

VS-2020-034

Beat2Phone ECG Cloud Service User Manual

Professional user



Beat2Phone ECG

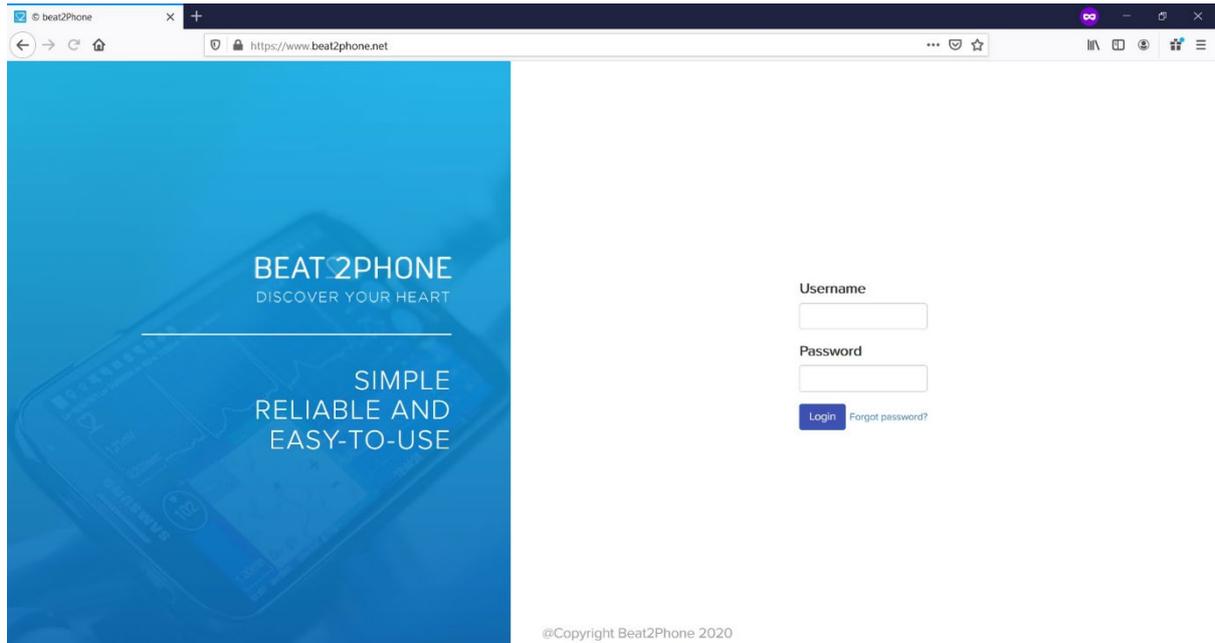
Powered by VitalSignum



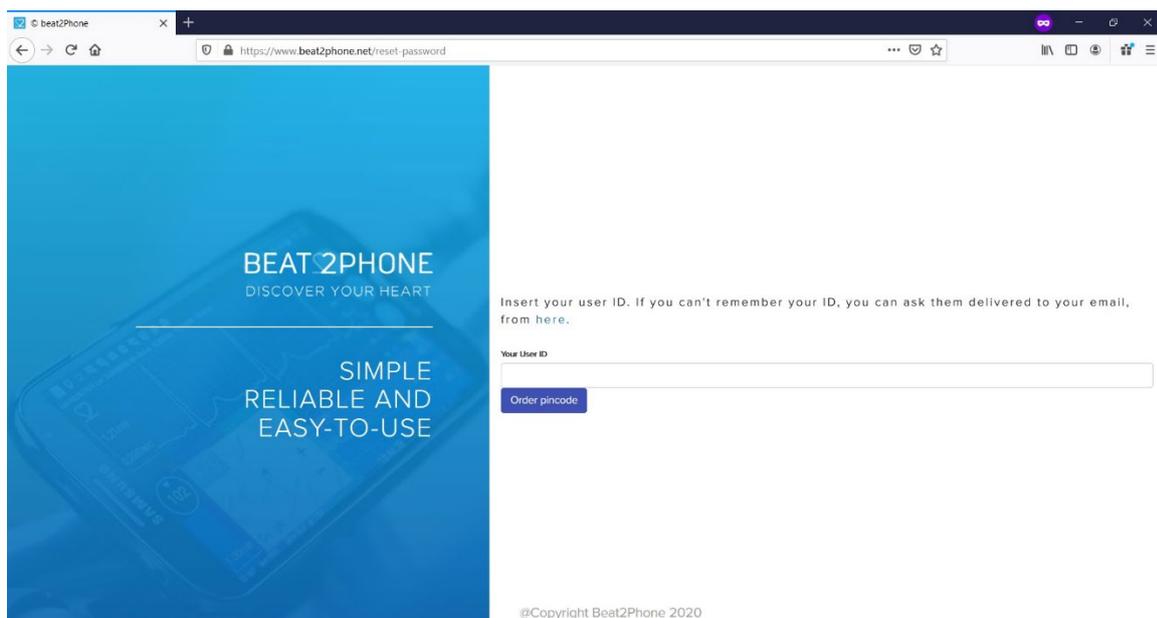
Logging in and account settings

You can find the Beat2Phone ECG Cloud Service at <https://www.beat2phone.net>

To log in to the cloud service, use the username and password that you have created in the Beat2Phone ECG mobile application, or that have been created for you by your organization admin.



If you have forgotten your password, choose “Forgot password?” next to the login button. By inserting your user id, the system will send you a PIN code to reset your password. The PIN code will be sent to the email that was used to create your user profile.





If you cannot remember your user ID, you can order a list of your usernames to your email by clicking the link that says “here”.

Insert your user ID. If you can't remember your ID, you can ask them delivered to your email, from [here](#).

A form to input your email opens. By inputting the email that you used to create your profile, the system sends your username(s) to your email.

After successfully logging in, you can change your account settings from the “Account” button in the top right corner.

Account

Patient and measurement list view

After logging in, you will see a list of patients belonging to your organization.

The screenshot shows the Beat2Phone web application interface. The header includes the logo 'BEAT2PHONE DISCOVER YOUR HEART' and navigation links for 'Account' and 'Logout'. The main content area is titled 'Patients for DrMatti3' and features a search bar and a table of patients. The table has three columns: 'Patient', 'Organization', and 'Latest'. The data in the table is as follows:

| Patient | Organization | Latest |
|-----------------|--------------|-----------------|
| Petsu123 | vitalsignum | 9.7.2020 10:57 |
| mmmm | vitalsignum | 30.6.2020 12:50 |
| motorolav1 | vitalsignum | 24.6.2020 10:47 |
| AvaruusSeta | vitalsignum | 16.6.2020 13:32 |
| honor20v1 | vitalsignum | 16.6.2020 12:36 |
| motorolav2 | vitalsignum | 10.6.2020 10:24 |
| PotilasXiaomiV2 | vitalsignum | 9.6.2020 13:36 |
| honor2012hv2 | vitalsignum | 9.6.2020 9:33 |

Below the table, there is a copyright notice: '@Copyright Beat2Phone 2020'. To the right of the table, there is a dropdown menu labeled 'Select active organization' with 'VitalSignum Oy' selected.

You will see a list of patients. The uppermost patient is the patient with the most recent measurement. To open the ECG view of the most recent measurement of a patient, click on the button with the date and time of the measurement.

9.7.2020 10:57

To add new patients to your organization, scroll down the patient list and select “Add patient”.

Add patient

A form to input the patient ID opens.



To choose a patient that you wish to examine more closely, click on the name of the patient.

| | | |
|------------|-------------|-----------------|
| Petsu123 | vitalsignum | 9.7.2020 10:57 |
| mmmm | vitalsignum | 30.6.2020 12:50 |
| motorolav1 | vitalsignum | 24.6.2020 10:47 |

A list of measurements for the selected patient opens. The uppermost measurement is the most recent one. The duration of the measurement is shown in the duration field. The findings field displays the number of different annotations made by the patient or by a professional and gives detailed information when hovered over. If your organization has bought the Beat2Phone ECG analytics service, the findings field will also display those annotations. Hovering over the findings button opens a list of unique annotations. The list includes the source and type of an annotation, and the number of those annotations in the recording. The source of an annotation can be '-', meaning the patient, 'alg', meaning algorithm, or the user ID of a professional user.

ATTENTION: Algorithm (alg) annotations are not intended to be the sole means of diagnosis for any abnormal ECG. They are offered to physicians on an advisory basis only, in conjunction with the physician's knowledge of ECG.



| Source | Type | # |
|----------|--|---|
| – | Comment annotation | 1 |
| – | Irregular rhythm | 1 |
| DrAcula | Atrial flutter | 1 |
| DrAcula | Diastole | 1 |
| DrAcula | Change in signal quality | 1 |
| alg | Normal sinus rhythm | 1 |
| kkivinie | Palpitation | 1 |
| kkivinie | Nodal (junctional) premature beat | 1 |
| kkivinie | Left bundle branch block beat | 2 |
| kkivinie | Supraventricular premature or ectopic beat (atrial or nodal) | 1 |

The Show ECG button opens the ECG chart view.

Show ECG

The measurement list also includes search functions that can be used to filter the list of measurements with several different criteria, for example measurement duration and types of annotations.

Patient mmmm

Sources

Select...
▼

Select annotations

Select...
▼

Date

Duration Min

Duration Max

Search

Clear

Choose a recording you wish to examine by clicking the name of the recording.

| | | | |
|------------------|------------|---|----------|
| 04.11.2019 16:19 | 2m 5s | 0 | Show ECG |
| 16.10.2019 11:01 | 1h 38m 16s | 4 | Show ECG |
| 16.10.2019 10:30 | 15m | 0 | Show ECG |

Details about the measurement open to the right.

5



Test 20191016T110159+0300__a2e1

Time: 16.10.192019 11:01 Show ECG

| @ | Type | Description |
|------|------|-----------------------------------|
| 396 | N | Normal beat |
| 746 | A | Atrial premature beat |
| 3176 | V | Premature ventricular contraction |
| 4337 | e | Atrial escape beat |

In this list, each annotation made by the patient, a professional, or the Beat2Phone ECG analytics service algorithm is displayed. By choosing an annotation from the list, the ECG graph view opens, and the ECG graph will be centered around the chosen annotation.

ATTENTION: Algorithm (alg) annotations are not intended to be the sole means of diagnosis for any abnormal ECG. They are offered to physicians on an advisory basis only, in conjunction with the physician's knowledge of ECG.

The ECG graph view can also be opened from the Show ECG button.

Show ECG

ECG graph view

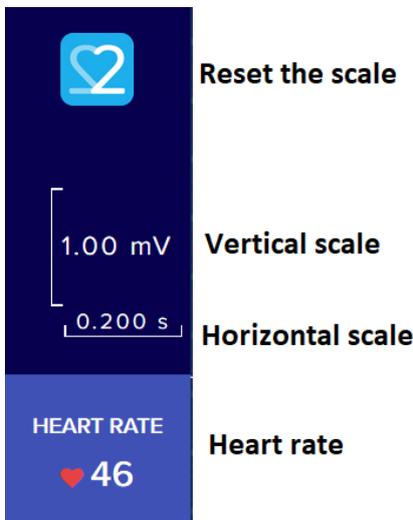
The ECG graph view opens from the start of the measurement by default. If you opened it by choosing an annotation from the list view, the graph will be centered around the chosen annotation.

The white graph in the middle is the ECG graph, and the yellow graph below is the RRI graph that displays the changes in the heart rate.

ATTENTION: Sometimes annotations made by the algorithm (alg) might be slightly off, e.g. off by one R peak on the ECG.



On the left of the screen, you can see the scale of the measurement view. Two squares vertically are 1.00 millivolts, and two squares horizontally are 0.200 seconds. The horizontal scale can be zoomed in and out with the mouse scroll wheel. You can reset the scale by clicking the Beat2Phone logo on the left. In addition, the heart rate is displayed on the left.



Reset the scale

Vertical scale

Horizontal scale

Heart rate

On the top of the screen, there are controls for moving between annotations and automatically playing the ECG graph. From 'Annotations', you can filter the annotations by type and source and use the arrows to move between annotations. From 'Play/Pause' you can choose whether to play the ECG graph or the HR graph. After that, the arrow keys are used to control whether the playback is forwards or backwards. From 'Speed Control' you can adjust the playback speed.



Annotation source

Annotation type

Move between annotations

Choose ECG/HR

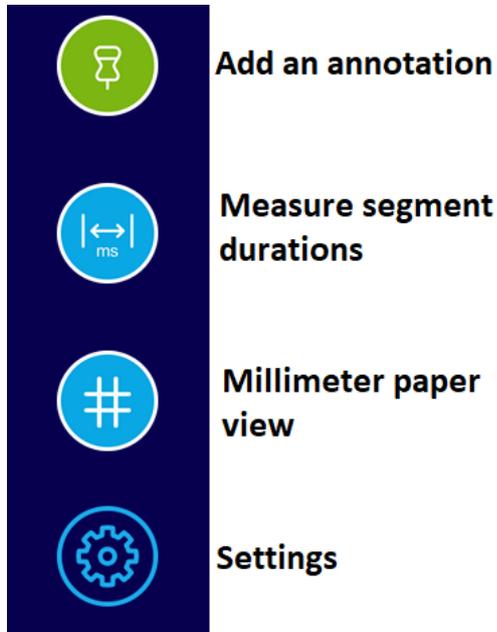
Play backwards or forwards

Playback speed control

Return to registrations



On the right, there are various buttons. From the first button, annotations can be added to the registration. From the next button, you can open a tool for measuring the duration of different segments in the ECG. From the middle button, you can open a millimeter paper view of the ECG. The last button opens settings.



Segment duration measurement tool

The segment duration measurement tool can be used to estimate the duration of different waves and segments. You use the tool by first dragging the vertical dotted line to the correct spot, for example to the onset of the P wave, and then clicking the corresponding button from the top. By repeating this step for all points, the tool calculates the durations.



Drag the dotted line to the onset of the P wave and choose 'Onset P'



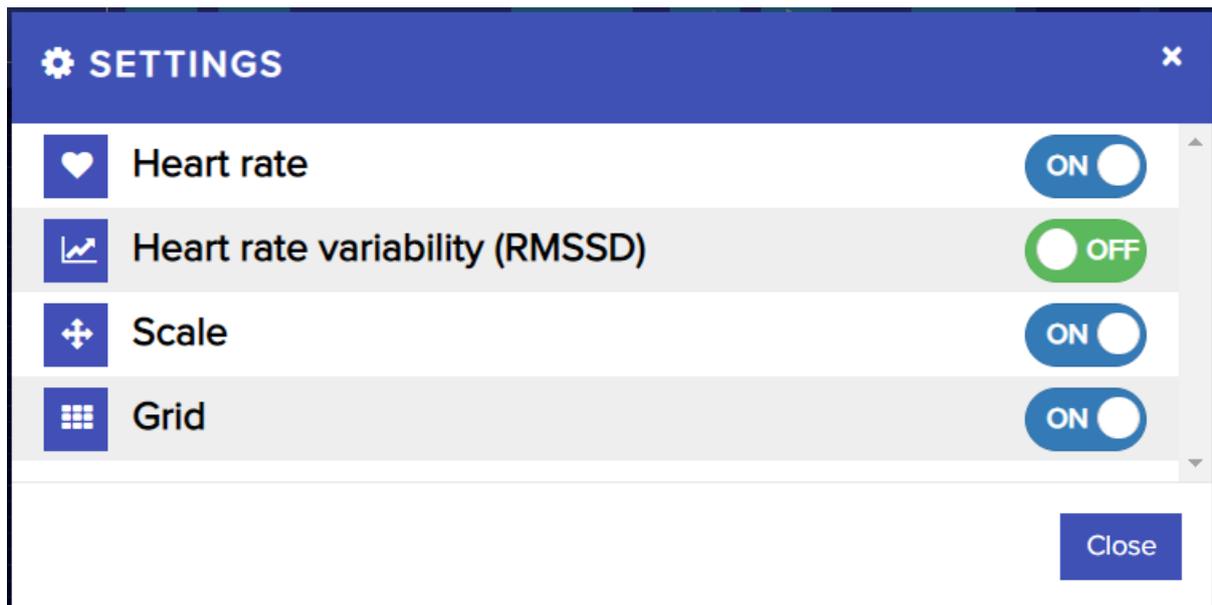
Drag the dotted line to the end of the P wave and choose 'end P'



The tool displays the duration of the P wave in milliseconds

Settings

From settings, you can choose whether to display the HR graph and the HRV graph. You can also choose whether to display the scale and the grid.



Millimeter paper view

The millimeter paper view shows 30 seconds of ECG from the selected spot on the ECG view, 15 seconds backwards and 15 seconds forwards from the spot. A black dot is visible on the millimeter paper to indicate the selected spot. The HR graph from the whole recording is displayed on the bottom of the millimeter paper. The HR graph also includes the black dot that indicates the selected spot. Annotations are also available on the millimeter paper.



The millimeter paper can be saved as an image by selecting the save button (floppy disk).



The millimeter paper can be printed or saved as pdf by right clicking the millimeter paper and selecting Print... or by using the shortcut ctrl+P.

To exit the millimeter paper view, use the back button of the browser to return to the ECG graph view or click the Beat2Phone ECG logo to return to the patient list.

Change history

| Date | Revision | Changes | Valid from |
|------------|----------|--|------------|
| 29.9.2020 | 1.0 | Approved | 29.9.2020 |
| 15.10.2020 | 2.0 | Added ATTENTION on algorithm markings, removed trash bin form ECG graph view, added settings view. | 15.10.2020 |