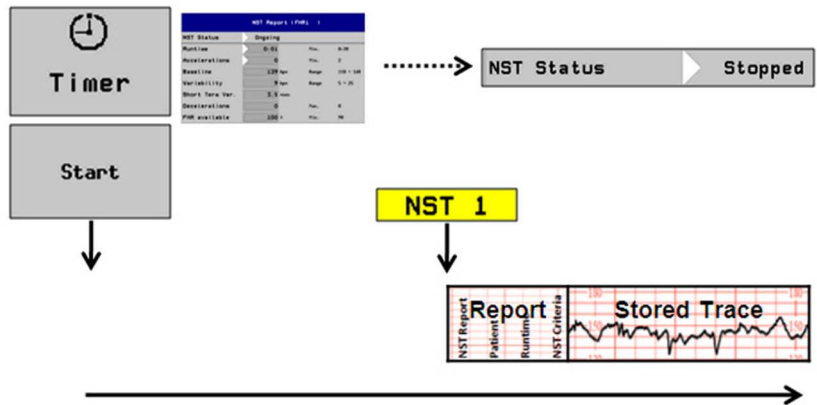


- If you want to print the trace during an ongoing NST trace interpretation, you can record the trace at any time from the starting point of the timer.

Recording NST Report Automatically and Stored Trace Automatically if Criteria Not Met

To configure this use model, configure the following settings:

Setting Item	Mode
Main Setup > NST Report > Setup > Setup NST Report > Report Recording > Immediately	C, M
Main Setup > NST Report > Setup > Setup NST Report > Auto Trace Rec > Yes	C
Main Setup > Fetal Recorder > NST Autostart > Off	C
Main Setup > Fetal Recorder > NST Autostop > On	C



- If your current NST trace interpretation has been stopped, the trace episode that belongs to the current report will be recorded automatically on paper right after the report itself.
- This option enables you to print out only those traces that did not meet the criteria.

Configuring Bed Information

Monitor Settings: Main Setup > Bed Information

Bed Information Factory Default Setting

Setting Item	Mode	Factory Default	Choice/Range
IP OB Server	C	0.0.0.0	n/a

Bed Information Configuration Implications

IP OB Server

Use the **IP OB Server** setting to define the IP address of the OB server.

This is the IP address of any fetal monitor data acquisition host such as a data acquisition client PC, an IntelliSpace Perinatal (formerly OB TraceVue) data acquisition server, or a surveillance and archiving server.

- If the field is left empty (set to 0.0.0.0), the fetal monitor can connect automatically to any available data acquisition PC in the same subnet.
- If the current host PC is unavailable, the fetal monitor automatically tries to find another host.
- If the IP address of the host PC is entered manually, the fetal monitor can only connect to this dedicated data acquisition PC, and dynamic hosting is not possible.

Configuring Edit Notes

Monitor Settings: Main Setup > Edit Notes > Edit

Edit Notes Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
Note <1> ¹	C	Patient Repositioned	free configurable, maximum 30 characters
Note <2> ¹	C	Vaginal Examination	free configurable, maximum 30 characters
Note <3> ¹	C	MD Notified	free configurable, maximum 30 characters
Note <4> ¹	C	Sitting	free configurable, maximum 30 characters
Note <5> ¹	C	On Back	free configurable, maximum 30 characters
Note <6> ¹	C	Left Lateral	free configurable, maximum 30 characters
Note <7> ¹	C	Ambulating	free configurable, maximum 30 characters
Note <8> ¹	C	Tocolytic Given	free configurable, maximum 30 characters
Note <9> ¹	C	Membranes Ruptured	free configurable, maximum 30 characters
Note <10> ¹	C	Amniotomy	free configurable, maximum 30 characters
Note <11> ¹	C	Amniotic Fluid Clear	free configurable, maximum 30 characters
Note <12> ¹	C	Amniotic Fluid Not Clear	free configurable, maximum 30 characters
Note <13> ¹	C	Oxytocin	free configurable, maximum 30 characters
Note <14> ¹	C	Urinary Catheter	free configurable, maximum 30 characters

Setting Item	Mode	Factory Default	Choice/Range
Note <15> ¹	C	Micro Blood Analysis	free configurable, maximum 30 characters

¹ Instead of the setting item **Note <1 to 15>** the given name is shown in the monitor.

Edit Notes Configuration Implications

Your monitor has a set of 15 factory pre-configured notes (see table above). These notes can be edited in the **Edit Notes** menu.

- The maximum length of one single note is 30 characters.
- Use the **Sort Up** and **Sort Down** pop-up keys to move a note one position up or down.

NOTE

- Your changed list of notes can be cloned in the configuration file, using the **cloned from** and **cloned to** functionality with the Support Tool.
- Once changed, the factory default notes **cannot** be restored to the factory defaults selecting the parameter **Main Setup > Defaults > Factory Defaults**.

Global Settings

This section lists all Global Settings. Global Settings are set once per monitor, and are independent of the **Profiles** and settings blocks (see “Understand the Configurable Software Elements” on page 9). The difference is that any **changes** you may configure **are automatically stored, there is no need to save them**. Global Settings **can be cloned** from a monitor's configuration (cfg.) file.

Read all information on configuration implications at the end of the sections before you make any configuration changes.

Configuring General Global Settings

Global Settings: Main Setup > Global Settings

Global Settings Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
Line Frequency ¹	C	50 Hz <or> 60 Hz ¹	50 Hz, 60 Hz
QRS Type ¹	C	QRS Tone <or> QRS Tick ¹	QRS Tone, QRS Tick
Automat. Default	C	Yes	Yes, No
Sensor Disconnect	C	No Auto Off	Auto Off, No Auto Off
Power Loss Sound ²	C	Enabled	Enabled, Disabled
ConfirmAlarmsOff	C	No	Yes, No
LAN Data Export	C	All	All, Anonymous, Off

¹ geography-specific factory default setting

² FM20/FM30 with battery option (#E25) only

Global Settings Configuration Implications

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, it may affect the ECG signal quality.

QRS Type

Use the **QRS Type** setting to configure the type of the QRS sound which can be high pitched (e.g. for Japan) or low pitched.

The choices are **QRS Tone** and **QRS Tick**.

For both types, the frequency and rhythm information is derived from either the **MECG/DECG** or **Pulse**, depending on which is currently active.

If the parameter **Tone Modulation** is set to **Yes** (see “Tone Modulation” on page 58), the **QRS Type** automatically switches to **QRS Tone**.

Automat. Default

- If **Automat. Default** is set to **Yes**, and the monitor is switched off for more than one minute, the **User Defaults** are reloaded at the monitor. Any changes that are not stored to the active settings 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's behavior when you discharge a patient. After discharge, the **User Defaults** are 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.

Sensor Disconnect

- The default of this setting is **No Auto Off**.
 - **No sensor** INOPs are shown even when alarms are **Off** or **Paused**.
 - In Standby Mode no **unplugged** INOPs are generated at all.
- If you set **Sensor Disconnect** to **Auto Off**, and you **Confirm** the settings change:
 - When you disconnect the transducer, the parameters are switched off automatically during the main alarms off state, and the individual alarms off state.
 - No unplugged INOPs are generated when main alarms are **Off** or **Paused** (or **yellow off/yellow paused**).

Power Loss Sound

FM20, FM30 with #25 only The **Power Loss Sound** 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.

ConfirmAlarmsOff

This **ConfirmAlarmsOff** 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**)

LAN Data Export

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.

Configuring Auto Free Settings

Global Settings: Main Setup > Global Settings > Auto Free

Auto Free Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
Power Off	C	Never	1 min, 10 min, 30 min, 1 h, 3 h, 8 h, Never
Standby	C	Never	1 min, 10 min, 30 min, 1 h, 3 h, 8 h, Never

Auto Free Configuration Implications

The **Auto Free** settings determine when the last patient monitored is automatically discharged from the monitor after the monitor has been switched off or after **Standby Mode**.

Power Off

The **Power Off** setting defines the period after the switch off in which such an automatic discharge occurs. Choices are:

- **1 min**
- **10 min**
- **30 min**
- **1 h**
- **3 h**
- **8 h**
- **Never**

When the monitor is switched on again, it is ready to monitor a new patient.

Standby

The **Standby** setting defines the period after entering the **Standby Mode** in which such an automatic discharge occurs. Choices are:

- **1 min**
- **10 min**
- **30 min**
- **1 h**
- **3 h**

7 Global Settings

- **8 h**
- **Never**

When the monitor is switched on again, it is ready to monitor a new patient.

Configuring Ask for new Pat Settings

Global Settings: Main Setup > Global Settings > Ask for new Pat

Ask for new Pat Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
Power Off	C	Never	1 min, 10 min, 30 min, 1 h, 3 h, 8 h, Never
Standby	C	Never	1 min, 10 min, 30 min, 1 h, 3 h, 8 h, Never

Ask for new Pat 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 previous patient and to begin monitoring a new patient, or **No** to continue monitoring with the previous 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 previous patient and to begin monitoring a new patient or **No** to continue monitoring with the previous 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

Demograph.Fields Settings

Global Settings: Main Setup > Global Settings > Demograph.Fields

Demograph.Fields Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
Last Name	C	Optional	Required, Optional, Hidden
First Name	C	Optional	Required, Optional, Hidden
Middle Name	C	Hidden	Required, Optional, Hidden
Alias	C	Hidden	Optional, Hidden
Lifetime ID	C	Optional	Required, Optional, Hidden
Encounter ID	C	Hidden	Required, Optional, Hidden
Date of Birth	C	Optional	Required, Optional, Hidden
Lifetime ID Lbl	C	MRN	MRN, Record Number, Lifetime Id, Patient Id, Serial Number, SSN, Military ID, Medicaid ID, Driver's License
Encounter ID Lbl	C	Encounter ID	Encounter ID, Visit ID, Account Number, Charge Number, Case ID, Subject Number

Demograph.Fields Configuration Implications

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** can only be used if this parameter supported by the OB information system.

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** can only be used if this parameter supported by the OB information system.
- If connected to IntelliSpace Perinatal (ISP), the ISP Alias name overwrites the **Last Name** on the screen **and** in the patient documentation of the monitor.

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.

Lifetime ID Lbl

Use the **Lifetime ID Label** 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 the **Encounter ID Label** 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.

Demographic Fields Configuration Dependencies from OB System Topology and Revision

CAUTION

Only configure optional demographic fields as visible (on) that are supported by the connected IntelliSpace Perinatal/OB TraceVue system.

	Avalon FM configuration in RS232 installations (any OB TraceVue Revision)	Avalon FM configuration in LAN installations with OB TraceVue older than Rev. G.0	Avalon FM configuration in LAN installations with IntelliSpace Perinatal/OB TraceVue Rev. G.0 or newer
Middle Name	Off	Off	On
Lifetime ID	Off	On set Lifetime ID Lbl to MRN	On Lifetime ID Lbl configurable within and then set by IntelliSpace Perinatal/OB TraceVue
Encounter ID	Off	Off	On Encounter ID Lbl set to "Visit Id" by IntelliSpace Perinatal/OB TraceVue)

Quick Admit Settings

Global Settings: Main Setup > Global Settings > Quick Admit

Quick Admit Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
Last Name ¹	C	Off	On, Off
First Name ¹	C	Off	On, Off
Middle Name ¹	C	Off	On, Off
Lifetime ID ¹	C	On	On, Off
Encounter ID ¹	C	Off	On, Off
Date of Birth ¹	C	Off	On, Off
QuickAdmitDischg	C	Ask User	Ask User, Yes, No

¹ Not accessible if **Hidden** in **Demograph.Fields**, see “Demograph.Fields Settings” on page 90.

Quick Admit Configuration Implications

Last Name, First Name, Middle Name, Encounter Id, 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 OB 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.

Hardware Settings

This section lists all Hardware Settings. These settings are set once per monitor. Any changes you make to the hardware settings configuration are automatically stored, there is no need to save them in an extra step.

Most Hardware Settings:

- must be entered for each monitor individually, they are stored at the monitor, and cannot be cloned using the IntelliVue Support Tool
- 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.

Configuring General Hardware Settings

Hardware Settings: Main Setup > Hardware

General Hardware Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
Standby Image > Display 1	S	Boot Image	Boot Image, Moving Image
Interfaces > Input Device IF	S	Keybd/Mouse	Keybd/Mouse, Bar Code
Data Export 1	C, S	Fix 115200	AutoSpeed, Fix 19200, Fix 115200
Keyboard	S	US	US, Dansk, Deutsch, British, Espanol, Belgian, Francais, Italiano, Korean (Hangul), Nederlands, Norsk, Portugues, Svenska/Suomi, US International, Magyar

General Hardware Settings Configuration Implications

Standby Image

The **Standby Image** setting lets you change the presentation of the Standby screen.

Choices are:

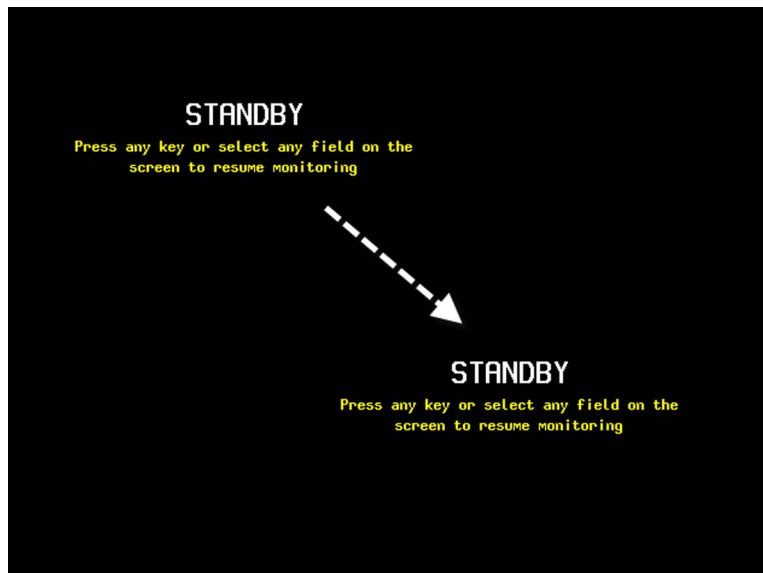
- **Boot Image**

The Standby screen shows the boot image, see image below:



- **Moving Image**

The Standby screen shows a black screen with an image moving across the screen, similar to a screen saver, see image below:



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 Avalon Fetal Monitor Service Guide.

Data Export 1

Use the **Data Export** setting to determine the port speeds (baud rate) for the MIB/RS232 data output port.

Data Export 1 determines the speed of the port labeled **DtOut1**. Choices are:

- **AutoSpeed**
- **Fix 19200**
- **Fix 115200**

For detailed configuration implications, please refer to the latest Avalon Fetal Monitor 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, please refer to the latest Avalon Fetal Monitor Service Guide.

Configuring SRR Settings

Hardware Settings: Main Setup > Hardware

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.

SRR Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
SRR ¹	C, S	On	On, Off
Channel ¹	C, S	ISM 11	ISM 11 to ISM26 MBAN 06, MBAN 13, MBAN 14

¹ The **SRR** and **Channel** settings are only available in Avalon Fetal Monitors with the software option #CL2.

SRR Settings Configuration Implications

SRR

Avalon FMs with #CL2 only Use the **SRR** setting to switch the short range radio (**SRR**) capabilities of the monitor **On** and **Off**.

NOTE

The **SRR** setting is only available:

- for Avalon Fetal Monitors with the software option #CL2
- the base station must be connected to the monitor
- the base station must be switched **On**.

Channel

Avalon FMs with #CL2 only Use the **Channel** setting to configure the **SRR Channel** the monitor should use. **SRR Channel** provides a total of:

- 16 channels in the ISM band (2.400 - 2.483 GHz), and
- 3 channels in the MBAN-A band (2.390 - 2.400 GHz)

The channels are labeled:

- **ISM 11** to **ISM 26**
- **MBAN 06**, **MBAN 13**, and **MBAN 14**

Up to four monitors can be configured to one **SRR Channel** if they are operated in proximity to each other.

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.

MBAN (Medical Body Area Network) enhances the available SRR channels. It is divided into two separate spectrums: MBAN-A and MBAN-B. Only MBAN-A is supported at this time.

The MBAN-A band is only available in the US with option #**YRA**. It is limited to medical use and therefore there is no interference with consumer devices (e.g. smartphones) or hospital WLAN on MBAN channels.

NOTE

- FDA market clearance for MBAN is pending for the USA.
- For detailed instructions on setting up **SRR Channel** in a new or existing wireless infrastructure, refer to the Avalon Service Guide, and contact a Philips service representative.

Configuring OBR (OB Radio) Settings

Hardware Settings: Main Setup > Hardware > OBR

OBR Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
Revision	n/a	<revision number>	n/a
Frequency Band	C, S	Unknown	Unknown, WMTS, ISM, T108
Channel	C, S	Unknown	Unknown, 1 to 64 ¹

¹ The **Channel** range depends on selected **Frequency Band** and the OB Radio **Revision**.

OBR Configuration Implications

As an exception to most of the Hardware settings, OBR Settings can be cloned from one to another fetal monitor.

Revision

This is not a setting. It displays the revision number of the OB radio.

Frequency Band

Use the **Frequency Band** setting to configure the country-specific OBR frequency band. Choices are:

- **WMTS** (e.g. USA, Canada)
- **ISM** (e.g. most European countries)
- **T108** (e.g. Japan)

For detailed configuration implications, please refer to the latest Avalon fetal monitor Service Guide.

Channel

Use the **Channel** setting to configure the OBR channel the monitor should use. It provides a total of 64 channels. The range of available channels depends on the selected **Frequency Band** and the OB Radio **Revision**.

Depending on the hospital's existing wireless infrastructure, a number of channels might already be occupied by other wireless applications.

For detailed instructions on setting up OBR channels in a new or existing wireless infrastructure, refer to the Avalon Fetal Monitor Service Guide and contact a Philips service representative.

Configuring Bed Information Hardware Settings

Hardware Settings: Main Setup > Bed Information

Bed Information Hardware Factory Default Settings

Setting Item	Mode	Factory Default	Choice/Range
Equipment Label	C, S	<empty>	n/a
IP Config	S	BOOTP	BOOTP, DHCP, DHCP Restr. Manual
IP Address ¹	S	0.0.0.0	n/a
Subnet Mask ¹	S	0.0.0.0	n/a
Default Gateway ¹	S	0.0.0.0	n/a

¹ Only accessible if **IP Config** is set to **Manual**.

Bed Information Hardware Settings Configuration Implications

For detailed configuration implications, please refer to the latest Avalon Fetal Monitor Service Guide.

Equipment Label

The equipment label must be entered for each individual monitor. It is stored with the monitor, it is not cloned. The equipment label must be unique for each fetal monitor in order for the fetal monitors to be able to connect to IntelliSpace Perinatal/OB TraceVue.

IP Config

Use the **IP Config** setting to to change the mode to acquire the **IP Address**.

Choices are:

- **BOOTP**
Typically, the Avalon Fetal Monitor requests its **IP Address** from a **BOOTP** service (preferred). Only if a **BOOTP** server cannot be provided, fix parameters may be configured manually. The **IP Address** is then set to a dedicated, valid address.
- **DHCP**
The **DHCP** support offers an alternative to **BOOTP**. **DHCP** (dynamic host configuration protocol) enables the fetal monitors to request an **IP Address** (internet protocol address) from the connected network (OB TraceVue/IntelliSpace Perinatal) automatically.
- **DHCP Restr**
In **DHCP Restr.** mode any true **BOOTP** responses are ignored.
- **Manual**

CAUTION

It is mandatory that **Manual IP Address** configuration is performed by experienced service personnel. Exercise great caution during installation to avoid problems such as duplicate IP addresses, non-matching subnet mask, etc. Documentation of all related configuration details is mandatory and must be updated with each change to ensure network reliability, especially when

exchanging, repairing, or adding devices on the network at a later time. The customer is responsible for complying with common network configuration rules.

IP Address

If the **IP Address** is set to 0.0.0.0, all network parameters are dynamically requested from a BOOTP server. Otherwise the manually entered address is used.

Subnet Mask

If the **IP Address** is set to 0.0.0.0, the configured value is ignored, but the **Subnet Mask** value is requested from a BOOTP server. If an **IP Address** is configured manually, the **Subnet Mask** must also be configured manually.

Default Gateway

If the **IP Address** is set to 0.0.0.0, the configured value is ignored, but the **Default Gateway** address is requested from a BOOTP server. If an **IP Address** is configured manually, the **Default Gateway** must also be configured manually.

Index

"No MP" Warning 31

A

About the IntelliVue Support Tool 12

Active Settings 13

Aged Numerics 62

Aging Time 41

Alarm Limits 61

Alarm Low 53

Alarm Mode 50

Alarm Reminder 52

Alarm Sounds 53

Alarm Text 55

Alarm Volume 48

AlarmOffReminder 50

Alarms 24, 32, 39, 44

Alarms Configuration Implications 48

Alarms Factory Default Settings 47

Alarms from 38

Alarms Off 50

Alarms Off Prio 48

AlarmsOffAtStart 50

Alias 90

AnnouncementTone 40

ArtifactSuppress 25

Ask for new Pat Configuration
Implications 89

Ask for new Pat Factory Default
Settings 89

Audio Select 24

Auto Free Configuration Implications 87

Auto Free Factory Default Settings 87

Auto Start 65

Auto Trace Rec. 72

AutoIncrease Vol 53

Automat. Default 86

Automatic Start 41

Avalon Fetal Monitor Software 9

B

Baseline High 72

Baseline Limits 72

Baseline Low 73

Battery Empty 56

Bed Information Configuration

Implications 83

Bed Information Factory Default
Setting 83

Bed Information Hardware Factory Default
Settings 101

Bed Information Hardware Settings
Configuration Implications 101

Bridge Paperout 65

Brightness 60

C

Change Rec Speed 65

Channel 98, 100

Choice/Range 16

Coincidence Tone 54

Color 25, 26, 27, 29, 31, 34, 36, 42, 44

Configuration Table Example 15

Configuring Active and Default Settings 13

Configuring Alarms Settings 47

Configuring Ask for new Pat Settings 89

Configuring Auto Free Settings 87

Configuring Bed Information 83

Configuring Bed Information Hardware
Settings 101

Configuring Edit Notes 83

Configuring Fetal Recorder Settings 63

Configuring FHR/DFHR 23

Configuring General Global Settings 85

Configuring General Hardware Settings 95

Configuring HR from MEEG 28

Configuring INOP Severity 56

Configuring iTymp 43

Configuring IUP 27

Configuring NBP 37

Configuring NST Report 71

Configuring NST Timer 69

Configuring OBR (OB Radio) Settings 100

Configuring Pulse (Toco) 31

Configuring Pulse from SpO2 34

Configuring SpO2 32

Configuring SRR Settings 98

Configuring Temperature 42

Configuring Toco 26

Configuring User Interface Settings 57

ConfirmAlarmsOff 86

Confirmed Stop 65

Cuff NotDeflated 57

Cuff Overpress 56

CyanRelayLatency, Yel.RelayLatency 55

D

Data Export 1 97

Data Privacy and Network Security
Requirements 8

Date of Birth 91

DECG Wave 25

Default Gateway 102

Delta ExtrTachy, Delta ExtrBrady 29, 35

Demograph.Fields Configuration
Implications 90

Demograph.Fields Factory Default
Settings 90

Demograph.Fields Settings 90

Demographic Fields Configuration
Dependencies from OB System
Topology and Revision 92

Display Screens 10

Display Units 61

Documenting Monitor Configurations 16

Done Tone 40

E

ECG Leads Off 56

ECG Wave 65

Edit Notes Configuration Implications 84

Edit Notes Factory Default Settings 83

Encounter ID Lbl 91

Enter Temp 45

Entering and Leaving Configuration
Mode 11

Equipment Label 101

F

Factory Default 16

Factory Defaults 13

Fetal Movement 24

Fetal Recorder Configuration
Implications 63

Fetal Recorder Factory Default Settings 63

FHR Available 73

FHR Sound Volume 24

FHR, DFHR Configuration Implications 24
FHR, DFHR Factory Default Settings 23
Focus on Paper-Based Use Models 75
Focus on Paper-Saving Use Models 79
Frequency Band 100

G

Gain 26
General Hardware Factory Default Settings 95
General Hardware Settings Configuration Implications 96
Generating a Configuration Report 17
Global Settings 10, 85
Global Settings Configuration Implications 85
Global Settings Factory Default Settings 85
Global SmartKeys 59
Global SmartKeys - Changing the Selection and Sequence 59
Global SmartKeys Choices 60
Global SmartKeys Factory Defaults 59
Global Speed 58
Guideline 71

H

Hardware Settings 10, 95
High Limit, Low Limit 28, 34, 43
High Limit, Low Limit, Desat Limit 32
High Limit, Low Limit, High Delay, Low Delay, SignalLoss Delay 24, 33
How Can I Get a Support Tool License Key? 12
How to Read the Configuration Tables 15
HR (MECG) Configuration Implications 28
HR (MECG) Factory Default Settings 28

I

IncreaseVolDelay 54
INOP Severity Factory Default Settings 56
INOP Severity Settings Configuration Implications 56
Interfaces 97
Interval 42
IP Address 102
IP Config 101
IP OB Server 83
iTt ymp 44
iTt ymp Configuration Implications 43
iTt ymp Factory Default Settings 43

IUP Configuration Implications 27
IUP Factory Default Settings 27

K

Keep Blinking 55
Keyboard 97

L

Label 42, 44
LAN Data Export 87
Last Name, First Name, Middle Name 90
Last Name, First Name, Middle Name, Encounter Id, Date of Birth 93
Lifetime ID 93
Lifetime ID Lbl 91
Lifetime ID, Encounter ID 91
Line Frequency 85

M

Max. Decelerat. 72
Measurement 31
Measurement Settings 10, 23
Measurement Time 41, 61
MECG Alarms 28
Min. Accelerat. 72
Mode 40
Monitor Settings 10, 47
Msmnt 42

N

NBP 40
NBP Alarm Suppr. 33
NBP Configuration Implications 38
NBP Factory Default Settings 37
NBP Sys/Dia only 61
No Pulse 57
Not Applicable 16
Notes Recording 65
Notification 69
NST Analysis 71
NST Autostart 66
NST Autostop 66
NST Report Configuration Implications 71
NST Report Factory Default Settings 71
NST Report Recording Use Models 74
NST Status Display Only 79
NST Timer Configuration Implications 69
NST Timer Factory Default Settings 69

O

OBR Configuration Implications 100

OBR Factory Default Settings 100
Operation Mode 16

P

Paper Advance 63
Paper Save Mode 66
Pause Al. 5 min, Pause Al. 10 min 50
Power Loss Sound 86
Power Off 87, 89
Prompt Volume 58
Pulse (SpO2) Configuration Implications 34
Pulse (SpO2) Factory Default Settings 34
Pulse (Toco) Configuration Implications 31
Pulse (Toco) Factory Default Settings 31
Pulse Alarms 34

Q

QRS Low 58
QRS Type 58, 86
QRS Volume 28, 35, 58
Quick Admit Configuration Implications 93
Quick Admit Factory Default Settings 93
Quick Admit Settings 93
QuickAdmitDischg 93

R

Record ECG Wave 64
Record on Trace 33
Recorder Speed 64
Recording NST Report and Stored Trace On Demand 80
Recording NST Report Automatically and Stored Trace Automatically if Criteria Not Met 82
Recording NST Report Only and Automatically 78
Recording of Stored Data Traces 74
Recording Trace and NST Report Automatically 75
Recording Trace Automatically and NST Report Manually After Recorder Stop 76
Recording Trace Continuously and NST Report Manually 77
Red Alarm Volume, Yell.AlarmVolume, INOP Volume 53
Red and Yellow Measurement Alarm Latching Behavior 52
RedAlarmInterval, Yel.Al. Interval 53
Reference 41

Relay1 Sensitiv., Relay2 Sensitiv., Relay3 Sensitiv. 55
Release-Specific Information 5
Reminder Time 53
Repeat Time 40
Report Recording 72
Revision 100
Run Time 69

S

Scale Type 64
Select Audio 24
Selecting the Settings Included in a Configuration Report 19
Send to OB Sys 33
Sensor Disconnect 86
Separation Order 67
Set Baseline 26, 27
Setting Item 16
Setup Fetal Recorder Menu Settings 74
Setup NST Report Menu Settings 74
Setup Sequence 40
Short Term Var. 72
Signal Quality 33
SpO2 Configuration Implications 32
SpO2 Factory Default Settings 32
SRR 98
SRR Factory Default Settings 98
SRR Settings Configuration Implications 98
Standby 87, 89
Standby Brightn. 61
Standby Image 96
Start Time 41
Start/Stop 39, 63
Stop All 40
Stored Data Rec 64
Stored Trace Recording On Demand for Ongoing NST Trace Interpretation 81
Subnet Mask 102
Symbols 74
Sys. High, Sys. Low, Dia. High, Dia. Low, Mean High, Mean Low 39

T

Tachy Clamp, Brady Clamp 29, 35
Temperature Configuration Implications 42
Temperature Factory Default Settings 42
Timer 69
Timer Volume 59, 70

Toco Configuration Implications 26
Toco Factory Default Settings 26
Tone Mod. Type 58
Tone Modulation 58
Touch ToneVolume 59
Trace 68
Trace Separation 24, 67
Trace Styles FHR1/FHR2/FHR3, Toco, HR 64
TransportBrightn 61

U

Understand the Configurable Software Elements 9
Understanding Configuration 7
Understanding Configuration Implications 16
Understanding Configuration Settings 15
Understanding Monitor Settings 47
Unit 27, 40, 42, 44
User Defaults 13
User Interface Configuration Implications 58
User Interface Factory Default Settings 57

V

Value Lifetime 44
Variability High 73
Variability Lim. 73
Variability Low 73
Veni Puncture 40
Visual Latching, Audible Latching 51
VP Pressure 41

W

Wave Line Style 61
Wave Style ECG 65
What Can I Configure with the Support Tool? 12
What is Configuration Mode? 8
What's New in this Software Revision? 5
Which Monitor Models is this Guide for? 7
Who Can Change the Monitor Configuration? 8
Who is this Guide for? 7



Part Number 453564488781
Published in Germany 03/14



PHILIPS