

Instructions for use

Infinity[®] Gateway Suite

WARNING

To properly use this medical device,
read and comply with these
instructions for use.

**PatientWatch
Software VF9.0**

General Information

Trademarks

The Dräger name and logo are registered trademarks of Dräger.

Infinity[®], and VentWatch[®], are trademarks of Dräger.

Microsoft[®], Windows[®], Internet Explorer[®], Excel[®], NET Framework[®], and SQL Server[®] are registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

Open-source software

Dräger devices that use software may use open-source software, depending on their setup. Open-source software may be subject to different terms of license. Additional information regarding the open-source software used in this device is available at the following web page:

www.draeger.com/opensource

User group requirements

The term "user group" describes the personnel responsible who have been assigned by the operating organization to perform a particular task on a product.

Duties of the operating organization

The operating organization must ensure the following:

- Every user group has the required qualifications (e.g., has undergone specialist training or acquired specialist knowledge through experience).
- Every user group has been trained to perform the task.
- Every user group has read and understood the relevant chapters in this document.

User groups

Clinical users

This user group operates the product in accordance with the intended use.

Users have medical specialist knowledge in the application of the product.

Service personnel

This user group installs the product and performs the service activities.

Service personnel have specialist knowledge in software systems and applications. Service personnel also have experience in the servicing of medical devices.

Where product specific knowledge or tools are required, the service activities must be carried out by specialized service personnel. The specialized service personnel was trained by Dräger for these service activities on this product.

Operating characteristics








Classification










Classification Medical Device Europe

Class IIa

Symbols

The following table lists the Infinity Gateway symbols. Additional information about the symbols is available on the following web page: www.draeger.com/md-symbols

Symbol	Description
	Read accompanying IFU for specific safety information.
	WEEE (Waste Electrical and Electronic Equipment) Do not dispose of at municipal collection points for waste electrical and electronic equipment. Dräger has authorized a company to collect and dispose of this device.
Rx only	Caution: Federal law restricts this device to sale by or on the order of a physician
	European Union Representative
	Device part number and revision
	Manufacturer
	Date of manufacture
	Complies with the European Medical Device Regulation (EU) 2017/745

Symbol	Description
	Complies with applicable EU regulations and directives
	Quantity
	China RoHS mark
	Unique Device Identifier, barcode
	Lot/batch number
	Medical device
	Importer
	Importer
	Revision index

Safety

Mandatory reporting of adverse events

Serious adverse events with this product must be reported to Dräger and the responsible authorities.

Follow Instructions for use

WARNING

Strictly follow these Instructions for use. Any use of the software requires a full understanding and strict observation of all portions of these instructions. The software is only to be used for the purpose specified under "Intended use" on page 9 and in conjunction with appropriate patient monitoring. Observe all WARNING and CAUTION statements as rendered throughout this manual as well as all statements on device labels.

Definitions

Certain paragraphs within these instructions for use are highlighted as WARNING, CAUTION, or NOTE as follows:

WARNING

A WARNING statement provides important information about a potentially hazardous situation that, if not avoided, could result in death or serious injury.

CAUTION

A CAUTION statement provides important information about a potentially hazardous situation that, if not avoided, may result in minor or moderate injury to the user or patient or in damage to the equipment or other property.

NOTE

A NOTE provides additional information intended to avoid inconvenience during operation.

Connection to IT networks

Many medical devices manufactured by Dräger use networks to transmit patient data and to notify clinical users of alarm conditions. Hospitals should refer to IEC 80001-1 before attempting to connect such medical devices to their IT networks.

Intended purpose

Intended use

The Infinity Gateway software applications are intended to provide clinicians with the capability of viewing patient data remotely via the Infinity network and for data exchange of select clinical and administrative information between the Infinity network and the hospital network.

Indications

The Infinity Gateway software applications are intended to provide clinicians with the capability of viewing patient data remotely via the Infinity network and for data exchange of select clinical and administrative information between the Infinity network and the hospital network.

Contraindications

There are no known contraindications for the Infinity Gateway software applications.

Environments of use

The Infinity Gateway software applications are intended for use in a healthcare environment.

Patient population

The Infinity Gateway software applications are applicable to all patient populations.

Intended application

The intended application of the Infinity Gateway software applications is data exchange between the Infinity network and the hospital network. This device is an active, reusable, and non-implantable medical device. It does not come into direct contact with the patient's body.

Service-oriented device connectivity (SDC)

Service-oriented device connectivity (SDC) defines a communication architecture to establish distributed systems of medical devices in clinical environments, for example, high-acuity environments. The protocol is built on the principles of service-oriented medical device architecture (SOMDA) and is modeled after ISO/IEEE 11073. SDC-enabled devices facilitate interoperability across Dräger SDC-compatible products by allowing the request of unidirectional data and/or the remote control of predetermined medical device functionality in a safe manner.

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Table of Contents

General Information	3	Change the currently selected server	25
Trademarks	3	Dial-up Networking	25
Open-source software	3	Infinity Gateway Protocol Handbook	26
User group requirements	3	Select Patient	27
Operating characteristics	4	Patient Search	28
Symbols	5	Main screen	30
Safety	7	Display Setup	31
Mandatory reporting of adverse events	7	Settings	32
Follow Instructions for use	7	Trends	36
Definitions	7	Trend Table	37
Connection to IT networks	8	Trend Graph	39
Intended purpose	9	Trend Preferences	42
Intended use	9	Save Trend Data	43
Indications	9	Printing	44
Contraindications	9	All Leads	44
Environments of use	9	VentWatch	45
Patient population	9	Show All Vent Parameters	47
Intended application	10	VentWatch Setup	48
Service-oriented device connectivity (SDC)	11	Save Diagnostics Log	49
Overview	15	Single Patient Display Mode	50
User Interface	16	Multi-Patient Display Mode	51
Installation Requirements	18		
Accessing PatientWatch	19		
Starting the PatientWatch client program	19		
Logon Screen	20		
Auto Log On	21		
Hide Demographics	21		
Accessing PatientWatch on Infinity Explorer	21		
Accessing PatientWatch on the Infinity Acute Care System Cockpit	21		
Application Integration	22		
Network Setup	23		
Add a Server	24		
Remove a Server	25		
Edit a Server	25		

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Overview

Infinity PatientWatch is a software application that is used to view patient data generated on Dräger patient monitors. PatientWatch can be accessed using a web browser, or after configuration, PatientWatch can be accessed from the Infinity Explorer **Remote** Tab, and the Infinity Acute Care System Cockpit.

The client application for PatientWatch runs on PCs and allows you to view patient data remotely when your browser is directed to a URL associated with the web server running on the Infinity Gateway.

The PatientWatch user interface lets you:

- View the patient monitor's default screen (see page 30)
- View Trends in graphical and tabular format (see page 36)
- View "All Leads" (ECG waveforms) (see page 44)
- View ventilator data with Infinity VentWatch (see page 45)
- Save Trend Data in a Microsoft Excel-compatible format (see page 43)
- Save Diagnostics Log in a text readable format (see page 49)

PatientWatch is automatically installed on your PC when PatientWatch is accessed in the web browser.

See Installation Requirements on page 18 for further details.






User Interface

The PatientWatch user interface consists of a series of buttons, tabs, and dialog boxes. Dialog boxes are accessed through the tabs and buttons.



The following options are available:

Buttons







Icon	Name	Function
	Dräger button	Displays "about" information
	Select Patient	Select an available patient from the current server
	Setup	PatientWatch setup
	Help Topics	Access online help
	Log out	Log out of PatientWatch

Tabs

Tab	Function
Main Screen	Displays the monitor's main screen (parameters and waveforms.)
Trend Table	If trend data is already available, presents the data in a tabular format. If none is already available, begins collecting trend data. NOTE: This selection is only available when the device supports Infinity.
Trend Graph	If trend data is already available, presents the data in a graphical format. If none is already available, begins collecting trend data. NOTE: This selection is only available when the device supports Infinity.
All Leads	Displays all available ECG signals from the monitor based on a predefined order. NOTE: This selection is only available when the device supports ECG.

Vent	<p>Displays a specialized ventilator screen.</p> <p>NOTE: This selection is only available when the VentWatch option has been purchased and installed on both the monitor and the Infinity Gateway server, and if:</p> <ul style="list-style-type: none"> - viewing an Infinity monitor attached to a therapy device or - viewing an SDC therapy device
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Tab Level Buttons

Button	Function
	Save diagnostics log
	Save Trend data to a file (only available while viewing trend data)
	Trend zoom in (only available while viewing trend data)
	Trend zoom out (only available while viewing trend data)
	Display the Ventilator Show All screen (only available from within the VentWatch screen)
	Display the VentWatch screen (only available from within the Ventilator Show All screen)

Installation Requirements

Before PatientWatch can be used on your PC to access data on the Infinity network, ensure the following requirements are met:

- Your PC must have the following software installed:
 - Windows 10 64-bit, Windows Server 2016 or 2019 Standard
 - Internet Explorer 11 or Microsoft Edge in IE Mode
 - Microsoft SQL Server 2017 Standard or Express, or SQL Server 2019 Standard or Express
 - Microsoft .NET Framework 3.5
 - IIS 10.0
- Your Infinity Explorer Workstation must have software version Infinity Explorer VF8.4 or higher installed.
- Your Infinity Acute Care System Cockpit must have VG1 or higher software installed.
- A PatientWatch license must be purchased, enabled, and available on the Infinity Gateway Server.
- An optional Infinity VentWatch license must be purchased, enabled, and available on the Infinity Gateway Server.
- A web server must be installed on your PC.
- The PatientWatch must have been installed on your web server.
- At least one Infinity Gateway Server must be available via the network, either locally or by remote access, and configured in the Network Setup dialog box.

NOTE

You can access PatientWatch from the Infinity Acute Care System Cockpit RemoteView tab.

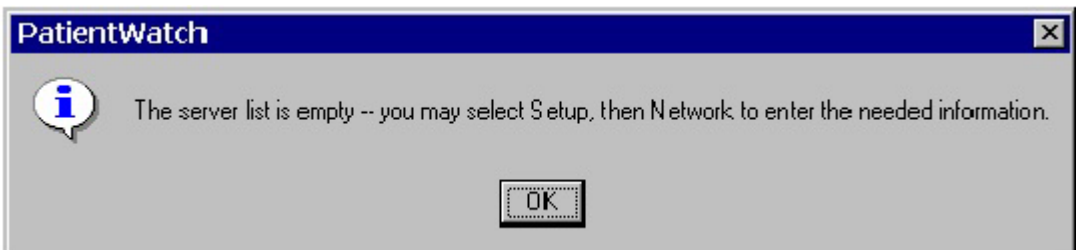
Accessing PatientWatch

NOTE

If you are remotely accessing the Infinity Gateway, you need to have the remote connection established before starting the PatientWatch program.

Starting the PatientWatch client program

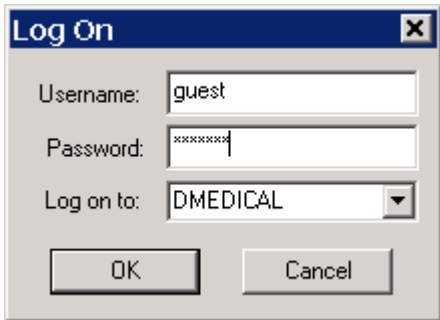
- 1 Open Internet Explorer 11 or Microsoft Edge in IE Mode.
- 2 Enter the URL of the PatientWatch web page. If you do not know the URL, consult with your network administrator.
- 3 Enter **YES** if prompted whether or not you want to download the Dräger programs.
- 4 Click the **Select Patient** button.
If you are running PatientWatch for the first time on this PC and no servers were configured during installation on the IIS server using “ConfigServer,” the following message displays:



If this happens, you will need to proceed to the Network Setup dialog before continuing.

5 Click the **Patient Select** button.

- When **Auto Log On** is not enabled on the Gateway server, the **Log On** dialog box will appear.
- When the **Auto Log On** option is enabled on the Gateway server, the user is automatically logged on to the server using the same logon credentials as the current PC. If these credentials are not valid on the Gateway server, then the user will need to log on.



6 Enter your user name and password.

7 Click **OK**.

NOTE

- For security reasons, your network administrator must have set up an account on the Infinity Gateway or on the domain for this user name and password.
- When PatientWatch is integrated with other applications, a logon screen may or may not display depending on the “parent” application configuration. Refer to Application Integration.

Logon Screen

The **Log on to** field is a dropdown list of all the domains present on the current Gateway server, including the Gateway server domain.

If a user is authenticated at the Gateway server, authentication occurs within the selected domain. If no domain is chosen, the Gateway server will attempt to authenticate the user on every domain that exists on the server until it finds a domain where authentication succeeds.

Auto Log On

You can automatically log on to the Gateway using a PatientWatch server side option. PatientWatch uses the same log on credentials that you used to log on to the client PC.

NOTE

To auto log on to the client PC, you must use a domain username that is a member of the Users group on the Gateway server.

Hide Demographics

If the user is a member of the “Hide Demographics” group on the server, some of the characters in the patient name and ID will be replaced with the “*” character. For example, the patient name, John Smith, would appear as “J*** S****”, and ID 123456789 would appear as “****789.” The Search feature is not available. Trends cannot be saved to a file, and Diagnostic logs cannot be retrieved from the patient monitor.

Accessing PatientWatch on Infinity Explorer

If PatientWatch is installed on your system, you can access the application by clicking the Infinity Explorer Remote tab, which is located on the right side of the screen.

Accessing PatientWatch on the Infinity Acute Care System Cockpit

If PatientWatch is installed on your system, you can access the application by clicking the tab on the left of the Cockpit screen.

Application Integration

PatientWatch can be integrated with other applications. When accessing PatientWatch using other applications:

- A Log on screen may or may not display
- Patient selection may or may not be possible from the PatientWatch main screen
- You may or may not be redirected to the “parent” application Logon Screen when the configured time-out expires

NOTE

When PatientWatch is integrated with other applications, a logon screen may or may not display depending on the “parent” application configuration. Refer to the “Infinity Gateway Protocol Handbook.”

Network Setup

To run PatientWatch, the client software must connect with the server program running on an Infinity Gateway Server. PatientWatch allows you to create a list of servers if you would like to connect to more than one Gateway Server. However, you must have at least one server in the list to use the PatientWatch program. PatientWatch automatically populates this list of servers with the list configured on the web server using the “Config Servers” program that runs during installation.

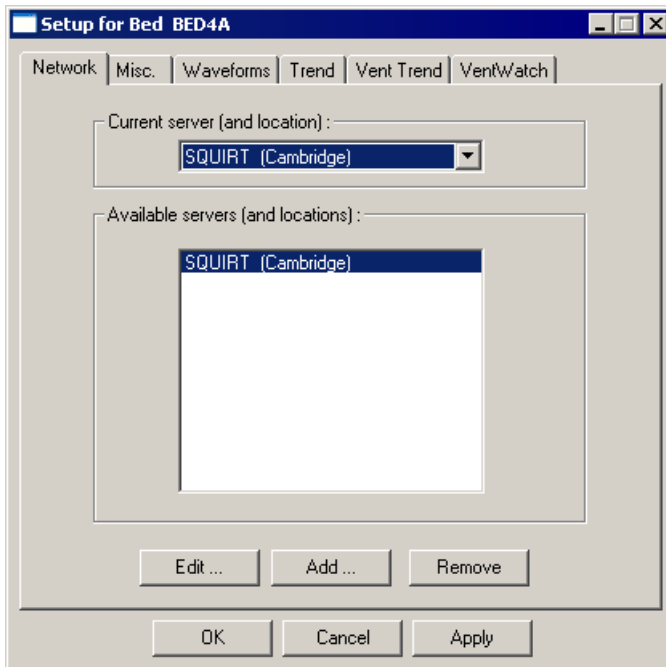
The Network Setup dialog box allows you to:

- Add a Server to the list
- Remove a Server from the list
- Edit a Server in the list
- Change the currently selected server

To open the Network Setup dialog:

- 1 Click the **Setup** button.
- 2 Select the **Network** tab.

The following dialog box opens:



Add a Server

To add a server to the list, press the **Add** button. The following dialog box opens:

Enter the network name (or IP address) of the Infinity Gateway Server so the PatientWatch client can make a connection to the server. (If you do not know the name or IP address of the Infinity Gateway Server, you should contact the network administrator.) In the bottom of the text entry field you can enter some text for easy identification of the server's physical location.

NOTE

You can bring up the Network Setup dialog box at any time (for instance, if the network name or IP address of the Infinity Gateway Server ever changes.)

After you enter the server name (or IP address), the following dialog box appears:

Click **Yes**. The system searches for the specified TCP/IP address.

NOTE

Select **No** if you are remotely accessing the Infinity Gateway, and the remote connection is not yet established. This will cause PatientWatch to add the server to the list, without trying to find it on the network until you actually try to connect to the server.

Remove a Server

To remove a server, select the server from the Available Servers list and press the **Remove** button.

Edit a Server

To edit the information related to a server, select the server from the Available Servers list and press the **Edit** button.

Change the currently selected server

In the Current Server list, select the name of the server from which you want to access patient data.

Dial-up Networking

To run PatientWatch, the client software must be on the same virtual network as the server program running on an Infinity Gateway Server. If your PC does not physically reside on the same network as the server, the server can be accessed remotely.

When using remote access, special care needs to be used to setup the servers to be accessed. For more detail, see [Network Setup](#).

When remotely accessing the Infinity Gateway server, you may want use the [Display Setup](#) and [Trend Preferences](#) dialog boxes to limit the amount of data the server sends.

Infinity Gateway Protocol Handbook

The Dräger Infinity Gateway Protocol Handbook contains a detailed description of transfer protocols, file formats, and WinViewActiveX control used in the PatientWatch application.

During installation, the Protocol Handbook text is copied on the PC in the following location:

< installation directory > Handbook > handbook.pdf

Select Patient

Once PatientWatch is running, you can access any patient who is being monitored on a patient monitor that is compatible with Infinity, as long as:

- The monitor is connected to the network and online.
- You have been granted access by the Infinity Gateway administrator to the Care Unit in which that monitor resides.

NOTE

You can access PatientWatch from the Infinity Acute Care System Cockpit RemoteView tab.

Select the patient

- 1 Click the **Select Patient** icon.

The following dialog box displays:

Patient ID	Patient	Hospital	Care Unit	Bed	Host	Category	Dev. Type
0001	Patient, One	HOSP1	CU77	Bed1	H071241	Infinity	M540
0002	Patient, Two	HOSP1	CU50	Bed2	IACS193	Infinity	IACS
0003	Patient, Three	HOSP1	CU50	Bed3	DELTA3	Infinity	SC7000
0004	Patient, Four	HOSP1	CU50	Bed4	DELTA4	Infinity	Delta XL

Server - Location
wUS22339

NOTE

- When the Patient Confidentiality option is enabled at the currently selected Infinity Gateway, the patient name column will not appear.
- Indication of whether a device is in standby in the Select Patient dialog is only supported for devices communicating over Infinity.

- 2 Click on the desired patient.
- 3 Click **OK** to activate the patient's Main screen view.
- 4 Repeat for each patient panel if you are in Multi-Patient Display Mode.

NOTE

The patient selection list can be sorted by any column by clicking on the column header. To change the sort order (ascending versus descending) click on the column header again.

In the patient selection dialog box, the user can select a different server from the "Server - Location" list. When a new server is selected the patient list is automatically updated to show all of the patients available from the new server.

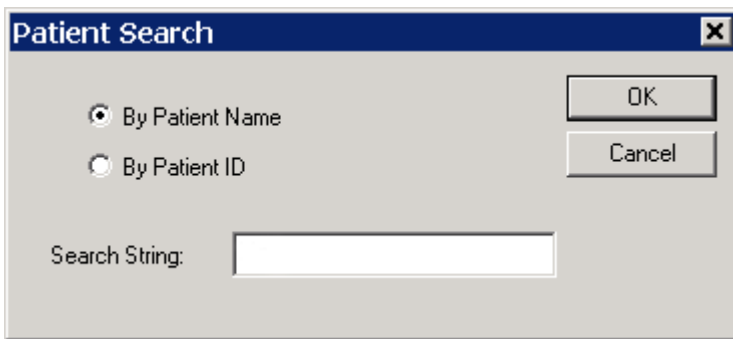
Patient Search

The user can search for a patient across all configured Gateway servers. To access the Search screen, click the **Search** button.

NOTE

If the user is a member of the Hide Demographics group, then the search button is grayed out and this functionality is not available.

The following dialog box appears:



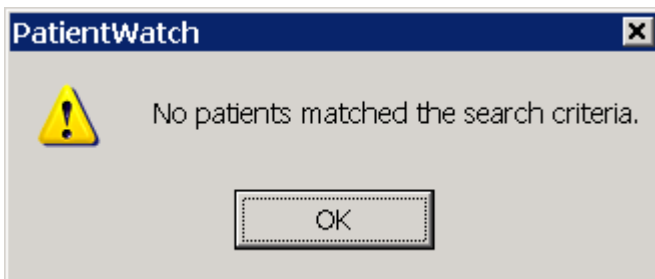
The image shows a dialog box titled "Patient Search" with a close button (X) in the top right corner. It contains two radio buttons: "By Patient Name" (selected) and "By Patient ID". To the right of these are "OK" and "Cancel" buttons. Below the radio buttons is a text input field labeled "Search String:".

To search for a patient, enter part of the name or patient ID in the Search String field, and select the type of search, either by name or ID.

NOTE

If patient confidentiality is enabled on the server, search by name is not available.

If the search fails, the following dialog box appears:



The image shows a dialog box titled "PatientWatch" with a close button (X) in the top right corner. It features a yellow warning triangle icon with an exclamation mark on the left. The text in the center reads "No patients matched the search criteria." Below the text is an "OK" button.

If the search succeeds and only one patient matches the criteria, that patient is automatically selected. If the search succeeds and more than one patient matches the criteria, then the patient selection list is updated to include only the patients that matched the criteria across all the configured servers:

Patient ID	Hospital	Care Unit	Bed	Host	Category	Dev. Type
1001	HOSP90	CU1	BED90	IACS133	InfSDC	IACS
1001	HOSP90	CU1	BED90		SDC	A500
(DISCHARGE)	HOSP5	CU5	BedSim5		SDC	BedSim5
	HOSP5	CU5	BedSim5		SDC	IACS
4144a	HOSP4	CU22	BedSMB		SDC	IACS
	hospita	cu71	bedsn	H071120	Infinity	M540

Server - Location:

To display one of the patients found in the search, select the patient from the list and click the **OK** button.

NOTE

When you select a patient from the list in the search screen, the "Server - location" selection is automatically updated to reflect the name of the server the patient can be found on.

To modify the search criteria:

- 1 Click the **Cancel Search** button.
- 2 Click the **Search** button and modify the settings.

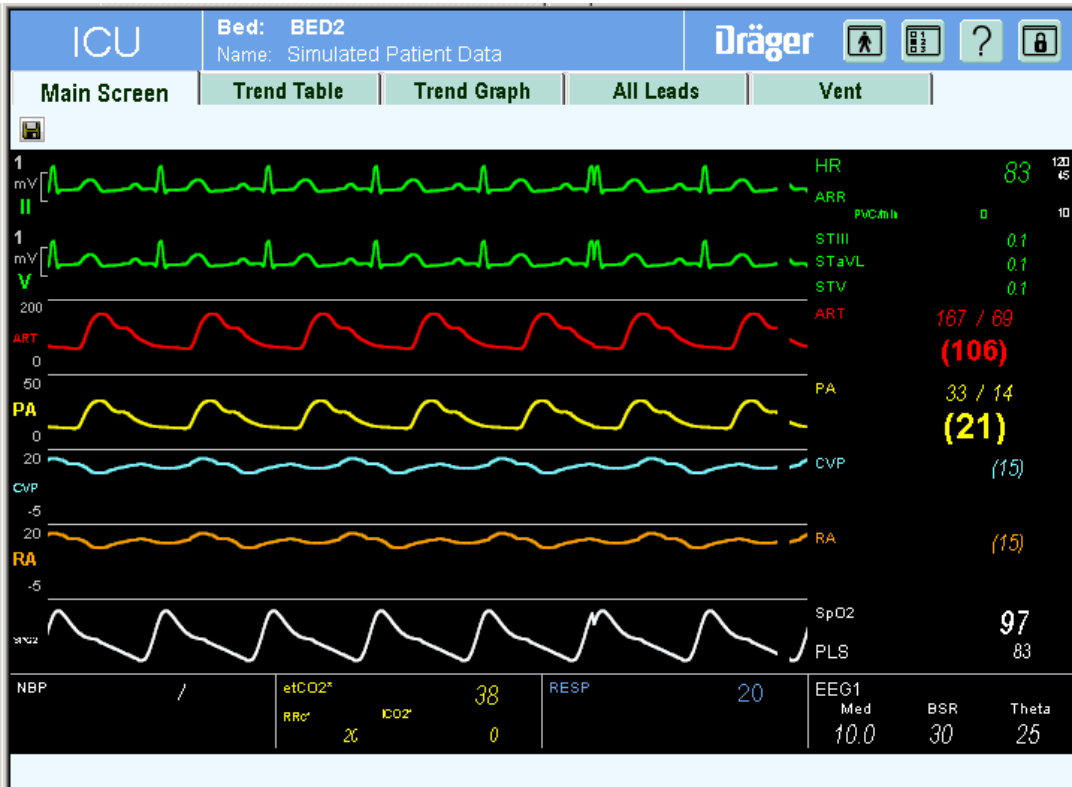
NOTE

Searches are across all servers configured on the web server via the "ConfigServers" utility. Adding a server via network setup on the client will not cause the new server to be included in searches.

Main screen

Whenever you select a patient, PatientWatch first displays the main screen view, which displays up to 8 waveforms and their associated parameter boxes.

To re-open the main screen when viewing another screen, select the main screen tab.



For devices using the Infinity protocols

- The order, color, and scales of parameters and waveforms are driven by the patient monitor. Alarm limits are displayed in the Viewer parameter box as long as the alarm function for that parameter is enabled at the monitor.
- Any changes on the monitor, such as a reconfiguration of waveforms or a change in signal availability, are automatically reflected on the PatientWatch main screen.

For devices using the SDC protocols

- The order, color, and scales of parameters and waveforms are driven by the Gateway database. Alarm limits are displayed in the Viewer parameter box as long as the alarm function for that parameter is enabled at the monitor.

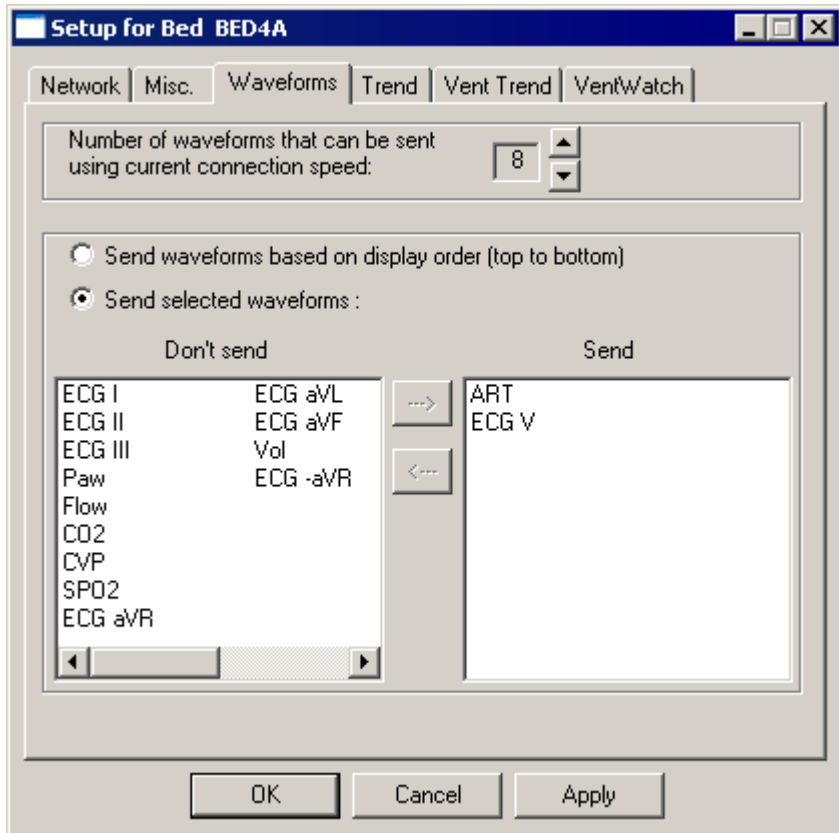
- Any signal availability changes to the monitor are automatically reflected on the PatientWatch main screen.

NOTE

If you are remotely accessing your network, you may wish to limit the number of waveforms sent by the Infinity Gateway via the **Display Setup** dialog box to limit the bandwidth required for the connection.

Display Setup

This dialog box is accessed by clicking the **Waveforms** tab in the Setup dialog box. It contains settings that apply to the [Main screen](#).



Settings

Main Screen

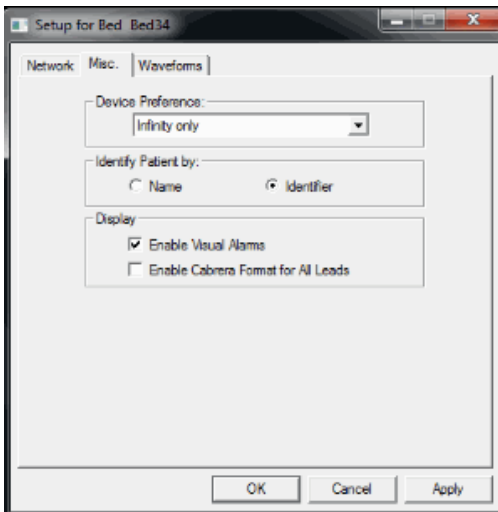
Because the available bandwidth over a remote connection may not be adequate to transmit all the waveforms a monitor is displaying, PatientWatch allows the option of choosing only certain waveforms for display.

The number of waveforms that can be sent using current connection speed is not computed automatically. It allows you to limit the number of waveforms the server sends when you are experiencing problems such as gaps in the waveforms.

In addition, you can choose specifically which waveforms displayed at the monitor are to be displayed in PatientWatch. Choosing the Send waveforms based on display order (top to bottom) setting will display the selected number of waveforms starting from the top. Choosing the Send selected waveforms option allows you to select which waveform(s) you want the server to send. Since the waveforms available from each monitor varies, the waveform choices are not saved when the program is exited.

Device Preferences

Device Preference settings determine the type of device that will be visible in PatientWatch.



Use the **Misc.** tab in the Setup dialog box to configure Device Preferences:

<i>Infinity only</i>	Only displays devices that are active on the Infinity network.
<i>SDC preferred</i>	Displays all active devices. If a device is on both Infinity and SDC, then it will connect using SDC.
<i>SDC only</i>	Only displays devices that are using SDC.

NOTE

SDC preferred and **SDC only** options always appear active, even if the SDC network option is not installed.

When the SDC network is not installed and these options are selected:

- **SDC only** will not connect to any devices.
- **SDC preferred** still allows Gateway to connect with Infinity devices.

Enable Cabrera for All Leads

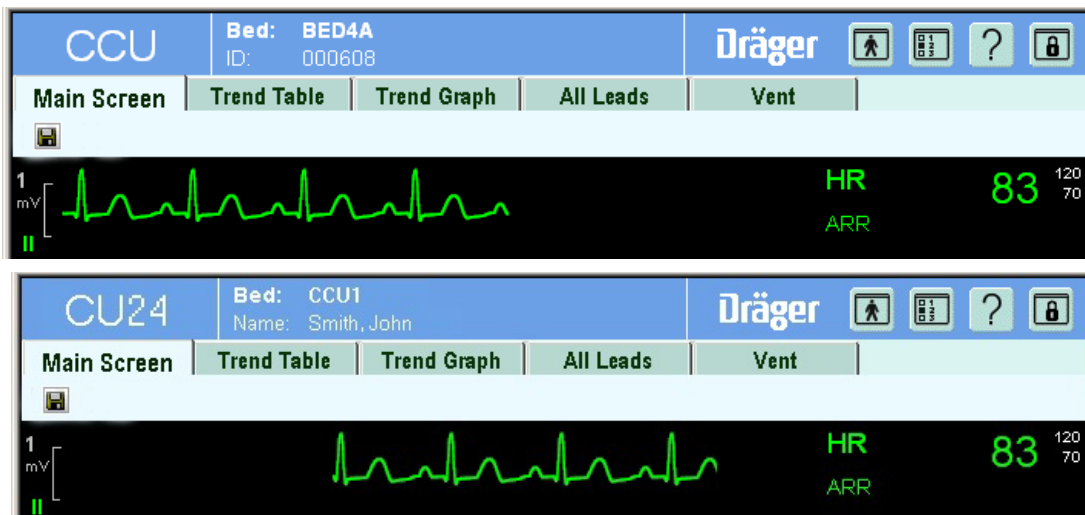
The Cabrera Format option enables or disables the Cabrera mode for the All Leads screen.

Identify Patient By

You can select the patient Identifier or patient Name to appear on top of the patient viewing screen with the bed label.

NOTE

If Patient Confidentiality is enabled on the server, the patient is always identified by Patient ID and the Identify Patient by setting is grayed out.



Click on the appropriate radio button. The default setting is **Identifier**.

Visual Alarms

This dialog box is accessed by selecting the Misc. tab in the Setup dialog box. You can view visual alarm messages for all parameters displayed on a patient monitor. These are displayed in the upper right corner below the tabs and “round robin” if more than one is displayed. Select **Enable Visual Alarms** in the Display Setup dialog box to turn on visual alarms.

During an alarm, the parameter background color changes to identify the alarm grade.

NOTE

Visual alarms are only available when listening to Infinity devices only. The option for visual alarms will be disabled when **SDC only** or **SDC preferred** is selected in the **Device Preference** section of the Setup dialog.

WARNING

The PatientWatch client application is information technology software. Use for viewing purposes only -- do not use for patient monitoring.

Depending on the alarm priority, one of three background colors is displayed. The background color also displays one of three video effects to indicate the alarm state. See the following tables for a complete listing:

Alarm Priority	Background Color
Life-Threatening (High)	Red
Serious (Medium)	Yellow
Advisory (Low)	Cyan

Alarm State	Video Effect
Active (Life-Threatening and Serious)	Flashing Color
Active (Advisory)	Solid Color
Silenced	Inverse Video
None	Normal Video

Trends

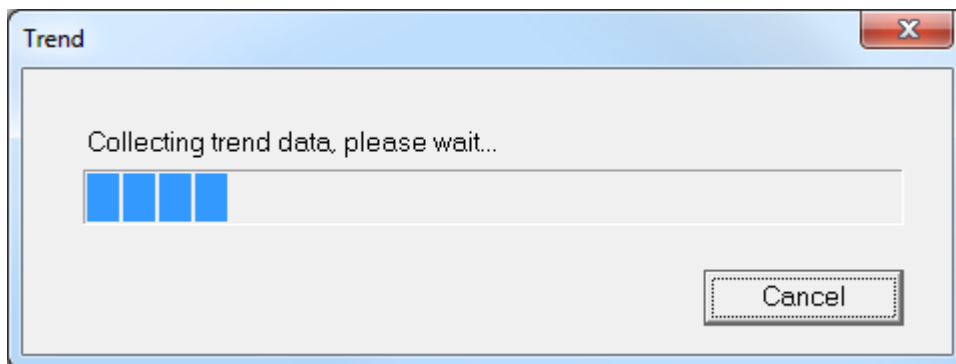
You can view a patient's trend data, either in the form of a trend table or a trend graph, when connected to a device on the Infinity network.

NOTE

Currently, trends are only supported on the Infinity network.

When you first open either of the trend screens, the Trend Preferences dialog box (page 42) will appear to allow you to select which trends will be retrieved from the monitor.

While trend data is being retrieved from the monitor, the following dialog box appears.

**NOTE**

Collecting trends from the monitor is a time consuming process. To save time, select only those trend parameters that you are interested in.

New values are retrieved from the monitor only upon entry to a trend screen or when the Trend Preferences dialog box (page 42) is opened while trends are displayed. Switching from one trend view to another does not retrieve new values; it simply changes the presentation of the data.

The display order of the parameters in the trend graphs and the trend tables is determined by the monitor. Parameter units are displayed for certain parameters if they are displayed at the monitor.

Scroll bars located along the right edge and the bottom of the trend screen allow you to navigate through stored trend data. You can also use the “trend zoom” buttons on the toolbar to control the resolution of the displayed data.

Trends can also be exported in a CSV file format that allows it to be imported into Microsoft Excel.

Trend Table

The Trend Table, which is accessed via the Trend Table tab, displays trend data in an easy-to-read, tabular format.

Rows of the table show the values of a given parameter over time. The first element in a row contains the parameter label for the row. Columns show the values for the parameter at specific time intervals. The first element in the column contains the timestamp.

The screenshot shows the ICU Trend Table interface. At the top, it displays 'ICU' and 'Bed: BED4' with the name 'Simulated Patient Data'. The Dräger logo is visible on the right. Below the header, there are navigation tabs: 'Main Screen', 'Trend Table' (selected), 'Trend Graph', 'All Leads', and 'Vent'. The main display area shows a table of data for '01-APR-2014' from 17:00 to 19:00. The parameters and their values are as follows:

Parameter	17:00	17:15	17:30	17:45	18:00	18:15	18:30	18:45	19:00
HR	83	83	83	83	83				
STIII	0.01	0.01	0.01	0.01	0.01				
STaVL	0.01	0.01	0.01	0.01	0.01				
STV	0.01	0.01	0.01	0.01	0.01				
PIP	60	60	60	60	60				
PEEP	0	0	0	0	0				
MAP	20	20	20	20	20				
MVe	0.3	0.3	0.3	0.3	0.3				
TVe	15	15	15	15	15				
RRv	20	20	20	20	20				
ART S	22.2	22.2	22.2	22.2	22.2				

The Zoom In and Zoom Out buttons can be used to change the resolution of the columns. Possible resolutions are 1, 5, 15, 30, and 60 minutes.

Discrete events such as NIBP, C.O., or PWP measurements cause a set of trend data to be stored for all parameters. This data appears as a separate trend column (possibly in between the normal time intervals). Columns of this type have a green time stamp.

Parameters are displayed in the order specified at the monitor.

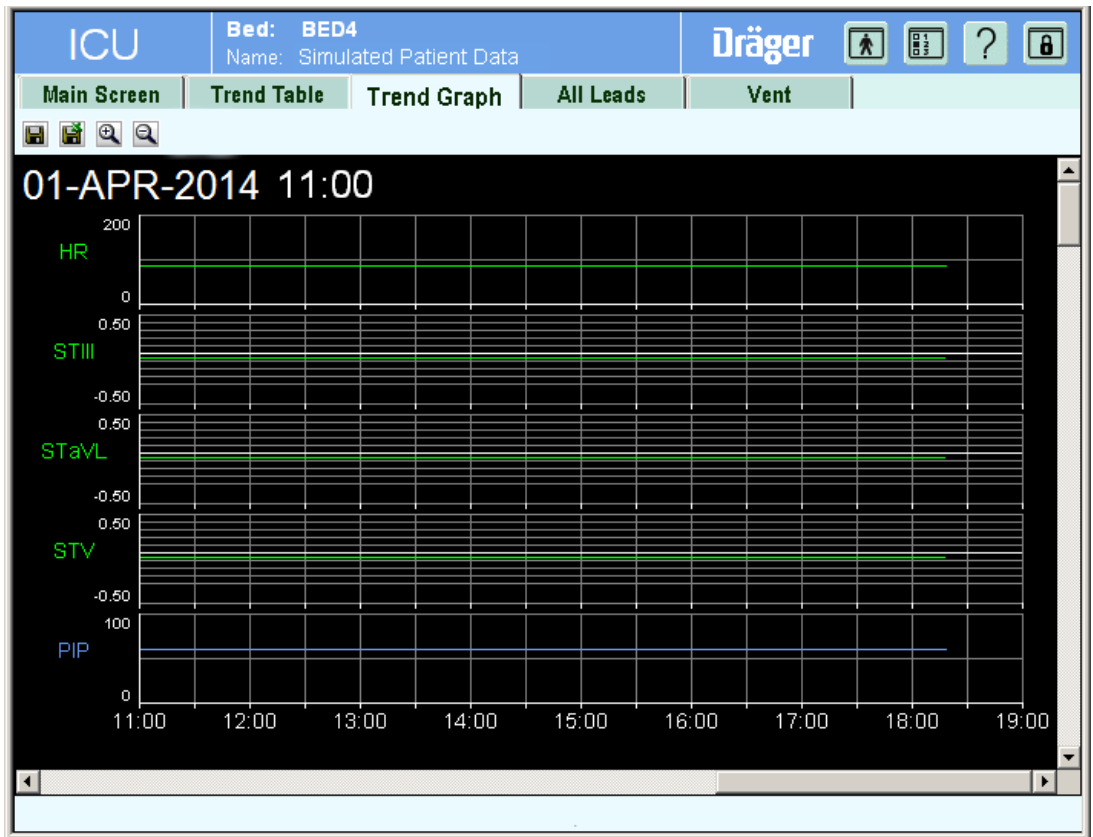
Representation of Special Conditions

Special events and parameter values are indicated in the Trend Table as follows:

Condition	Trend Table Representation
Discrete trend samples such as those associated with C.O. and PWP measurements	Column designated with a green time stamp
Discrete trend samples such as those associated with NIBP measurements	Column designated with a green time stamp
Physiological conditions such as asystole, apnea, or ventricular fibrillation	ASY = Asystole APN = Apnea FIB = Ventricular Fibrillation
Technical conditions: lead-off, artifact, low pulse amplitude, hardware failure etc.	***
Out-of-range values	+++ = value too high --- = value too low
Unavailable values	Blanks
Time change at the monitor	Short, yellow, vertical line located just below the time line at the time of the latest time change
ST measurement points changed	CHG
ST relearn (Relearn ECG)	LRN

Trend Graph

The Trend Graph view, accessed via the Trend Graph tab, displays up to five graphs on the screen at a time.



Each graph charts the values for a parameter or set of parameters over the time period represented by the trend window.

Parameters are shown in the trend graph view in the same order as they are shown in the trend table view (which is the order specified at the bed.)

Trend graph types

The trend graph view displays parameter trend information differently, according to the type of the parameter as shown in the following table:

Parameter Type	Representation on Trend Graph
Single-value, continuous such as HR	Single, continuous line in the corresponding parameter color.
Single-value, intermittent such as C.O. or PWP	Each occurrence is marked with a plus sign (+).
Multi-value, continuous such as ART	A continuous band with a horizontal black line indicating the mean value.
Multi-value, intermittent such as NIBP	White vertical line with a black horizontal line indicating the mean value.
Time line	All graphs share a common time line, which is located below the trend window. Labeled time intervals in the time line divide it into equal intervals, which vary according to the selected time window.

Trend graph times

The Zoom In and Zoom Out buttons can be used to change the time resolution of the graph. Possible settings are:

Selected Time Window	Time Intervals on Time Line
1 hour	15 minutes
2 hours	15 minutes
4 hours	30 minutes
8 hours	1 hour
12 hours	90 minutes
24 hours	3 hours

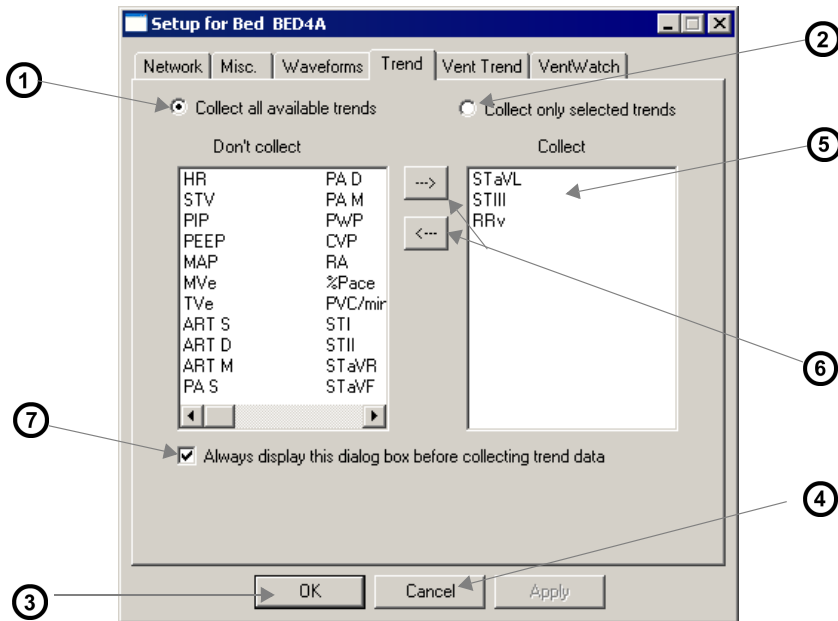
Representation of Special Conditions

Condition	Trend Graph Representation
Discrete trend samples such as those associated with C.O. and PWP measurements	Plus sign (+)
Discrete trend samples such as those associated with NIBP measurements	Vertical line with dot to show mean value
Physiological conditions such as asystole, apnea, or ventricular fibrillation	Blanks
Technical conditions: lead-off, artifact, low pulse amplitude, hardware failure etc.	Blanks
Out-of-range values	Blanks
Unavailable values	Blanks
Time change at the patient monitor	Short, yellow, vertical line located just below the time line at the time of the latest time change. Time changes are not available from all patient monitor types, for example time changes are not shown for telemetry patients.
ST measurement points changed	Solid vertical white line
ST relearn (Relearn ECG)	Dotted vertical white line

Trend Preferences

The Trend Preferences dialog box allows you to select which trends are to be displayed. Because collecting trend data for all available parameters may take a long time (especially over a remote connection), you may want to limit your selection to those parameters you are most interested in.

To open the Trend Preferences dialog box, click the **Setup** button, and select the **Trend** tab in the Setup dialog box:



1	Click on this selection if you want all available trends to be collected. (Not available when the dialog box is opened from within the Vent screen.)
2	Click here if you want specific trends to be collected.
3	Opens whatever selections you have made. (Not available when the dialog box is opened from within the Vent screen.)
4	Close the Trend Preferences dialog box.
5	The parameters displayed in this list will be the only ones collected when the Collect Only Selected Trends option is selected.
6	Arrows allow you to move parameters between the two windows.
7	When selected, this setup dialog box will always appear before any trend data is collected to enable you to modify the selection. Note: The parameters in this window are not collected when the Collect only selected trends option is selected.

NOTE

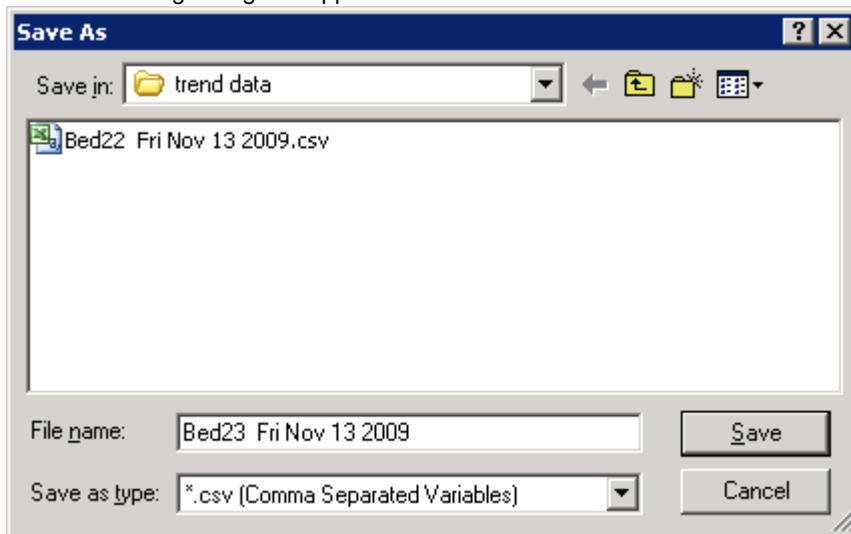
- When the dialog box is opened from within a screen that has trends displayed, such as Trend Table, Trend Graph, or VentWatch, it causes new trends to be retrieved from the patient monitor. When it is invoked from another screen, no new trends are retrieved.
- Two sets of trend settings are maintained by PatientWatch, one for the Trends Screens (i.e.) Trend Table and Trend Graph and one for VentWatch.

Save Trend Data

You can save the collected trend data in a CSV file format that allows it to be imported into Microsoft Excel as follows:

- 1 Access the patient's trend table or trend graph.
- 2 Click the **Save Trend Data** button.

The following dialog box appears:



- 3 Select the folder where you wish to save the data.
- 4 Type in the file name with a file type CSV. PatientWatch uses the bed label, patient name, date, and time to create a default file name, which you can modify. However, you should use a file type of CSV in order for the file to be recognized by Excel (example, trndat.csv.)

NOTE

- When importing the file into Excel, you should use the file filter for "text files." After the file is imported, you can save it using the standard Excel file format.
- Save Trend Data is not available to members of the "Hide Demographics" group.

Printing

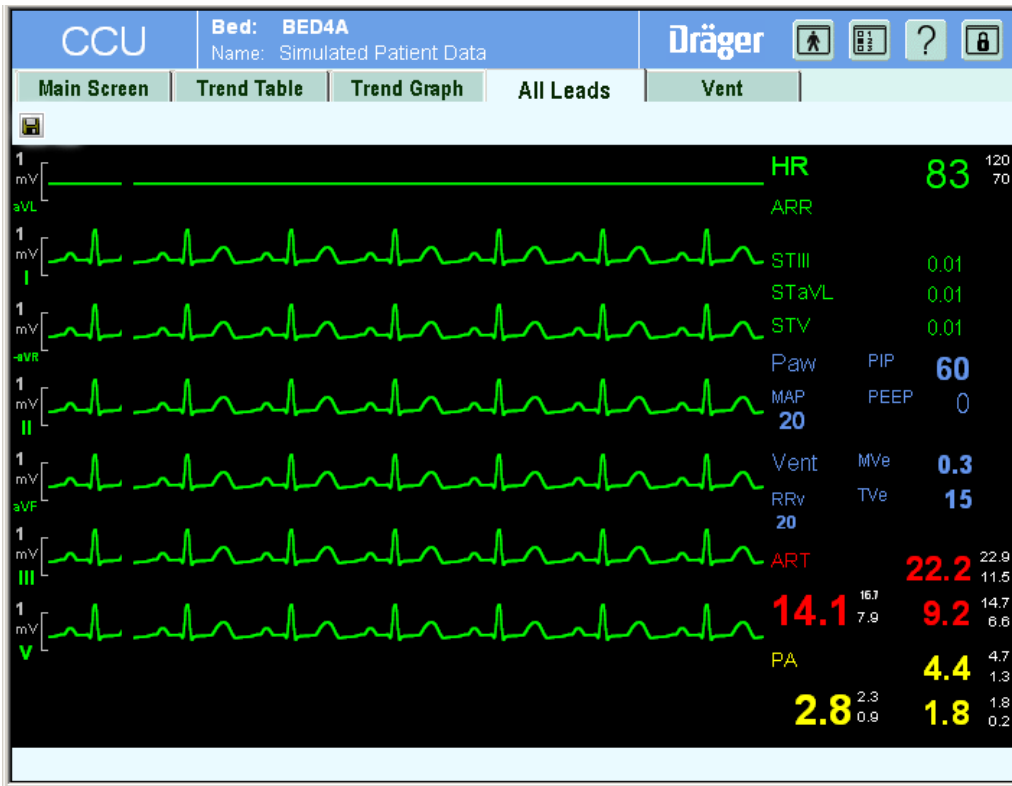
PatientWatch does not support the browser's print capability. To print the contents of the window, you must use the print screen capability provided by Microsoft Windows.

All Leads

The View All Leads Screen, accessible via the View All Leads tab, displays all ECG waveforms sent by the patient monitor, as well as all the waveforms that can be derived from those waveforms.

NOTE

When viewing Infinity monitors that do not support **All Leads** mode (such as Gamma and Gamma XL), only those leads on the monitor's main screen will be displayed. When viewing devices that do not support ECG, the **All Leads** tab does not appear at all.



NOTE

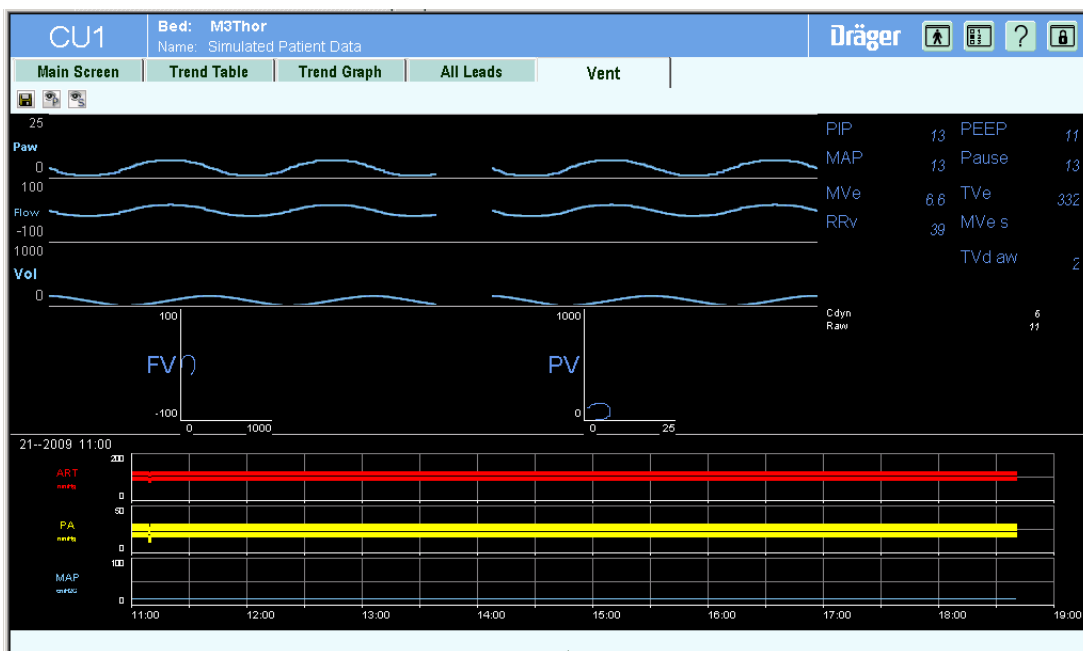
When communicating with an IACS over SDC, ventilation data will no longer be available and the Vent tab will not appear. Instead, the ventilator or anesthesia device can be remote viewed, independently, provided that it is also communicating via SDC.

Each waveform channel contains display scales and scale bars to the left of the waveforms. The display order of the waveforms is determined by the Cabrera Format setting in the Misc. tab in the Setup dialog box. This setting also determines whether the aVR or -aVR (inverted) waveform is displayed, when available.

VentWatch

The VentWatch screen displays waveforms, loops, parameters, and trends.

Click the **Vent** tab to open it:



The VentWatch screen displays up to three waveforms according to the Number of waveforms to display and the waveform priority list defined in the VentWatch tab in the Setup dialog box. The highest-priority waveforms available from the bed populate the waveform channels. If fewer than three waveforms are displayed, then the corresponding waveform channel is blank.

Beside each waveform, a predefined parameter field displays ventilator parameters. Flow loops and fixed time scale trends are also displayed. Parameter limits, crossbells, and units are not displayed in the VentWatch parameter fields.

The VentWatch screen displays up to 2 real time ventilator flow loops: FV (flow/volume) and PV (pressure/volume). The parameter fields adjacent to the flow loops contain dynamic compliance (Cdyn) and dynamic resistance (R), along with the following blood gas values: pH, HCO₃, hematocrit, hemoglobin, PO₂ and PCO₂, if available.

The VentWatch screen also displays an 8-hour non-dynamic trend for up to three ventilator parameters, configurable via the Trend Preferences dialog box. If no trend parameters are selected for display or the trend data is not available from the bedside, this section of the display will be blank.

Show All Vent Parameters

The Show All Vent Parameters screen displays an extensive list of Ventilator-related parameters and settings from the VentWatch display including:

- Parameter or setting label
- Units of measure
- Measured value of parameter
- Value of setting
- Time associated with setting value

Open the screen by clicking the **Show All Vent Parameters** button.

Parameter	Units	Measured	Setting	Setting Time
CMV FREQ	%		20	21-OCT-2009 23:11
SIMV FREQ	%		50	21-OCT-2009 23:11
PEEP	cmH2O	0		
RRv	1/min	20		
iO2	%	100		
PIP	cmH2O	60		
MAP	cmH2O	20		
Pause	cmH2O	60		
TVi	ml	15		
TVe	ml	15		
MVi	L/min	3.0		
MVe	L/min	0.3		
Cdyn	ml/cmH2O			
Raw	cmH2O/L/sec			

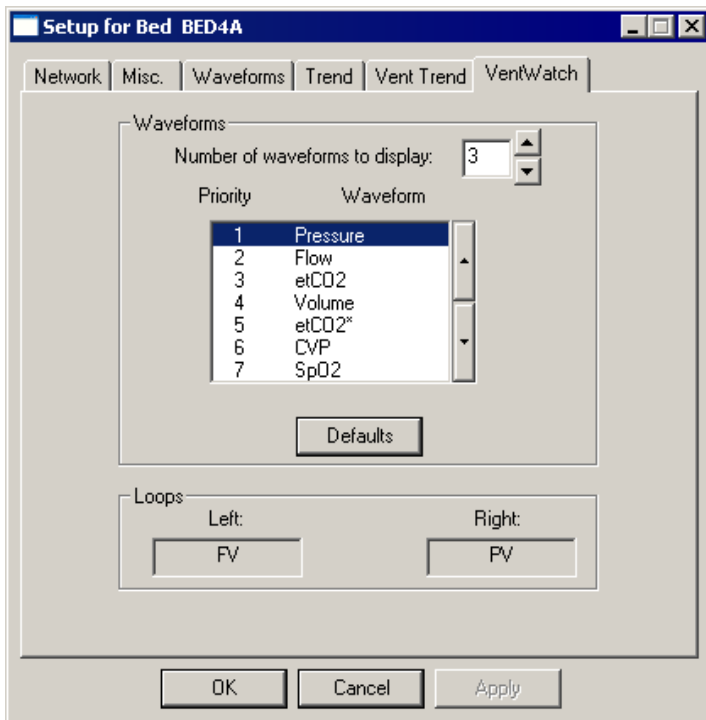
PIP	60	PEEP	0
MAP	20	Pause	60
MVe	0.3	TVe	15
RRv	20	MVe s	
InspT%	75	iO2	100
Ti		Te	
Cdyn			
Raw			

NOTE

The order of the Show All Vent Parameters is fixed. The values displayed are not updated dynamically. To get up-to-date values, press the **Show All Vent Parameters** button.

VentWatch Setup

Click the **VentWatch** tab to open the VentWatch configuration dialog box, where you can set the number and priority order of displayed waveforms on the VentWatch screen:



If the "Number of waveforms to display" field is less than three, the corresponding waveform channels and parameter boxes in the VentWatch screen will be blank.

The user sets the display priority order from a fixed list of seven possible waveforms. The actual waveforms displayed are determined by the availability of the waveforms from the patient monitor being viewed and the list of priorities.

The Vent Setup dialog box also shows the ventilator loops that display.

- FV: flow vs. volume
- PV: pressure vs. volume

The loops are not user-selectable.

NOTE

VentWatch settings are saved on a per-user basis on the client PC.

Save Diagnostics Log

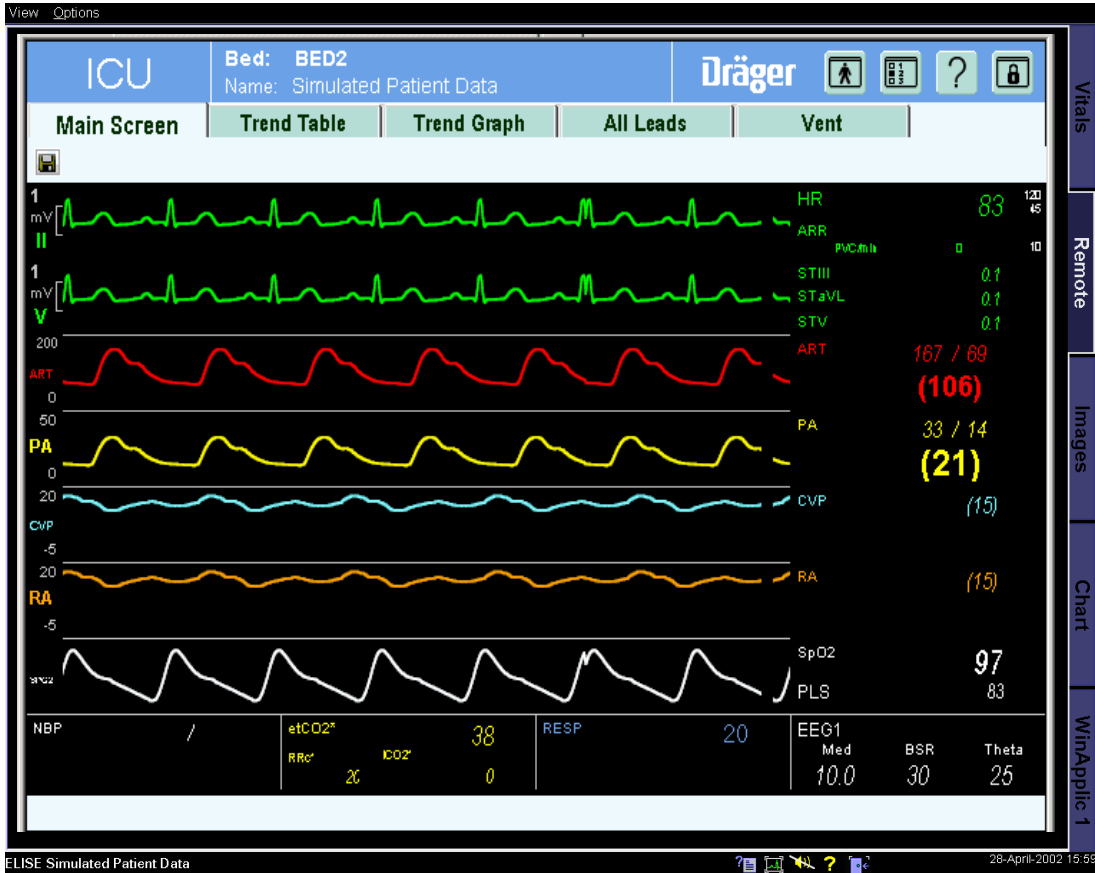
Once PatientWatch is connected to a patient monitor, save the patient monitor's diagnostic log to a file by selecting the **Save Diagnostic Log** button.

NOTE

- This functionality is not available with Telemetry bedsides, IACS, or SDC-enabled devices.
- Save Diagnostic Log is not available to members of the "Hide Demographics" group.

Single Patient Display Mode

The display mode is selected via the View menu for Infinity Explorer. In Single Patient mode (1x1), only one patient panel displays.

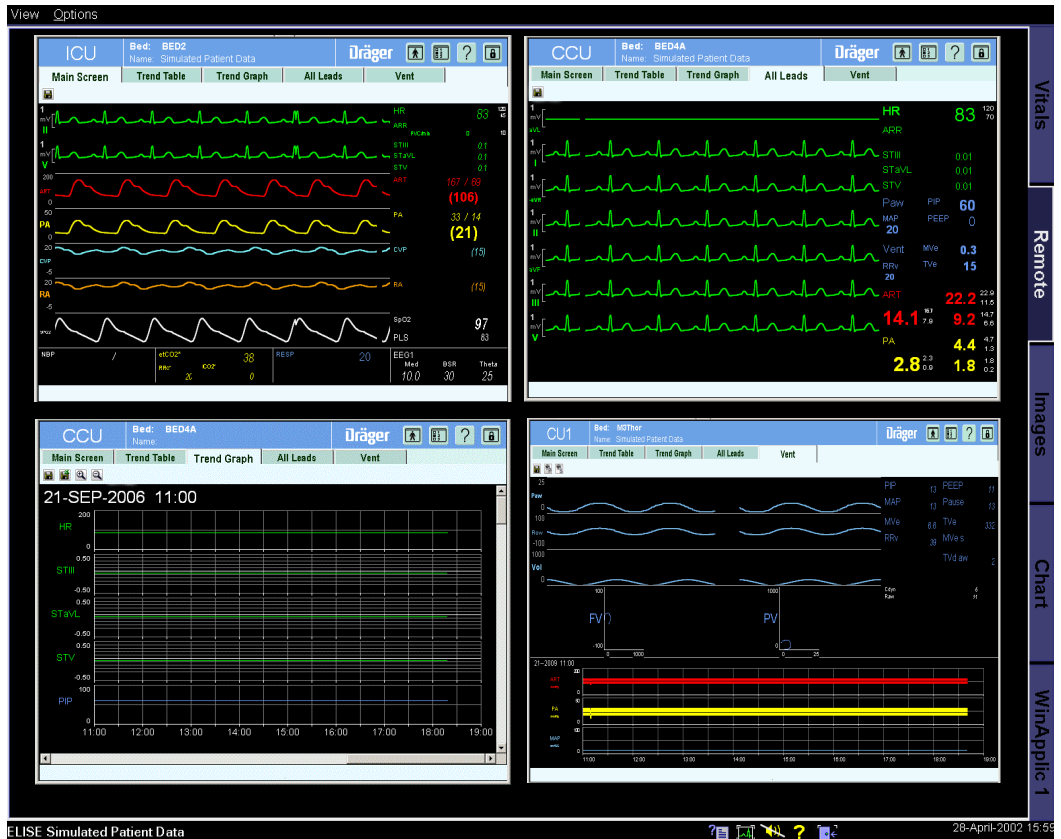


NOTE

You can access PatientWatch from the Infinity Acute Care System Cockpit RemoteView tab.

Multi-Patient Display Mode

The display mode is selected via the View menu for Infinity Explorer and the Infinity Acute Care System. In Multi-Patient Mode (2x2), four patient panels display.



NOTE

You can access PatientWatch from the Infinity Acute Care System Cockpit RemoteView tab.

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These Instructions for use only apply to




PatientWatch VF9.0

with the Serial No.:

If no Serial No. has been filled in by Dräger,
these Instructions for Use are provided for
general information only and are not intended for
use with any specific machine or unit.



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