

MediCollector BEDSIDE

Getting Started Guide

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Purpose

This document explains how to get started using the MediCollector BEDSIDE application.

Contents

Purpose	1
Overview	2
Connecting your medical device	2
System Requirements	2
Installing the software	2
Updating the software	2
Try the FREE evaluation version.....	3
Purchase a subscription	3
Activate a subscription.....	3
Renew a subscription.....	3
Using the software	3
Recording data	3
Using the software (without connecting to a medical device)	4
Adding annotations.....	5
Streaming data to external systems (e.g. using HL7).....	5
Stopping a session.....	6
Viewing data	6
Exporting data.....	7
Accessing data without exporting.....	8

Overview

MediCollector BEDSIDE is a software application that can acquire, record and stream data from a connected medical device. The MediCollector BEDSIDE software runs on a Windows computer and records and/or streams the data generated by the medical device. The data can be recorded to disk and/or streamed live to external systems via HL7, FHIR and TCP.

Connecting your medical device

Follow these instructions to connect your device.

1. First, make sure your device is on our [list of supported devices](#).
2. On that list, find the corresponding “cable pack” required for connecting your device.
3. Review the [requirements](#) for the cable pack. For example, your device may need a special communications card.
4. Purchase the cable pack from MediCollector.
5. If your computer doesn’t have a serial port (most don’t), you should also purchase a [USB-to-Serial adapter](#).
6. Once your cables have arrived, follow the accompanying instructions to connect your device

If you are confused about cabling requirements, please [contact us](#). We’d be happy to guide you through the process.



Please Note! You can always test MediCollector software **without connecting a medical device**. As explained below in this document, you can launch a session and select “Simulated Device” and generate simulated signals without connecting a physical device.

System Requirements

Before installing the software on your computer, review the following minimum system requirements:

- Microsoft Windows 7 or newer (64 bit only)
- 2.0 GHz CPU (x86 only – ARM processors are NOT SUPPORTED)
- 1.0 GB RAM
- USB port (only required to unlock the evaluation version)
- Serial port (if your computer doesn't have one, you can use a [USB-to-serial converter](#) instead)

Installing the software

Download the latest installer from the [MediCollector website](#). The software can be installed by double-clicking on the downloaded installer file.

Updating the software

It is recommended that you occasionally check the MediCollector website for software updates. MediCollector BEDSIDE can also check for updates automatically by selecting *HELP>Check for update automatically* from the main menu.

We regularly release minor updates, improvements, and bug fixes via the website. To update an existing installation, simply download and run the latest installer. It will overwrite the existing installation automatically but will not affect your data files. There is no need to un-install the old version when upgrading. To stay up to date on the latest changes, you can also [join our mailing list](#).

Try the FREE evaluation version

After installation, the software will run in “evaluation mode”. While running in evaluation mode, there are restrictions:

1. Each recording/streaming session is limited to 2 minutes.
2. When exporting data from a file that was recorded in evaluation mode, you will only be able to export 10 seconds of data.

When you purchase a subscription, these restrictions will be removed.

Purchase a subscription

To purchase a subscription and unlock restrictions, please [see our website](#). We offer many ways to purchase a subscription (e.g. credit card, Purchase Order, wire transfer, etc.). Once you have purchased a subscription, you will receive an email with instructions on how to activate your subscription. This email will contain a *License ID* and *Password* which you enter into the software to activate your subscription (see below).

Activate a subscription

To activate your subscription, follow these instructions:

1. Launch MediCollector BEDSIDE
2. Select *HELP>Licenses* from main menu
3. Click the *Activate* button
4. Click the *Automatic Activation* button
5. Enter the *License ID* and *Password* that was provided to you via email when you purchased the software. If you can't find this information, please [contact us](#) and we will re-send it.
6. Click the *Activate* button
7. Your license should be activated on your computer.

You can also activate your subscription on a computer that does not have Internet access. This is done by following the instructions above but click *Manual Activation* in Step 4.

Renew a subscription

As your subscription approaches expiration, you will begin to receive emails providing a simple way to renew your subscription. The MediCollector BEDSIDE software will also prompt you to renew your subscription. We offer many ways to renew. The easiest way to renew your subscription is login to our [License Portal](#) and purchase a renewal online using a credit card. Your software installation will then automatically detect the renewal and extend your subscription immediately. We also accept Purchase Orders and Wire Transfers and other methods for renewal. Please [contact us](#) for assistance.

Using the software

Follow the instructions below to begin using the MediCollector BEDSIDE software.

Recording data

To launch a new session, choose one of these options:

- Click the NEW button in the Welcome Window
- Select FILE>NEW from the main menu
- Type CONTROL-N
- Click the NEW SESSION button in the toolbar

When you launch a new recording or streaming session, a wizard window will appear to guide you through the process. At the end of the wizard, you will be prompted to start the session. Once the session has launched, data will flow across the screen as seen below as seen in Figure 1 below.

Using the software (without connecting to a medical device)

When you launch a new session, you must choose which type of medical device to connect. If you want to test the software without connecting to a real medical device, choose the “Simulated Device” and you can run the software without connecting a physical device.



Figure 1 Live data shown during a recording

The fields in the status bar at the bottom of the window display various useful parameters, such as file size and start timestamp and elapsed time.

Use this to change the width of the graph



When your session launches, MediCollector will automatically choose which signals to display. However, it can only display up to 10 signals simultaneously. To choose which signals are displayed, click the SIGNAL INFO button on the toolbar, or select VIEW>SHOW SIGNAL INFO from the main menu. Doing so will display the window seen below in Figure 2.

Only signals with a checkmark will be shown on-screen

You can record as many signals as the device allows, but you can only show 10 signals on-screen simultaneously.

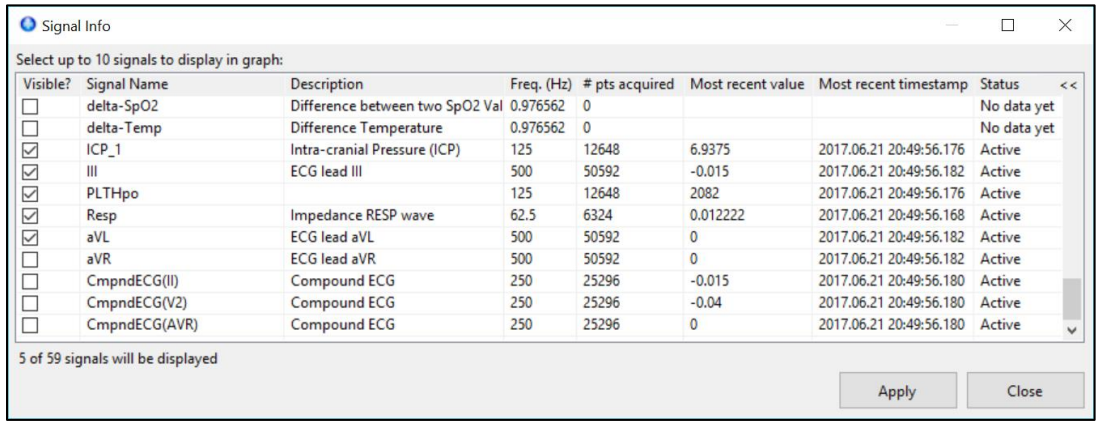


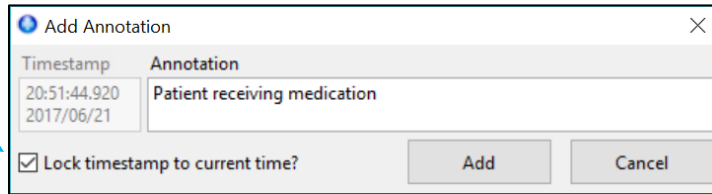
Figure 2 Signal Info dialog, where you can select which signals to view

Adding annotations

Annotations can be added to a recording, both during a recording and after-the-fact. To add an annotation, click the ADD ANNOTATION button from the toolbar. And to see a list of all the existing annotations, click the VIEW ANNOTATIONS button.

Checking this box will force the timestamp to continually update to "now" time.

If you check this box, the timestamp of your annotation will be recorded as the exact time when you clicked the ADD button.



To change the timestamp to any arbitrary time of your choosing, simply uncheck the box and enter your own timestamp.

Figure 3 Adding an annotation

Streaming data to external systems (e.g. using HL7)

In addition to recording data MediCollector BEDSIDE can stream live data to external systems such as Matlab or LabVIEW or even to hospital information systems (HIS) such as electronic medical records systems (EMR) systems using HL7. To enable streaming, launch a session and enable streaming as shown in Figure 4 below. For more information about streaming, read the [TCP & HL7 Streaming Guide](#) (also available via the main menu: *HELP>TCP & HL7 Streaming Guide*).

When enabling streaming, you will need to choose which protocol to use when streaming data:

- **HL7 2.6:** Choose HL7 2.6 (Health Level 7) to stream data to a hospital information systems (HIS), electronic medical records systems (EMR), or integration engine, etc. The HL7 interface is explained in more detail in the [TCP & HL7 Streaming Guide](#).
- **HL7 FHIR:** Choose HL7 FHIR to stream your data in bundles of FHIR Resources to an external FHIR Server.
- **MediCollector Format:** Choose the MediCollector Format to stream data quickly and easily to external applications such as Matlab or LabVIEW (example code included). The MediCollector Format is explained in more detail in the [TCP & HL7 Streaming Guide](#).

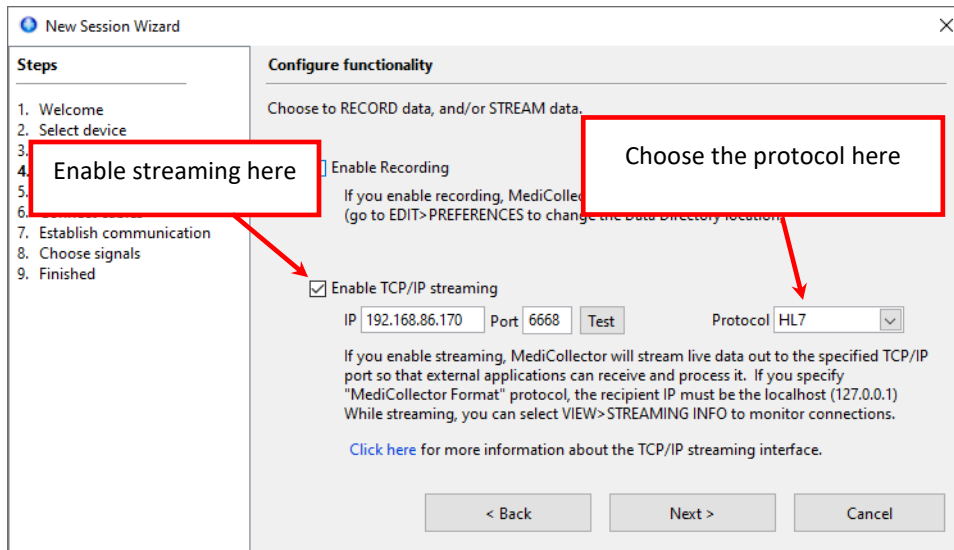


Figure 4 How to enable streaming

Stopping a session

To stop a session, click the STOP button in the toolbar. If you recorded data during your session, it will be saved to a file that ends with a “.medi” extension.

Viewing data

The MediCollector BEDSIDE application can be used to visualize signals from a saved .medi datafile. To load and view the data, select FILE>OPEN from the main menu. Or select a previous recording in the Welcome Window and click the OPEN button.

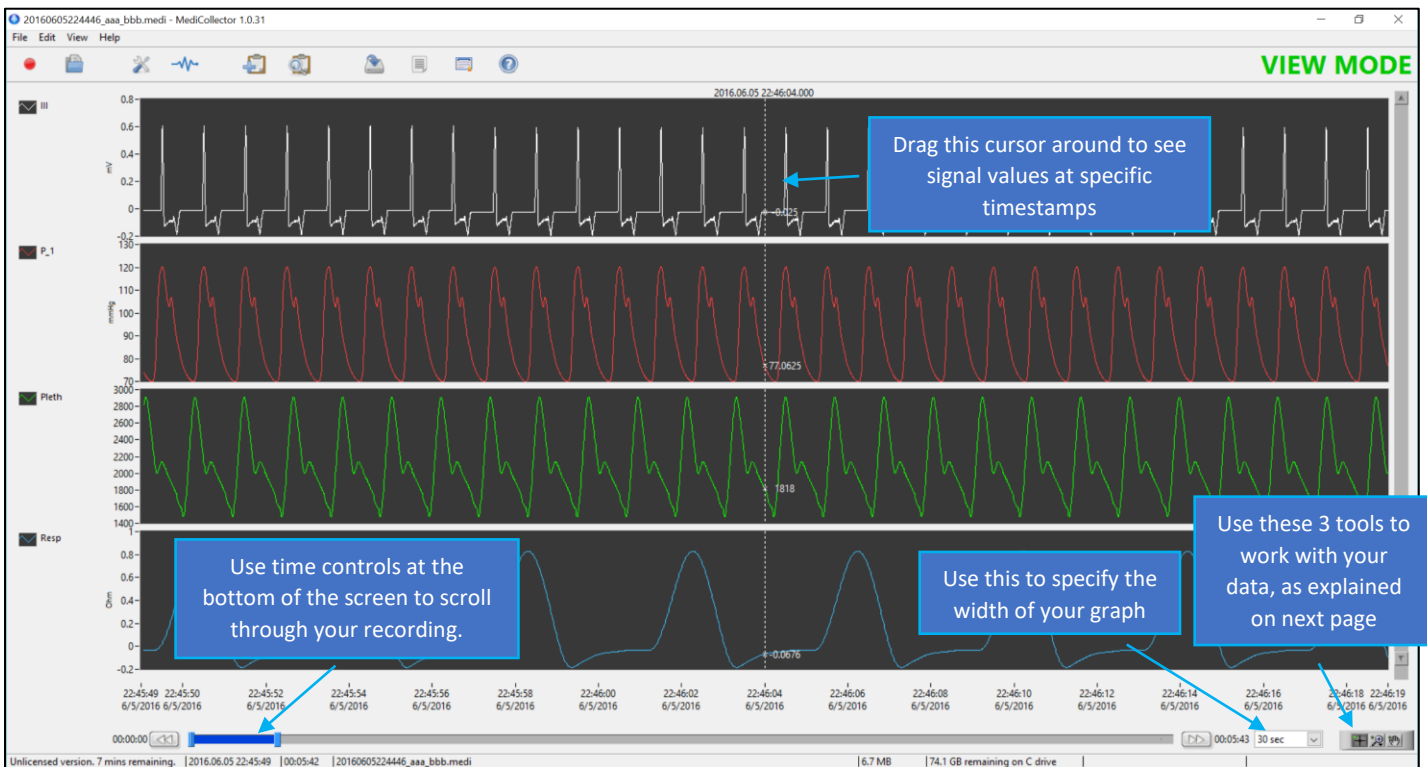





Figure 5 Viewing Data in MediCollector After a Recording Is Finished



MediCollector can record as many signals as the device allows. But it can only display up to 10 signals simultaneously. This is just a limitation of the display. You can record as many signals as possible. To choose which signals are displayed, click the SIGNAL INFO button on the toolbar.

At the bottom of the MediCollector BEDSIDE window, you will see a small toolbar with 3 tools in it as described below.

	Cursor Tool Use this to display the vertical cursor which can be moved around to see values and timestamps for each of your signal (see Figure 5). If you can't find your cursor (because it is off-screen), simply right-click anywhere on the graph and choose <i>Move Cursor to Center</i> to find it again.
	Zoom Tool Use this to zoom in and out.
	Drag Tool Use this to drag the signals, which scrolls the x-axis automatically.

Exporting data

To export data to a 3rd party application such as Matlab or Excel, you must first open the file for viewing inside MediCollector (see above). Once the file is open, select FILE>EXPORT from the main menu. Or click the EXPORT button in the toolbar. An export wizard will then appear to guide you through the process. Please note the following about exporting data:

- **Choose how to group the signals**

When exporting your data, the first question you will encounter in the Export Wizard is how to group your exported signals. You must choose whether you want to group your signals into one file, or to export one file for each signal. This choice is up to you. Your choice will depend on how you want to work with your data after exporting it.

- **File format**

MediCollector can export data in 3 different file formats. The advantages and disadvantages of these file formats are explained below:

- TXT/CSV (Delimited Text File)

Text files are exported as universal tab-delimited files (also known as CSV files). Choosing this format will allow you to import your data into virtually any third-party application like Excel, Matlab, R, and SAS. The downside is that text files consume a lot of disk space, and the export process is fairly slow.

- EDF

EDF and EDF+ files are a common way of storing physiological signal recordings. EDF files can be imported into many third-party applications, but they are not as widely accepted as text files. The advantage to EDF and EDF+ files is that they consume less disk space and the export process is very fast. If you choose EDF, annotations will be exported as a separate text file.

- EDF+

The only difference between EDF and EDF+ formats is that annotations are included inside EDF+ files.

- **“Not a Number” format**

When recording data, situations may arise where a signal value becomes “invalid”. For example, if a sensor is

unplugged. If a medical device instructs MediCollector that a given datapoint is “invalid” or “not measured”, that datapoint will be recorded as “Not a Number” and will appear blank in the MediCollector window as seen below in Figure 6 below. When exporting data to a text file, you can choose how to represent these invalid datapoints. You can choose to replace that value with “NaN” or an empty string or a zero.

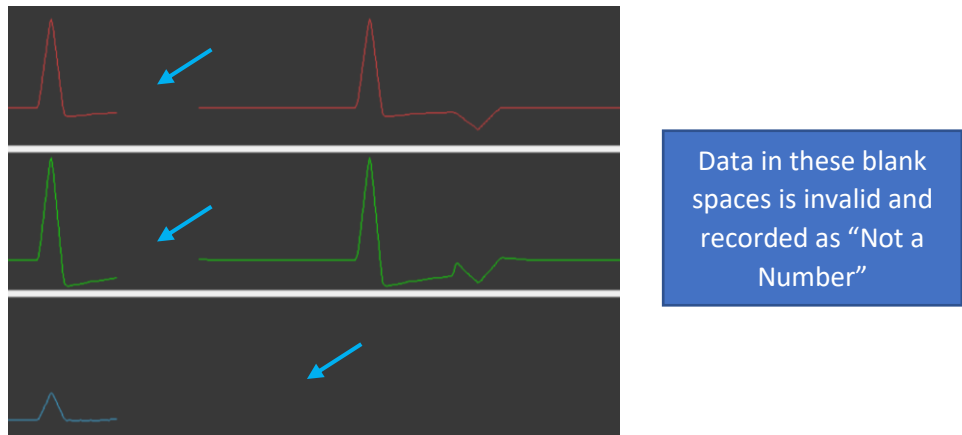


Figure 6 How “Not A Number” is Visualized Within MediCollector

Accessing data without exporting

Normally, to access the data in a MediCollector datafile, you would export it to a CSV file or EDF file as explained above. The resulting exported file can then be imported into other applications like Excel, Matlab, SAS, R, etc. But that can be cumbersome. With a little effort and programming skill, you can skip the export step and access data in the datafile directly. For instructions on how to do this, please see our blog posting: [How to access data in MediCollector files \(without exporting\)](#).