



User Manual

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 GS Elektromedizinische Geräte

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For a patient/user/third party in the European Union and in countries with identical regulatory regime (Regulation 2017/745/EU on Medical Devices); if, during the use of this device or as a result of its use, a serious incident has occurred, please report it to the manufacturer and/or its authorised representative and to your national authority.

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Further technical information can be obtained from the manufacturer.

Versions of the User Manual

The following table gives an overview of the versions of this User Manual

Issue	Date	Version User Manual	Version corpuls.mission LIVE
1	2011-12-19	1.0 The Administration Manual forms part of the User Manual.	1.0
2	2012-07-10	1.1 The Administration Manual forms part of the User Manual.	1.1
3	2012-10-01	1.2 The Administration Manual forms part of the User Manual.	1.2
4	2013-04-23	1.3	1.3
5	2014-01-21	1.4	1.4
6	2014-07-24	1.5	1.5
7	2014-11-05	1.6	1.6
8	2017-05-30	2.0	2.0
9	2018-02-01	2.0.2	2.0.2
10	2018-11-16	2.1.0	Darwin (2.1.0)
11	2020-02-24	Everest 1912	Everest 1912
12	2020-03-27	Everest 2003	Everest 2003
13	2020-08-08	Franklin 2005	Franklin 2005
14	2020-10-28	Franklin 2009	Franklin 2009

New in this Version

The following table gives an overview of all new features in this version:



corpuls.web LIVE has been renamed corpuls.mission LIVE as of version Franklin 2009.

Description
Supports version 4.0 of the corpuls3
Display of the D-ECG with 22 leads (option)
Display of the CEB® (option)
Display of the parameters of the corpuls cpr if it is connected with the sending corpuls3
Events of the corpuls3 are highlighted in "Live Board"
The CEB® value can be sent automatically as webMessage to the corpuls3

Compatibility of software versions

The following table gives an overview, which versions of corpuls.mission LIVE are compatible with which software versions of corpuls3.

corpuls.mission LIVE version	Compatible corpuls3 versions
1.0	1.7.2 1.8 1.9
1.1	1.7.2 1.8 1.9
1.2	1.7.2 1.8 1.9 2.0
1.3	1.7.2 1.8 1.9 2.0 2.1
1.4	1.7.2 1.8 1.9 2.0 2.1
1.5	1.7.2 1.8 1.9 2.0 2.1 2.2
1.6	1.7.2 1.8 1.9 2.0 2.1 2.2 2.3

corpuls.mission LIVE version	Compatible corpuls3 versions
2.0	2.1 2.2 2.3 2.5 3.0
2.0.2	2.1 2.2 2.3 2.5 3.0
2.1.0 (Darwin)	2.1 2.2 2.3 2.5 3.0 3.1
Everest 1912	2.3 2.5 3.0 3.1 3.2
Everest 2003	2.3 2.5 3.0 3.1 3.2
Franklin 2005	2.3 2.5 3.0 3.1 3.2 4.0
Franklin 2009	2.3 2.5 3.0 3.1 3.2 4.0

Compatibility of features

Not all features of corpuls.mission LIVE are compatible with all versions of corpuls3. The following table gives an overview of the features which can only be used with restrictions or not at all in some versions of corpuls3.

Feature	As of corpuls3 version	As of corpuls.mission LIVE version
Display of Big 6/Big 8 (VitalView)	2.3.0	2.0
Display of trends	3.0.0	2.0
Saving timeline entries	3.0.0	2.0
Sending webMessages		
Display of Big 4 (VitalView)	3.1.0	2.1
"Live data history" view (Live History)	3.0.x	2.1
Send the CEB® automatically as webMessage to the corpuls3	3.0.0	Franklin 2009

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1 Performance Description

1.1 Intended Use

corpuls.mission LIVE is a telemetry application for receiving, analysing, storing, administration, forwarding, documentation and monitoring of medical data that are transferred by corpuls devices - but not limited to - via telecommunication connections. corpuls.mission LIVE allows professional medical staff at the emergency site to request advice via teleconsultation.



WARNING!

Patient risk due to loss of communication!

During the use of corpuls.mission LIVE the operator has to make sure that there is an alternative way of communication by which the user of corpuls.mission LIVE and the treating medical staff with the patient can be in contact.

- ▶ Provide an alternative way of communication.
-

1.2 Indications

The indications of the data sending corpuls patient monitor apply.

1.3 Contraindications

No contraindications are known for the software product corpuls.mission LIVE, for the transmission from corpuls devices at the mission site, contraindications are defined in the relevant documents.

1.4 Life

The lifetime of this corpuls.mission LIVE version is the time until the following corpuls.mission LIVE version is available on the market. During the lifetime GS Elektromedizinische Geräte G. Stemple GmbH guarantees the stability of the characteristics and performance of corpuls.mission LIVE.

2 Directions for Users

This chapter contains information for use of the user manual.

2.1 Requirements for the User

- User must be familiar with handling the browser used.
- Users have to be professional medical personnel.
- Users have been trained in handling corpuls.mission LIVE .

2.2 Requirements for the Work Station

The computer work station for corpuls.mission LIVE should be set up in such a way that medical information is visible without problems.

One should avoid:

- Bright sunlight
- Reflections on the screen
- Too low contrast
- Screen too dark
- Wrong colour settings



CAUTION!

Functional error of the application!

Correct operation of the application can **only** be guaranteed, if corpuls.mission LIVE is used at a working place with mouse, keyboard and landscape-oriented monitor. Operation of the application on a portrait-oriented monitor or on a tablet PC with touchscreen is not permitted.

- ▶ Operate corpuls.mission LIVE at a working place with mouse, keyboard and landscape-oriented monitor.

2.3 Use of this manual

This user manual has been compiled to enable better understanding of corpuls.mission LIVE .

The user must read through the user manual from beginning to end.

The user manual provides users with the following information:

- Safe and interference-free operation of corpuls.mission LIVE
- Maintenance of corpuls.mission LIVE
- Troubleshooting

Besides the user manual, the applicable regulations, statutory provisions and accepted rules of technology must be observed.

2.3.1 Typographic and Content-related Conventions

The following typographic and content-related conventions apply:

Typographic Conventions

"Error message"	Indicates an error message.
Message	Indicates a message output by corpuls.mission LIVE .
[Navigation button]	Indicates that on a tab further areas can be selected via navigation button.
[Button]	Indicates a button.
Tab	Indicates a tab.
<i>Menu</i>	Indicates a menu item.
<i>List</i>	Indicates a list.
<i>List box</i>	Indicates a list box.
<i>Checkbox</i>	Indicates a checkbox.

Content-related Conventions

User The reader of the user manual is referred to in the following as "User". The user has the role "Users" or "Privileged user". Users with the role "Researcher" just have read-only access.

2.3.2 User Groups

User Groups Independent of the user roles mentioned above there are the following user groups:

User group	Name of user group	Members/Roles
1	User	"Privileged user" (e.g. emergency doctor) "Users" (e.g. nurse)
2	Administration	See Administration Manual/ System Administration Manual

Table 2-1 Definition of User groups

2.3.3 Depiction of Warnings and Notices

Warnings and notices:

- Warn the user of possible sources of danger.
- Point out important information to the user.

Warnings

Warnings alert the user of possible sources of danger. Warnings are categorised into four levels of danger. The levels of danger DANGER, WARNING and CAUTION denote bodily injuries. The danger level NOTICE indicates material- and environmental damage. Warnings for a chapter are listed at the beginning of the chapter. The user must heed warnings.

 **DANGER!**

A hazard with a high degree of risk which, if not avoided, will result in death or serious injury.

 **WARNING!**

A hazard with a medium degree of risk which, if not avoided, may result in death or serious injury.

 **CAUTION!**

A hazard with a low degree of risk which, if not avoided, may result in minor or moderate injury.

NOTICE!

Denotes a hazard with a low degree of risk which, if not avoided, may result in minor or moderate damage to property or the environment.

Notes



Notes point out important information which the user must heed when carrying out an instruction. Notes provide the user with additional information on a particular issue.

2.4 Related Documents

For information on the use, maintenance, configuration and troubleshooting of corpuls3, please consult the valid corpuls3 User Manual.

For information on the maintenance, configuration and interference-free operation of corpuls.mission LIVE, please consult the valid corpuls.mission LIVE Administration Manual.

2.5 System Requirements

For the operation of corpuls.mission LIVE the application corpuls.mission LIVE has to be installed on a server. Certain system requirements must be met to enable corpuls.mission LIVE to be used.

The following system requirements for the client have to be met:

- **PDF-Reader**
 - Adobe Reader version 9 or higher
- **corpuls3**
 - A corpuls3 that is to be used with corpuls.mission LIVE, must have at least software version 2.3.0.
 - A corpuls3 that is to be used with corpuls.mission LIVE has to be licensed.
- **Monitor**
 - Screen resolution at least 1280 x 800 pixels
(Recommended: 1600 x 900 pixels)
- **PC**
 - 1 GHz processor or higher with 32 bit (x86) or 64 bit (x64)
 - 32-bit system: 1 GB RAM memory
 - 64-bit system: 2 GB RAM memory

To ensure compatibility with new browser versions, corpuls.mission LIVE will be constantly tested, also between the release cycles. The result of these tests is that newer browser versions than those listed in the following table are permitted. To be able to work with newer browser versions, corpuls.mission LIVE has to be updated. Please contact your sales and service partner for information on which new browser versions are now supported and to request an update.



Browser must be free of plugins and add-ons. The browser has to allow popups.



If the user is using the browser Apple Safari, the newest version of Apple Quick Time has to be installed.

The following combinations of operating system and browser have been tested and are supported:

Operating system	Browser	Versions
Microsoft Windows 7 (64bit)	Mozilla Firefox	52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81
	Google Chrome	60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 83, 84, 85, 86

Operating system	Browser	Versions
Microsoft Windows 8 (64bit)	Mozilla Firefox	52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81
	Google Chrome	58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 83, 84, 85, 86
Microsoft Windows 8.1 (64bit)	Mozilla Firefox	52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81
	Google Chrome	58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 83, 84, 85, 86
Microsoft Windows 10 (64bit)	Mozilla Firefox	52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81
	Google Chrome	58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 83, 84, 85, 86
	Edge	15, 16, 17, 18, 80, 81, 83, 84, 85, 86
Mac OS X Catalina (10.15)	Mozilla Firefox	52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81
	Google Chrome	58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 83, 84, 85, 86
	Apple Safari	13.1

**WARNING!****Functional error of the application!**

The correct performance of the application can **only** be guaranteed if the system requirements are met.

► Note the system requirements.

2.6 Browser restrictions

The browsers used to display the user interface of corpuls.mission LIVE are standard software that is not under the control of GS Elektromedizinische Geräte G. Stemple GmbH. Browsers are not designed for long-term data visualisation. When the browser is used long-term, the behaviour of the application may differ from the normal behaviour. We recommend therefore to re-start the browser at regular intervals.

2.7 Data protection

corpuls.mission LIVE has the following data security properties:

- All data pertaining to the patient are transmitted in encrypted form.
 - Live data transmission is not encrypted, but is transmitted independently of the patient data.
 - Only in corpuls.mission LIVE are the live data allocated to the patient data that have been transmitted in encrypted form.
- This procedure guarantees a high degree of security.



















2.8 Symbols





















The following table describes the symbols used in the user manual.

Symbol	Designation	Explanation
	Add an element	Indicates that the user can add an element.
	Alarm	In the list <i>Event</i> this symbol indicates an alarm.
	Analyse	In the list <i>Event</i> this symbol indicates that an ECG analysis has been performed.
	Anonymised	Indicates that data have been anonymised.
	Attachment	Indicates that a file is attached.
	Audit logging	Indicates which users have had access to mission data.
	Bluetooth	Indicates that a webMessage has been sent via Bluetooth.
	Button Backward	Jumps back a few seconds on the timeline.
	Button Forward	Jumps ahead a few seconds on the timeline
	Category "All"	Indicates the navigation button [All], in which all missions can be found.
	Category "Last 24 hours"	Indicates the navigation button [Last 24 hours], in which all missions that have been sent within the last 24 hours can be found.
	Category "Last hour"	Indicates the navigation button [Last hour], in which all missions that have been sent within the last hour can be found.
	Category "New"	Indicates a new mission the navigation button [New].

Symbol	Designation	Explanation
	CE Mark	Identification number of the certifying body, indicates conformity with valid EU guidelines.
	Checkbox, not all sub-options selected	Indicates that not all sub-options of the checkbox are selected.
	Checkbox, not selected	Indicates that the option is not selected.
	Checkbox, selected	Indicates that the option is selected.
	Clock symbol	Displays the current transmission delay in the tab Live data .
	Close	Indicates that a window can be closed.
	Close mission	Allows to leave the current mission.
	corpuls format	Enables export in corpuls format
	Create new	Indicates that an element can be created.
	CSV format	Enables export in CSV format
	Data synchronisation	Synchronisation of patient data between corpuls3 and corpuls.mission LIVE .
	D-ECG not transferred	D-ECG not transmitted to corpuls.mission LIVE .
	D-ECG transmission is running	corpuls3 is transmitting a D-ECG to corpuls.mission LIVE .
	Defibrillation	The defibrillator is charging.
	Defibrillation performed	In the list <i>Event</i> this symbol indicates a defibrillation shock.
	Delete element	Indicates that the user can delete an element.
	Document	Allows to create a mission report.
	Download	Indicates that the user can download an element.
	ECG	Displays the tab D-ECG .
	Edit	Indicates that the user can edit an element.

Symbol	Designation	Explanation
	Error	Indicates an error message.
	Expand menu	Expands a menu and shows submenu items.
	Expand/Collapse	Indicates that the user can expand or collapse an element.
	Export	Shows export options
	Good compressions	In the list <i>Event</i> this symbol indicates that good compressions have been performed.
	Help	Activates a help text.
	High priority event	Indicates in "Live Board" a high priority event.
	Hourglass symbol	Additional ECG data is being calculated
	Import	Indicates that files can be imported.
	Info	Shows more information.
	Link	Indicates that a link has been placed on the tile of "Live Board".
	"Live Board"	Starts "Live Board" on a new browser page.
	Live data buffer status	Indicates the buffer status of the live data
	Live data buffer status	Indicates the buffer status of the live data
	Live data transmission active	Indicates on the tab Live data that the application is receiving live data.
	Live data transmission not active	Indicates on the tab Live data that the application is not receiving live data.
	Lock	Indicates that a mission is being edited by another user.
	Locked	Indicates that an option is not available.
	Logout	Enables the user to log out of corpuls.mission LIVE .

Symbol	Designation	Explanation
	Lot number	Build number on the product label.
	Manual forwarding	Allows to select a manual forwarding rule.
	Manufacturer	Denotes the manufacturer.
	Medical product	Indicates that the software is a certified medical device
	Medium priority event	Indicates in "Live Board" a medium priority event.
	Menu	Allows to call up the general menu.
	Messages	Allows to view timeline entries or webMessages.
	Mission browser	Shows the menu item Mission browser.
	Mission data	Displays the tab Mission data .
	New D-ECG	Indicates a new, un-opened D-ECG.
	No edit/read-only mode	Indicates on the mission chart that a mission is being edited by another user and can just be opened in read-only mode.
	No edit/read-only mode	Indicates in the opened mission that the mission is being edited by another user and can just be opened in read-only mode.
	Notification bell	Indicates a notification on the user interface.
	Online/Offline Status green	A Indicates that a corpuls3 is connected to corpuls.mission LIVE . B Indicates on the tab Live data that corpuls.mission LIVE is receiving live data.
	Online/Offline Status grey	A Indicates that no corpuls3 is connected. B Indicates on the tab Live data that corpuls.mission LIVE is not receiving live data.
	PDF format	Enables export in PDF format
	Product number	Product number on the product label.
	Production date	Indicates the production date.
	Profile	Shows the menu item Profile.

Symbol	Designation	Explanation
	Push harder	In the list <i>Event</i> this symbol indicates that the user has to push harder when performing compressions.
	Push lighter	In the list <i>Event</i> this symbol indicates that the compressions are too deep.
	Read the user manual	Indicates that the User Manual must be observed and allows to open the PDF of the User Manual.
	Refresh	Allows to refresh data.
	Save	Allows to save data.
	Sorting arrow, ascending	Is sorting elements in ascending order.
	Sorting arrow, descending	Is sorting elements in descending order.
	Stopwatch	In the list <i>Event</i> this symbol indicates the parameter Stopwatch in the live data.
	Successful	A step has been implemented successfully or an entry is correct.
	Time offset	Indicates the offset in relation to UTC.
	Timeline entry	The timeline entry has been saved successfully.
	Transmission delay	Displays the current transmission delay of the live data.
	Trends	Displays the tab Trends .
	Unique device identifier	Unique Device Identifier on the product label.
	User	Stands for a user in audit logging as default picture if no profile picture has been deposited and marks the changes that this user has made.
	User role(s)	Shows the user role(s) assigned to the user.
	Version	Version designation on the product label.
	Warning	Indicates a warning.
	webMessage pending	The webMessage is being transmitted.
	webMessage successful	The webMessage has been sent successfully.


Symbol	Designation	Explanation
	XLS format	Enables export in XLS format

Table 2-2 Symbols

3 Basics

To be able to use corpuls.mission LIVE , the users have to familiarise themselves with some basics.

3.1 Daily check

It is recommended to perform a check before using corpuls.mission LIVE , e. g. in the morning. For this, start the browsers, call up corpuls.mission LIVE and log in. Perform a function test of the speakers and make sure that the computer is not set to mute. If possible, establish a test connection with a corpuls3.



WARNING!

Functional error of the application!

The correct performance of the application can **only** be guaranteed if the browser is at zoom level 100%.

- ▶ Check configured zoom level.

3.2 Log in user

To use corpuls.mission LIVE , the user must log in.



CAUTION!

Data privacy risk!

Data privacy is at risk, if corpuls.mission LIVE is operated by a user other than the user stored in the user account.

- ▶ A user account is intended for the exclusive use of one individual user.

3.2.1 Log in User with User Name

Prerequisite:

- User name and password received from the administrator
- Server URL received from the administrator
- Browser has to allow popups
- Screensaver has been deactivated

To log in, proceed as follows:

1. Open a browser that meets the system requirements (refer to 2.5 System Requirements on page 5).
2. To call up corpuls.mission LIVE, enter the server URL into the address line of the browser and press the **Enter** key on the keyboard or the number block.

The login window appears.



Figure 3-1 Login window

3. In the drop-down list box *Language*, select the required language.
4. Enter user name and password, then click button [Login].



When entering the user name and password, pay attention to case sensitivity.

5. One of the following situations occurs:
 - a) The procedure was successful.
The user interface appears. The user has logged in successfully.
 - b) The error message "Your user name or password is wrong. Check your input and try again" appears.
A login is not possible.



If a login is not possible in spite of correct entry and new password, contact the administrator.

3.2.2 Request New Password

If the user has forgotten his password, the user has to request a new password.

Prerequisite:

- Login window open

To request a new password, proceed as follows:

1. In the login window, click button [Forgot password].

A window opens.



Figure 3-2 Forgot password

2. Enter user name or e-mail address, then click button [OK].



To abort the procedure, click button [Cancel].

The message A link to reset your password has been sent to your e-mail address. If you don't receive an e-mail within 15 minutes, please try again or contact your administrator appears.

3. The user receives an e-mail with a link.



If the user does not receive an e-mail, contact your administrator.

4. Click on the link.

A window opens.



Figure 3-3 Enter new password


5. Enter new password, repeat and click button [Save].

Mandatory fields are marked with *.

The message Password reset successful. You can now log in with your new password appears. The user receives a confirmation e-mail.

6. Log in to corpuls.mission LIVE with the new password.

3.3 General Menu

The general menu gives access to the main areas of corpuls.mission LIVE. Clicking on the symbol  opens a window that contains the navigation buttons [Profile], [Mission Browser], [Live Board], [About] and [User Manual].

The following illustration gives an overview of the elements of the general menu.



Figure 3-4 General Menu

Item	Element	Description
1	Navigation button [Profile]	Allows to log in to the Profile which contains the user data and the login history of the user
2	Navigation button [Mission Browser]	Allows to switch to the mission browser
3	Navigation button [Live Board]	Allows to show several connections to corpuls3 devices
4	Navigation button [About]	Shows information on the manufacturer, the versions and the available installed languages of corpuls.mission LIVE
5	Navigation button [User Manual]	Opens a PDF with the User Manual of corpuls.mission LIVE

Table 3-1 General Menu

3.3.1 Editing the Profile

In the Profile users can change their user data and their passwords, if this is intended and activated by the system administrator.



The user **cannot** change the user name.




The SIP address is similar to a telephone number - only relevant for the option VoIP.



If the system administrator has not activated the editing option, the respective buttons are not visible.

To edit the profile, proceed as follows:

1. Click symbol .

2. Click navigation button [Profile].
The profile appears.



Figure 3-5 Editing the profile

3. Click button [Edit].
4. Enter changes in fields.
Mandatory fields are marked with *.
5. To save the changes, click button [Save].
The changes have been saved.



To abort the procedure, click button [Cancel].

3.3.2 Change password

In the Profile users can change their passwords, if this is intended and activated by the system administrator.

To change the password, proceed as follows:

1. Click button [Change password].
2. Enter changes in fields.

Mandatory fields are marked with *.

Figure 3-6 Change password

- To save the changes, click button [Save].
The changes have been saved.



To abort the procedure, click button [Cancel].



When entering the password, pay attention to case sensitivity.

3.3.3 Logging of the login history

The navigation button [Logging] opens the *Login history* which comprises all login attempts with a user account. The user can sort, analyse and export all login attempts.

The following illustration gives an overview of the elements of the list *Login history*.

Figure 3-7 List Login history

Item	Element	Description
1	List <i>Login history</i>	Contains all login attempts.
2	Symbol	Allows exporting the list <i>Login history</i> in various file formats (refer to 3.7 Exporting Lists on page 24).

Item	Element	Description
3	Header	Allows to sort the list by different criteria by clicking on the header of the respective column.
4	Button [Refresh]	Updates the data in the list.

Table 3-2 List *Login history*

3.3.4 Sorting the login history

The user can sort or analyse the list by different criteria or export the list.

Prerequisite:

- List is open

To sort the list, proceed as follows:

- Click on the header of a column.

A triangular arrow symbol indicates if the list is sorted in ascending or descending order.

- To sort in opposite order, click again.

3.3.5 Close profile

The user can exit the Profile and switch to the areas "Mission Browser" or "Live Board".

To switch to the areas "Mission Browser" or "Live Board", proceed as follows:

- Click symbol .
- Click navigation button [Mission Browser] or [Live Board].

The area "Mission Browser" or "Live Board" opens. The user has exited the Profile.

3.4 Log out user

If users want to close corpuls.mission LIVE, they must log out.

To log out, proceed as follows:

- Click symbol .

The confirmation prompt Do you want to log out? appears.

- Click button [Yes].



To abort the procedure, click button [No].

The login window of corpuls.mission LIVE appears. The user has been logged out successfully.

3.5 Overview User Interface

3.5.1 General user interface

The following illustration gives an overview of the elements of the user interface.

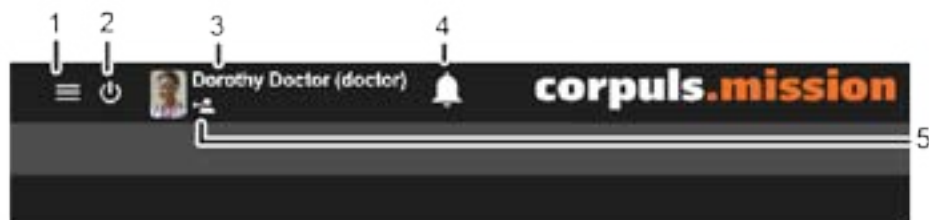


Figure 3-8 General user interface

Item	Element	Description
1	Symbol	Allows the menu to be opened.
2	Symbol	Enables the user to log out of corpuls.mission LIVE .
3	Logged-in user	Shows the user name, the profile picture and the symbol User role of the user who is logged in at the moment.
4	Symbol	Depending on the configuration, it shows a new connection with a corpuls3 or that a new D-ECG (with ACS anomaly) has been received.
5	Symbol	Shows the user role(s) assigned to the user on mouse-over.

Table 3-3 General user interface

3.5.2 User roles

User roles allow to assign certain rights to a user in corpuls.mission LIVE . This way, a user can perform certain tasks, but has no access to other areas.

For the operation of corpuls.mission LIVE there are 3 user roles: "Users", "Privileged user", and "Researcher".

The following table shows which tasks the user can perform with which user role.

Task	"Privileged user"	"Users"	"Researcher"
Editing patient data	✓	✓	
Measuring of D-ECGs	✓		
Writing timeline entries	✓	✓	
Sending webMessages to a corpuls3	✓		

Task	"Privileged user"	"Users"	"Researcher"
Viewing D-ECGs incl. existing timeline entries/webMessages	✓	✓	✓
Viewing trends, live data and Live History	✓	✓	✓
Viewing Live Board	✓	✓	

Table 3-4 Rights of user roles

3.5.3 Mission categories

The following illustration shows the categories by which the missions are sorted roughly.



Figure 3-9 Mission categories

1	Navigation button [New]	Shows all new missions that have not yet been opened.
2	Navigation button [Last hour]	Shows all missions that a user has opened and that have arrived within the last hour.
3	Navigation button [Last 24 hours]	Shows all missions that a user has opened and that have arrived within the last 24 hours.
4	Navigation button [All]	Shows all missions.

Table 3-5 Mission categories

3.6 Notification





corpuls.mission LIVE notifies the user of a new connection with a corpuls3 and/or the receipt of a new D-ECG. The necessary settings must be configured by an administrator. If an administrator has configured the notification, a tone is sounded at each new notification and the symbol  is highlighted in red. A click on the symbol  opens the notification window and ends the visual and acoustic notification signal.



Figure 3-10 Notification window

Item	Element	Description
1	Symbol  with counter	Displays new notifications (refer to 3.6.2 Symbols pertaining to notifications on page 23). To end the visual and acoustic notification signal, click on symbol  .
2	Time of the notification	Indicates how much time has passed since the last notification. corpuls.mission LIVE displays a maximum of > 60 minutes.
3	Button [Open mission]	Enables switching from a selected notification directly to the mission that triggered the notification (refer to 3.6.3 on page 23).
4	Button [Confirm all]	Allows to confirm all notifications at once.
5	Confirmed notification about new connection	The mission ID in grey characters indicates that the user has confirmed the notification.

Item	Element	Description
6	Unconfirmed notification about new D-ECG	The mission ID in red characters indicates that the user has not yet confirmed the notification.

Table 3-6 Notification window









When the user logs out, corpuls.mission LIVE no longer displays the former notifications.

3.6.1 Notification via Voice-over-IP (Option)

When the user is not in front of the work station, notifications can also be sent to a telephone via voice-over-IP. When the user accepts the call, an audio file is played.

3.6.2 Symbols pertaining to notifications

The symbol  informs the user about waiting notifications. The following table gives an overview of the display on the user interface.

Display	Information
	No notifications are present.
	New, unconfirmed notifications are present. The counter displays the number of unconfirmed notifications. Notification tone is active.
	More than nine new, unconfirmed notifications are present. Notification tone is active.
	New, unconfirmed notifications are present. The counter displays the number of unconfirmed notifications. Notification tone has been ended.
	Only confirmed notifications are present.

3.6.3 Confirm notification

So that corpuls.mission LIVE no longer displays a notification, the user must confirm the notification.

To confirm a notification, proceed as follows:

1. Click symbol .
2. Click on unconfirmed notification in the notification window.


The characters of the mission ID turn grey. The red highlighting of the symbol  disappears. The notification is confirmed.

3.6.4 Confirm all notifications

The user can confirm all notifications at once.

To confirm all notifications, proceed as follows:


1. Click symbol .
2. Click button [Confirm all].

The characters of all mission IDs turn grey. The red highlighting of the symbol  disappears. All notifications have been confirmed.

3.6.5 Switch to mission

The user can open the mission that triggered the notification directly from the notification window.

To open a mission, proceed as follows:

1. Click symbol .
2. Select mission.
3. Click button [Open mission].

The mission opens. The notification is deleted.

3.7 Exporting Lists


If a list contains data, the user can export the list to different formats.

As an example, the procedure for exporting a list in CSV format is explained in the following.

Prerequisite

- List contains data

To export a list to e. g. CSV format, proceed as follows:

1. Switch to the list.
2. Click symbol .
3. Select required format.

The message `File is being created` appears in the lower right corner of the screen.



To abort the procedure, click button [Cancel].

The list has been exported successfully.

3.8 Sorting Lists

Before exporting, the user can sort the list by certain criteria.

Prerequisite:

- List is open

To sort the list, proceed as follows:

1. Click on the header of a column.

A triangular arrow symbol indicates if the list is sorted in ascending or descending order.

2. To sort in opposite order, click again.

4 Mission browser

Missions are the central element of corpuls.mission LIVE. Missions contain a detailed list of all data transferred by the corpuls3. The user can edit and update the transmitted data.

4.1 Overview mission

The following illustration gives an overview of the elements of the mission.

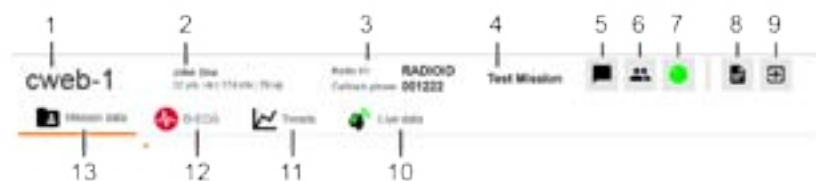


Figure 4-1 Overview mission

Item	Element	Description
1	Mission ID	Unique combination of the mission code and numerals that identify the mission unambiguously.
2	Excerpt of <i>Patient data</i>	Displays an excerpt of the personal data of the patient.
3	Excerpt of <i>Master data</i>	Shows an excerpt of the master data.
4	Test mission	Shows, if the mission was marked as test mission in the corpuls3.
5	Symbol	Allows to view timeline entries or webMessages.
6	Symbol	Indicates which users have had access to mission data.
7	Symbol	Shows, if the mission is receiving live data or is offline.
8	Symbol	Allows to create a mission report.
9	Symbol	Allows to leave the current mission.
10	Tab Live data	Shows live data that are sent by a corpuls3.
11	Tab Trends	Allows to display an overview of different vital parameters as table or as graphic.
12	Tab D-ECG	Contains all D-ECGs pertaining to a mission.
13	Tab Mission data	Contains the timeline, patient- and master data and events pertaining to the mission.

Table 4-1 Overview mission

4.2 Display options of the mission list

corpuls.mission LIVE compiles all missions in the mission list.

corpuls.mission LIVE can display the mission list in different views:

- Extended view
- Standard view
- Short view

Per default, corpuls.mission LIVE opens in the Extended view. The user can select a different view, depending on how many details are needed. Depending on the selected view, corpuls.mission LIVE displays different fields.

4.2.1 Extended view of the mission list

Per default, corpuls.mission LIVE shows the mission list in Extended view. The Extended view gives an extensive overview of the individual missions and of the data contained in them. If the user clicks on a mission to open it, corpuls.mission LIVE automatically switches to the Standard view with the mission list and main window.



Figure 4-2 Extended view of mission list

By clicking on the symbol the user also switches to the Standard view.

4.2.2 Standard view of the mission list

If the user needs an optimal overview of the mission list and a clearly arranged main window, it is possible to switch to the Standard view.

The Standard view lists the individual missions in form of a mission chart on the left besides the main window.

To switch to the Standard view, click on the symbol « in the Extended view or on the symbol » in the short view.

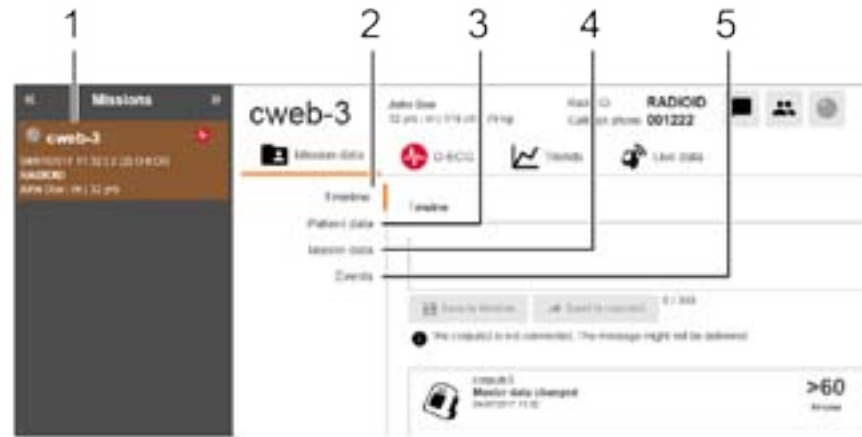


Figure 4-3 Standard view of the mission list

Item	Element	Description
1	Mission chart	Displays the most important data recorded during a mission and allows to open the mission.
2	Button [Timeline]	Shows the course of communication between corpuls.mission LIVE and corpuls3. Timeline entries and webMessages are saved here.
3	Button [Patient data]	Displays the personal data of the patient.
4	Button [Master data]	Displays the master data of the corpuls3 from which the mission originates.
5	Button [Events]	Displays all events that have occurred during a mission in the corpuls3. The list is in chronological order and shows the date, time and text of the event and if the event was an alarm.

Table 4-2 Standard view of the mission list

4.2.3 Short view of the mission list

If the user needs an optimal overview of the main window and no other mission data, the mission list can be displayed in the Short view. The main window is extended and a new connection or reception of a new D-ECG is only indicated via the notification symbol, if so configured.

To switch to the Short view, click on the symbol « in the Standard view.



Figure 4-4 Short view of mission list

Unopened and connected missions are located in the mission category [New].

If corpuls.mission LIVE has established a connection with a corpuls3 within the last hour, the mission is moved to the mission category [Last hour].

If corpuls.mission LIVE has established a connection with a corpuls3 within the last 24 hours, the mission is moved to the mission category [Last 24 hours].

If more than 24 hours have passed, all missions can be found in the mission category [All].

4.3 Automatic management of missions

This chapter gives an overview of the mission management procedure of corpuls.mission LIVE .

1. A corpuls3 establishes a connection to corpuls.mission LIVE .

The user receives an visual and/or acoustic notification. corpuls.mission LIVE displays a new mission in the mission list. In the mission chart the mission is marked as new with the symbol [New] and displayed in the button [New]. The symbol [Online] indicates that the mission is online and receives live data.



If the notification for a new connection is set, the symbol [Online] is highlighted in red and an acoustic signal is sounding.



If the e-mail notification for a new connection is set , the user receives an e-mail on the reception of a new connection.

2. The corpuls3 sends a D-ECG.

The symbol [D-ECG] appears in the mission.

If the medical personnel at the emergency site ends the connection of the corpuls3 to corpuls.mission LIVE the symbol [Offline] turns grey.



If the medical personnel at the emergency site switches off the corpuls3 during the connection, corpuls.mission LIVE creates a new mission when a new connection is established.

4.4 Opening the Mission

To be able to view and edit a mission, the user has to open a mission.

To open a mission, proceed as follows:



1. In the Standard view, click on the mission chart or in the Extended view click on the mission.

The mission opens. If the user opens the mission for the first time, the symbol  disappears.



If the mission has been opened by another user, the mission can only be opened in read only mode (refer to 4.5 Opening the mission in read only mode on page 30).

4.5 Opening the mission in read only mode

If the user has opened a mission, the mission is locked for other users. The user recognises a locked mission on the mission chart by the symbol , in the opened mission by the symbol .



To know by which user the mission has been locked, move the mouse pointer over the mission in the Standard view.

To open a mission in read-only mode, proceed as follows:

1. In the Standard view, click on the mission chart or in the Extended view click on the mission.

The symbol  appears beside the mission ID. The mission is opened in read-only mode.

4.6 Creating a Mission Report

corpuls.mission LIVE allows to create a mission report.

A mission report can comprise the following parts:


- Mission data
- All or selected D-ECGs
- Events
- Audit logging
- Trends (as table or graphic)
- Timeline entries/webMessages

The user can save the complete mission report or selected parts as PDF.

Prerequisite:

- The mission from which a mission report will be created has to be open (refer to 4.4 Opening the Mission on page 30)

To create a mission report, proceed as follows:

1. Click symbol .

A selection window appears.

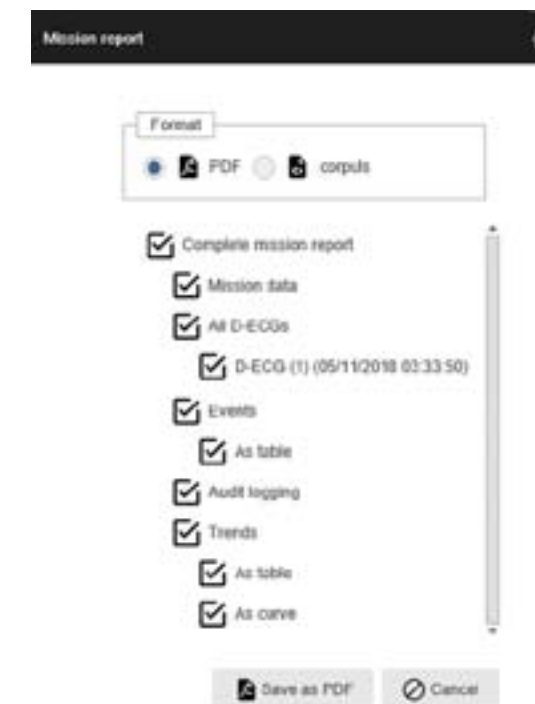


Figure 4-5 Creating a mission report

2. Select required format.
 - a) PDF: Select the required elements via checkbox. Per default, all elements are selected. To save the mission report as PDF, click button [Save as PDF].
 - b) corpuls format: Elements cannot be selected or deselected. Per default, all elements are selected.



The corpuls format (XML) is compatible with corpuls.manager REVIEW and corpuls.manager ANALYSE.

To save the mission report in corpuls format, click button [Save as corpuls].

A window opens. The look of the window may vary, depending on which browser is selected.

3. Follow the instructions on the screen.

The mission report has been saved.

4.7 Notification window

If a mission is open and a new D-ECG has been received or if patient- or master data have been changed in the corpuls3 or are sent to a corpuls3, the user receives a notification.

The following notifications are signalled:


- **Diagnostic ECG [NUMBER] sent**
Indicates that a new D-ECG is available for the open mission.

- **Patient data changed**
Indicates that new patient data are available for the open mission.
- **Master data changed**
Indicates that new master data are available for the open mission.

4.8 Close mission

If the editing of a mission is finished, the user has to close the mission.

To close a mission, proceed as follows:

1. The following options are available:
 - a) Click symbol .
The user has closed the mission.
 - b) Click on another mission in the mission list.
The confirmation prompt Do you want to finish editing this mission? appears.
2. Click button [Yes].
The user has closed the mission.



To abort the procedure, click button [No].

5 Live Board (Option)

The function "Live Board" allows to show several connections of corpuls3 devices to corpuls.mission LIVE. This way, the users can monitor several patients simultaneously.



WARNING!

Not an alarm system!

"Live Board" is not an alarm system and must not be used as such. Operators and users must ensure that independently of corpuls.mission LIVE it is possible to react to alarms of the connected devices at any time.

- ▶ Make sure to have eye contact and spatial proximity to monitored patients.



CAUTION!

Patient risk due to transmission problems!

Nursing- or rescue staff must have eye contact to monitored patients at all times, so that in case of transmission problems of corpuls.mission LIVE they can fall back to regular monitoring methods.

- ▶ Make sure to have eye contact and spatial proximity to monitored patients.



CAUTION!

Patient risk due to too small data display!

The monitors used for display have to be appropriate for the selected work station. There has to be one physical monitor for each configured window of the selected work station. The resolution and pixel density of the monitors has to be appropriate to display the configured tiles in a sufficient size.

- ▶ Check the ergonomics of the display before commissioning the "Live Board" workstation.

5.1 Overview Live Board

The following illustration gives an overview of the elements of "Live Board":



Figure 5-1 Overview "Live Board"

Item	Element	Description
1	Tile 1	Shows the standard view of "Live Board" monitoring with a high priority event (red)
2	Tile 2	Shows the standard view of "Live Board" monitoring with a medium priority event (yellow).
3	Tile 3	Shows a non-configured tile.
4	Tile 4	Shows a tile configured to display an internet page (URL).

Table 5-1 Overview "Live Board"



If a diagnostic ECG is being recorded at the connected corpuls3, the "Live Board" tile displays the text **D-ECG is being recorded**.

5.2 Selecting a Workstation

A "Live Board" workstation consists of one or more configured browser windows, depending on how many physical monitors are connected. Per monitor/browser window, one or more tiles can be configured, which each show a corpuls3 connection to corpuls.mission LIVE. If several workstations are available, the user can select one workstation.

•

To select a workstation, proceed as follows:

1. In the Profile, click button [Live Board].

One or more browser windows with "Live Board" open. Proceed with step 3.

or

A selection window opens.



Figure 5-2 Selecting a workstation

2. Select a workstation and click button [OK].

One or more browser windows open.

3. If necessary, drag the browser windows with the mouse to be displayed on the respective monitors.



To abort the procedure, click button [Cancel].

5.3 Display of Events

Every "Live Board" tile can display high- or medium priority events from the respective corpuls3:


- High priority events are displayed with text and a red flashing frame
- Medium priority events are displayed with text and a yellow flashing frame
- High priority events always superpose medium priority events
- If several events with the same priority are active, only the text of the newest event is displayed; the total amount of events is shown next to the bell symbol
- All active events are displayed, even if the "Live Board" window is opened or refreshed after the start of the event



The coloured frame of the "Live Board" tile stops flashing if the event is confirmed on the corpuls3.

- If no events are active, the bell symbol and the number zero are shown on a grey background
- The event is removed completely, if the cause for the event is no longer existing
- If the corpuls3 is not connected, the message **Not connected** is shown

6 Data management

In corpuls.mission LIVE, patient data can be edited and current corpuls3 data can be adopted. Patient data can be transmitted to the corpuls3. Anonymised data that have been transferred from the corpuls3 are displayed with the symbol .

CAUTION!

Functional error of the application!

The correct performance of the application can **only** be guaranteed if medical data are archived regularly outside of corpuls.mission LIVE.

- User corpuls.manager **REVIEW** and corpuls.manager **ANALYSE** for archiving medical data.

6.1 Button Timeline

The timeline allows documentation of a mission in form of timeline entries and webMessages. If a corpuls3 establishes a connection with corpuls.mission LIVE, the messages **Patient data changed** and **Master data changed** are sent. This way, the users of corpuls.mission LIVE have the same information available as the medical personnel at the emergency site.

Users with the role "Users" can save notes pertaining to the mission in form of timeline entries.

Users with the role "Privileged user" additionally can send webMessages to the corpuls3 of the medical personnel at the emergency site (teleconsultation).

6.2 Creating timeline entries and webMessages

Prerequisite:

- Mission is open (refer to 4.4 Opening the Mission on page 30)

To create a new timeline entry or a webMessage, proceed as follows:

1. On the tab **Mission data** select the button [Timeline].
2. Click into the text field.

The text field is framed in orange and the buttons [Save in timeline] and [Send to corpuls3] are no longer greyed out.

3. The following options are now available:
 - a) To save a timeline entry, click button [Save in timeline].
 - b) To send a webMessage to a corpuls3, click button [Send to corpuls3].
*The prompt **Do you want to send this webMessage to corpuls3?** appears and the full text of the webMessage is displayed.*
 - c) To send the webMessage, click button [Send to corpuls3].

The saved/sent timeline entry/webMessage appears in the list below the text field.



To abort the procedure, click button [Cancel].



The user has to have the role "Privileged user" to be able to send a webMessage. For a user with the role "Users" or "Researcher" the button is greyed out.



WebMessages can only be sent to corpuls3 devices with the software version 3.0 or higher.



The entry in the list Timeline shows only the first 25 characters of the text.

To display the timeline entry/webMessage completely, proceed as follows:

1. Click on the timeline entry/webMessage.

The complete text is shown in a further text field on the right besides the timeline.

6.3 Symbols pertaining to timeline entries or webMessages

The following table gives an overview of the symbols pertaining to timeline entries or webMessages.




Display	Information
	The webMessage is being transmitted.
	The webMessage has been sent successfully.
	The timeline entry has been saved successfully.

Table 6-1 Symbols pertaining to timeline entries/webMessages

6.4 Button Patient data

The button [Patient data] gives an overview of the personal data of the patient. The user can view and adopt current corpuls3 data or edit patient data. Edited patient data are sent to the corpuls3.

6.4.1 Editing patient data

Patient data that the medical personnel at the emergency site sends via a corpuls3 or that a user has entered directly in corpuls.mission LIVE can be edited afterwards.

To edit patient data, proceed as follows:

1. Select in the mission the tab **Mission data**.

- Click button [Patient data].
- In the list *Patient data* click button [Edit].
An entry form appears.

Patient data	
Patient ID	AAA
Case number	123456
First name	Van
Last name	Muhammad
Sex	male +
Race	Caucasian +
Date of birth	28.06.1988
Age	32 yrs
Height	174 cm
Weight	79 kg
Street	Neudamm 12
Postal code	86150
Location	Augsburg
Insurance/health payer	Van Mottenmann
Insurance number	0815
Policy number	0815
Insurance card number	123456789
Status	1234

Figure 6-1 Editing patient data

- Enter the data in the corresponding fields.
- To save the changes, click button [Save].
The changed data are saved.



To abort the procedure, click button [Cancel].

6.5 Adopting current data

The corpuls3 sends patient data and master data to corpuls.mission LIVE . It may happen that the data in the corpuls3 have to be changed in retrospect or patient data that have been entered manually into corpuls.mission LIVE are no longer valid. With corpuls.mission LIVE , a user has the option of viewing and adopting current corpuls3 data.

Prerequisite:

- Data have been deposited in the corpuls3
- Mission is open
- To adopt current patient data, on the tab **Mission data** the button [Patient data] has to be selected.

To adopt current corpuls3 data, proceed as follows:

- Click button [Adopt current data from corpuls3].



If the button [Adopt current data from corpuls3] is not available, the data in the corpuls3 and in corpuls.mission LIVE are identical.

The current corpuls3 data appear in orange characters besides the existing data.

Adopt current data from corpuls3	
Patient data	
Patient ID	AAA
Case number	123456
First name	John
Last name	Doe
Sex	male
Race	Caucasian
Date of birth	28.06.1988
Age	38 yrs
Height	174 cm
Weight	79 kg
Street	Musshaus 12
Postal code	86150
Location	Augsburg
Insurance/health payer	John Doe
Insurance number	0815
Policy number	0815
Insurance card number	123456789
Status	1234

Figure 6-2 Adopting data described with the example *Patient data*

- To adopt all data, click button [Save].
All data are taken over automatically by the corpuls3.

6.6 Button Master data

The button [Master data] gives an overview of the master data, the device information and the mission statistics of the corpuls3.

The master data, device information and the mission statistics cannot be edited.

6.7 Sending patient data

If the option has been set by an administrator, patient data are sent to the corpuls3. The user can send patient data to the corpuls3 only if the patient data in the corpuls3 have not been anonymised.

Prerequisite:


- Mission is open
- To adopt current patient data, on the tab **Mission data** the button [Patient data] has to be selected.

To send current patient data to the corpuls3, proceed as follows:

1. Edit patient data (refer to 6.4.1 Editing patient data on page 37).
2. Click button [Save].

The data have been sent to the corpuls3.

6.8 Button Events

The button [Events] gives an overview of the events that have occurred during a mission. Analogous to the list *Event* on the tab **Live data**, alarms are marked with the symbol .

The user can sort the events and/or export them to the formats CSV, PDF or XLS (refer to 3.7 Exporting Lists on page 24).

7 D-ECG

corpuls.mission LIVE offers the option to receive, export and measure D-ECGs.

HES® HES® data are only displayed if the corpuls3 that recorded the D-ECG

- has at least software version 2.1 or
- has at least software version 2.1 with the option HES®.



D-ECGs from corpuls3 devices with an older SW version are no longer supported by corpuls.mission LIVE.

Representative Cycle The representative cycle is only displayed if the corpuls3 that recorded the D-ECG has at least software version 2.1.

Option 22 leads These leads are only displayed, if the 22 lead option of ECGmax is licensed.

Cardiac Electrical Biomarker CEB® This value is only displayed, if the CEB® option of ECGmax is licensed.

7.1 Overview D-ECG

The following illustration gives an overview of the elements of the tab **D-ECG**.

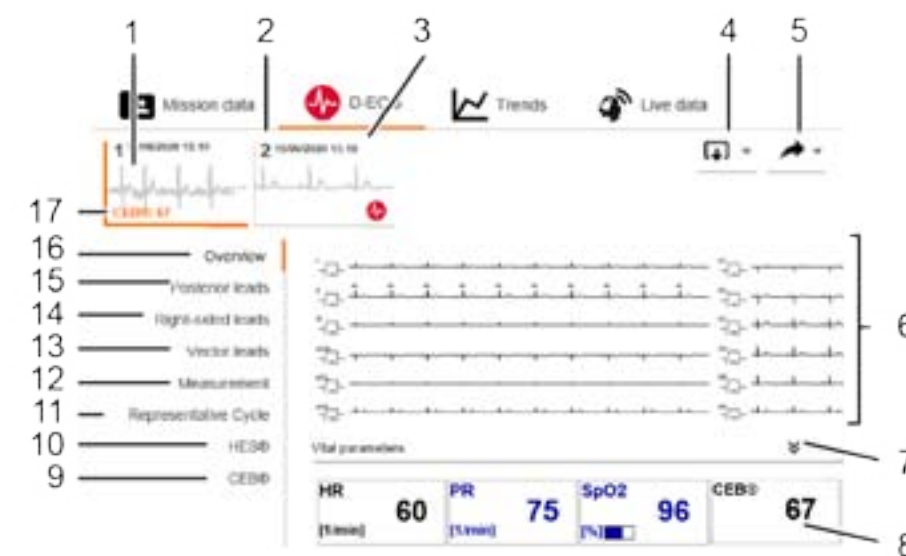


Figure 7-1 Overview D-ECG

Item	Element	Description
1	Selected D-ECG	The D-ECG that the user has open. The selected D-ECG is marked in orange.




Item	Element	Description
2	D-ECG number	The running number of received D-ECGs. The D-ECGs are numbered just like in the corpuls3.
3	Timestamp of the D-ECG	Indicates when the D-ECG was recorded, incl. possible time offset (refer to 7.2 Statuses of D-ECG transmission on page 43).
4	Button 	Allows exporting D-ECGs (refer to 7.12 Exporting a D-ECG on page 53).
5	Button 	Allows to select a manual forwarding rule.
6	D-ECG preview	Displays the D-ECG preview of the selected D-ECG.
7	Symbol 	Allows showing or hiding the vital parameters.
8	Vital parameters	Displays the vital parameters of the selected D-ECG.
9	Button [CEB®]	Allows to switch to the display and explanation of the CEB® (option).
10	Button [HES®]	Shows the results of the ECG measurement/interpretation.
11	Button [Representative Cycle]	Shows the representative cycle, an average value calculated from normal ECG complexes.
12	Button [Measurement]	Allows the measurement of a D-ECG (refer to 7.5 Overview D-ECG measurement on page 48).
13	Button [Vector leads]	Allows switching to the preview of the orthogonal leads (X, Y, Z) and the vector loops (refer to 7.4.3 Orthogonal Leads and Vector Loops (Option) on page 46).
14	Button [Right-sided leads]	Allows switching to the preview of the right-sided leads (II, III, aVF, V1, V3R-V6R) (refer to 7.4.2 Right-Sided Leads (Option) on page 45).
15	Button [Posterior leads]	Allows switching to the preview of the posterior leads (V4-V9) (refer to 7.4.1 Posterior Leads (Option) on page 45).
16	Button [Overview]	Allows switching to the D-ECG preview (refer to 7.3 Getting a preview of a D-ECG on page 43).
17	CEB® in preview	Displays the CEB® of the transferred D-ECG (option)

Table 7-1 Overview D-ECG

7.2 Statuses of D-ECG transmission

If a corpuls3 transfers D-ECGs to corpuls.mission LIVE, the transmission can have different statuses. The user can see by means of the symbols and text messages, if the D-ECG has been transferred completely, incompletely or not at all. The symbols and text messages are shown in the D-ECG (refer to 7.1 Overview D-ECG on page 41).

The following table gives an overview of the possible transmission statuses of the D-ECG:






Displayed symbol	State
 Additional ECG data is being calculated	The additional leads and/or the CEB® are calculated from the sent 12-lead ECG (refer to 7.4.4 Cardiac Electrical Biomarker CEB® (Option) on page 46).
 D-ECG [NUMBER] is being transferred to corpuls.web LIVE	corpuls3 is transmitting a D-ECG to corpuls.mission LIVE.
 D-ECG [NUMBER] has not been transferred to corpuls.web LIVE	D-ECG not transmitted to corpuls.mission LIVE.
 "D-ECG [NUMBER] was not transferred completely to corpuls.web LIVE"	D-ECG incomplete.
 "HES® could not be transferred successfully to corpuls.web LIVE for D-ECG [NUMBER]"	HES has been transferred incompletely or not at all to corpuls.mission LIVE.

Table 7-2 Statuses of D-ECG transmission

7.3 Getting a preview of a D-ECG

To get an optimal overview of the electrophysiological status of the patient, corpuls.mission LIVE has a D-ECG preview. All regular 12 leads (I-III, aVR, aVL, aVF and V1-V6) are from the same time segment.

Prerequisite:

- D-ECG available

To get a preview of a D-ECG, proceed as follows:

1. Select in the required mission the tab D-ECG.
2. Select the required D-ECG from the available D-ECGs.
3. Click button [Overview].

A preview of the required D-ECG appears. The vital parameters appear below the D-ECG leads.



To measure a lead, select the required lead. The application switches automatically to the button [Measurement]. Further information on measurement (refer to 7.8 Measuring a D-ECG on page 49).

7.4 Option ECGmax



The calculation of the posterior, right-sided and orthogonal leads as well as of the vector loops and the CEB[®] are implemented by another approved medical product (VectraplexECG by VectraCor) in the background, based on the D-ECG transferred by the corpuls3 to corpuls.mission LIVE.



CAUTION!

Use by professionals only!

All VectraCor's products are intended for use by a physician or by trained personnel under a physician's supervision.

- ▶ Read all instructions for use and specifications provided prior to use.

With the option "ECGmax" you not only get the usual 12, but 22 ECG leads and thus a much more comprehensive picture of the heart muscle including the posterior wall and the right side. The current European Society of Cardiology guidelines recommend that these additional leads be examined as well, if possible.

No additional effort is required and no electrodes have to be attached or positioned. The additional leads are calculated in corpuls.mission LIVE and then displayed. All leads can also be forwarded as a file (e.g. PDF).

Vector loops according to Frank, consider the electrical conduction in the heart as a rotating dipole. The course of the peak of this vector is spatially represented as a loop in a three-dimensional individual coordinate system; the loops correspond to the P-wave, the QRS cycle and the T-wave, respectively. With a healthy myocardium, the loops are regular and "fluid looking", with a dysfunction the conduction of the dipole is rather irregular and jagged.

In addition, ECGmax can calculate the Cardiac Electrical Biomarker (CEB[®]) from the same leads. By means of the three colour-coded areas of the CEB[®] – normal, caution, abnormal – the user can immediately recognise whether myocardial ischaemia is present, as the sensitivity and specificity of the CEB[®] are comparable to a troponin-test.



WARNING!

Risk of wrong diagnosis!

The CEB[®] index has only been tested in comparison to physician interpretation of standard 12-lead ECGs in patients presenting to an acute care setting, and not in comparison to additional clinical data documenting the presence of acute myocardial infarction.

- ▶ Do not use the CEB[®] index as the final diagnosis, still needs the physician diagnosis.



WARNING!

Risk of wrong diagnosis!

The CEB[®] index is accurate if the 10 seconds of derived ECG data do not include the following: Wandering baseline, noise, Premature Ventricular Contractions (PVCs), paced beats, improper placement of electrodes, missing leads (disconnected leads), patients younger than 18 years old, and bundle branch block

- ▶ Only use the CEB[®] for correctly obtained ECGs of adult patients.

7.4.1 Posterior Leads (Option)

If the 22 lead option of ECGmax is licensed, corpuls.mission LIVE shows a preview of posterior leads (V4-V9) from the same time segment.

Prerequisite:

- D-ECG available
- 22 lead option of ECGmax is licensed

To get a preview of the posterior leads, proceed as follows:

1. Select in the required mission the tab D-ECG.
2. Select the required D-ECG from the available D-ECGs.
3. Click button [Posterior leads].

A preview of the posterior leads (V4-V9) appears. The vital parameters appear below the leads.



To measure a lead, select the required lead. The application switches automatically to the button [Measurement]. Further information on measurement (refer to 7.8 Measuring a D-ECG on page 49).

7.4.2 Right-Sided Leads (Option)

If the 22 lead option of ECGmax is licensed, corpuls.mission LIVE shows a preview of right-sided leads (II, III, aVF, V1, V3R-V6R) from the same time segment.

Prerequisite:

- D-ECG available
- 22 lead option of ECGmax is licensed

To get a preview of the right-sided leads, proceed as follows:

1. Select in the required mission the tab **D-ECG**.
2. Select the required D-ECG from the available D-ECGs.
3. Click button [Right-sided leads].

A preview of the right-sided leads (II, III, aVF, V1, V3R-V6R) appears. The vital parameters appear below the leads.



To measure a lead, select the required lead. The application switches automatically to the button [Measurement]. Further information on measurement (refer to 7.8 Measuring a D-ECG on page 49).

7.4.3 Orthogonal Leads and Vector Loops (Option)

If the 22 lead option of ECGmax is licensed, corpuls.mission LIVE shows a preview of orthogonal leads (X, Y, Z) from the same time segment.

Additionally, the vector loops are displayed.

Prerequisite:

- D-ECG available
- 22 lead option of ECGmax is licensed

To get a preview of the orthogonal leads, proceed as follows:

1. Select in the required mission the tab **D-ECG**.
2. Select the required D-ECG from the available D-ECGs.
3. Click button [Vector leads].

A preview of the orthogonal leads (X, Y, Z) appears. The vector loops (frontal, horizontal and sagittal planes) are displayed below the leads. The vital parameters appear below the leads.



To measure a lead, select the required lead. The application switches automatically to the button [Measurement]. Further information on measurement (refer to 7.8 Measuring a D-ECG on page 49).

7.4.4 Cardiac Electrical Biomarker CEB® (Option)

If the CEB® option of ECGmax is licensed, corpuls.mission LIVE shows the Cardiac Electrical Biomarker (CEB®), calculated from the leads.



If this option is licensed and activated at administrator level, the CEB® value can be sent automatically as webMessage to the corpuls3.

Prerequisite:

- D-ECG available
- CEB® option of ECGmax is licensed

To view the CEB®, proceed as follows:

1. Select in the required mission the tab **D-ECG**.

2. Select the required D-ECG from the available D-ECGs.
3. Click button [CEB®].

The CEB® is displayed in form of a tachometer/speedometer in the colours green, yellow and red. The vital parameters appear below the leads. The CEB® values appears as a vital parameter in all views.



Figure 7-2 Overview Cardiac Electrical Biomarker

The CEB® is an index number that measures the degree of di-polarity of the electric heart field. The electric heart field of a healthy subject is primarily di-polar, while the occurrence of a myocardial injury leads to the occurrence of a multipolar electric heart field. The probability of the patient suffering a myocardial ischemic injury or infarction increases with the CEB® value.

Cardiac Electrical Biomarker (CEB®) Index Number:

The CEB® index is a Cardiac Electrical Biomarker (CEB®) for the real-time detection of ECG changes suggestive of an Acute Myocardial Infarction (AMI).

“The CEB® index has been shown to be non-inferior when tested against accepted standards of ST segment voltage-time deviations that may be suggestive of an AMI in the appropriate clinical setting.”

If the CEB® is < 65, then the patient may be considered by the clinician to have a normal dipolar cardiac electrical field consistent with non-AMI electrocardiographic lead signals.

If the CEB® is > 95, then the patient may be considered by the clinician to have small but significant multipolar force contributions to the cardiac electrical field consistent with AMI electrocardiographic lead signals.

If the CEB® is between 66 and 94, then the patient may be considered by the clinician to be in a “no test” caution zone indicating that the clinician should be aware that the cardiac electrical field may be changing and the patient requires diligent monitoring for clinical changes that may progress to AMI.



The CEB® is calculated from the data of the D-ECG. If an update is required, a new D-ECG has to be sent from the device to - then a new CEB® is calculated.

7.5 Overview D-ECG measurement

This chapter gives an overview of the D-ECG measurement.



Figure 7-3 Overview D-ECG measurement

Item	Element	Description
1	List box <i>Lead</i>	Allows to select a lead. If the 22 lead option of ECGmax is licensed, corpuls.mission LIVE shows 22 leads to choose from, instead of the regular 12 leads.
2	List box <i>Sweep speed</i>	Allows to select the sweep speed.
3	Time	Indicates, when the D-ECG was recorded.
4	Measurement window	Allows the measurement of a D-ECG.
5	Comment field	Allows to comment a D-ECG measurement.
6	Button [Save]	Allows to save the comments.
7	List <i>Measurements</i>	Displays all previous measurements.
8	List <i>Current Measurement</i>	Displays the current measurement.
9	Button 100%	Allows to reset the zoom factor to 100%.
10	Slide control for zoom	Allows to zoom-in the lead shown in the measurement window.

Table 7-3 Overview D-ECG measurement

7.6 Accuracy of the measurement

The measured values in the time- and amplitude areas are displayed with a determined accuracy. The following tables give an overview of the accuracy of the measurement.



The D-ECG measurement is only displayed correctly, if the zoom factor of the browser and of the measurement window is 100%.

Sweep speed

Sweep speed mm/s	seconds
25	0.01
50	0.005

Amplitude

Amplitude mm/mV	Millivolt
2.5	0.1
5	0.05
10	0.025
20	0.0125

7.7 Opening a D-ECG for measurement

To perform measurement of a D-ECG, the user has to open the required D-ECG.

To open a D-ECG for measurement, proceed as follows:

1. Select in the required mission the tab D-ECG.
2. Select the required D-ECG from the available D-ECGs.
3. The following options are available:
 - a) In the D-ECG preview click directly on the required lead.
 - b) Click button [Measurement].

D-ECG measurement is opened.

4. Select required lead.

D-ECG measurement is opened for the selected lead.

7.8 Measuring a D-ECG

corpuls.mission LIVE offers the option of measuring a D-ECG. For the measurement the user can select sweep speed, zoom and lead.



Only users with the role "Privileged user" can measure a D-ECG. Users with the role "Users" and "Researcher" only have read-only access.

Prerequisite:

- The user has the role "Privileged user"
- Mission is open

- D-ECG measurement is opened (refer to 7.7 Opening a D-ECG for measurement on page 49)
- D-ECG lead has been selected (refer to 7.8.3 Selecting Leads on page 51)
- D-ECG sweep speed is selected (refer to 7.8.1 Selecting the Sweep Speed on page 50)
- D-ECG zoom factor is selected (refer to 7.8.2 Selecting the Zoom Factor on page 51)

To measure a D-ECG, proceed as follows:

1. In the measurement window, click on the required reference point 1 for the measurement. If the area to be measured is zoomed-in, move the scroll bar to the required place, if necessary.
2. In the measurement window, click on the required reference point 2 for the measurement. If the area to be measured is zoomed-in, move the scroll bar to the required place, if necessary.



A third click will delete the previously chosen starting- and end points of the measurement.

Below the measurement window, the values of the current measurement are displayed. Reference point 1, reference point 2, amplitude and duration of the measurement are displayed.

3. To comment on the measurement, enter the text into the field *Comment*. If no comment is required, proceed with step 4.
4. To save the measurement, click button [Save].

The measurement is saved and now appears in the list Measurements.

7.8.1 Selecting the Sweep Speed

When performing the measurement of a D-ECG, the user can select the required sweep speed.

Prerequisite:

- D-ECG opened for measurement (refer to 7.7 Opening a D-ECG for measurement on page 49)

To select the sweep speed, proceed as follows:

1. In the list box *Sweep speed*, select the sweep speed by clicking on the small triangle.



Figure 7-4 Selecting the sweep speed

The measurement window shows the required sweep speed.

7.8.2 Selecting the Zoom Factor

When performing the measurement of a D-ECG, the user can select the required zoom.

Prerequisite:

- D-ECG opened for measurement (refer to 7.7 Opening a D-ECG for measurement on page 49)

To select the zoom factor, proceed as follows:

1. Hold down the slide control with the left mouse key and drag up or down until the required zoom factor has been reached.



Figure 7-5 Selecting the zoom factor

The measurement window shows the required zoom factor.



By clicking on the button [100%] the zoom factor can be reset to 100%.



Due to the zoom factor, the lead may not be displayed in its full length in the measurement window. To display more of the recorded D-ECG, use the horizontal and vertical scroll bars.

7.8.3 Selecting Leads

When performing the measurement of a D-ECG, the user can select the required lead.

Prerequisite:

- D-ECG opened for measurement (refer to 7.7 Opening a D-ECG for measurement on page 49)

To select a lead, proceed as follows:

1. In the list box *Lead* select the required lead.



Figure 7-6 Select lead

The measurement window shows the required lead.



If the 22 lead option of ECGmax is licensed, corpuls.mission LIVE shows 22 leads to choose from, instead of the regular 12 leads.

7.9 Calling up a saved D-ECG measurement

The user can call up a previously saved D-ECG measurement.

Prerequisite:

- D-ECG measurement is opened (refer to 7.7 Opening a D-ECG for measurement on page 49)
- Saved D-ECG measurement is available (refer to 7.8 Measuring a D-ECG on page 49)

To call up a previously saved D-ECG measurement, proceed as follows:

1. Select required D-ECG measurement in the list *Measurements*.
2. Open D-ECG for measurement with a double click.

Selected D-ECG measurement appears in the measurement window.

7.10 Displaying the Representative Cycle of a D-ECG

The representative cycle gives an impression of the "typical" ECG-complex.

Prerequisite:

- HES® data have been transferred

To display the representative cycle of a D-ECG, proceed as follows:

1. Select in the required mission the tab **D-ECG**.
2. Select the required D-ECG from the available D-ECGs.
3. Click button [Representative Cycle].

The representative cycle of the required D-ECG appears.

7.11 D-ECG-Interpretation

If the corpuls3 has the option HES®, these data are also sent to corpuls.mission LIVE. The user gets an overview of the HES® evaluation.

Prerequisite:

- Mission is open (refer to 4.4 Opening the Mission on page 30)
- The corpuls3 that recorded the D-ECG has to meet the requirements of HES® (refer to 7 D-ECG on page 41)
- HES® data have been transferred

To call up the HES® evaluation, proceed as follows:

1. Select in the required mission the tab **D-ECG**.
2. Select the required D-ECG from the available D-ECGs.
3. Click button [HES®].

The HES® evaluation appears.



If the corpuls3 that recorded the D-ECG has the option HES®, the measurement table is expanded and a therapy suggestion is supplied.

7.12 Exporting a D-ECG


Independent from the configured notification- and forwarding rules, the user can export D-ECGs manually. For the export of D-ECGs, the file formats PDF and SCP are available. Independent from these standard formats, the administrator can activate customised formats (e. g. GE MUSE™, Cardiolex, DatamedFT).

7.12.1 Downloading a D-ECG

Prerequisite:

- Required D-ECG is open

To export a D-ECG manually, proceed as follows:

1. Click symbol .
2. Select the file format.

The message File is being created appears in the lower right corner of the window. The general download prompt of the used browser appears.



The confirmation prompt may differ in appearance and wording, depending on which browser the user selected.

3. The following options are available:
 - a) To open the D-ECG, select [Open].
The D-ECG is opened in the required file format.
 - b) To save the D-ECG, select Save.

The D-ECG is saved in the required directory.




When printing a PDF the option "Adjust page size" has to be disabled, because otherwise the D-ECG is not represented correctly on the printout.

7.12.2 Forwarding a D-ECG

Prerequisite:

- Required D-ECG is open
- A manual forwarding rule has been created

To forward a D-ECG manually, proceed as follows:

1. Click symbol .
2. Select forwarding rule.
A window opens.
3. Check recipient and click button [OK].



To abort the procedure, click button [Cancel].



If no manual forwarding rule has been created by the administrator, the symbol  is not available.

8 Trends



The tab **Trends** allows to display an overview of different vital parameters as table or as graphic.


The button [Overview] opens the graphical overview in which the values are represented as a function on a timeline of the mission. The button [Detailed view] shows an overview of the vital parameter values in table form.

The user can sort (refer to 3.8 Sorting Lists on page 24) and export (refer to 3.7 Exporting Lists on page 24) the table.

9 Live data transmission (option)

If the transmission of live data has been enabled by an authorised sales and service partner, the user can view live data from a corpuls3 directly in corpuls.mission LIVE .

The green symbol  on the mission or on the tab **Live data** indicates an existing connection (refer to 4.1 Overview mission on page 26). The grey symbol  indicates that the connection has been terminated.

The symbol  shows the connection quality.



When viewing the live data, the user is not able to perform a measurement, to change the representation of the leads and to select individual leads. Live data can only be viewed, but not edited.

Depending on the display on the corpuls3, live data transmission can show the following.

- If the corpuls3 user performs a defibrillation in manual mode, corpuls.mission LIVE shows the defibrillation view as on the corpuls3.
- If the corpuls3 user performs a defibrillation in AED mode, corpuls.mission LIVE shows the defibrillation view as on the corpuls3.
- If the corpuls3 user performs a pacer therapy, corpuls.mission LIVE shows the pacer view as on the corpuls3.
- If the corpuls3 user opens the mission browser, the live data transmission is blocked and the message **Mission Browser** appears. As soon as the corpuls3 user closes the mission browser, the live data are visible again.
- The live data view always corresponds exactly to the view of the corpuls3 and changes automatically, e. g. the views "Big 8", "Big 6" or "Big 4", in which large parameter fields are displayed, are also supported.

9.1 Overview Live data transmission

The following illustration gives an overview of the elements of the tab **Live data**.

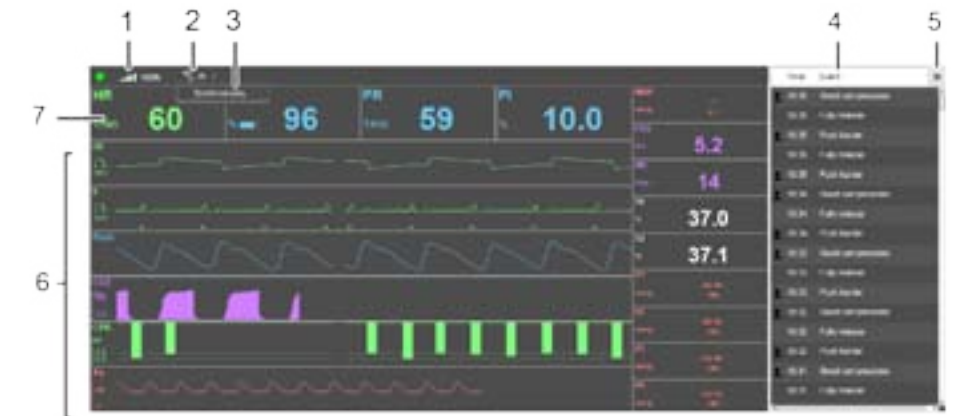


Figure 9-1 Overview Live data



Item	Element	Description
1	Indication connection quality	Indicates the connection quality between the sending corpuls3 and corpuls.mission LIVE .
2	Transmission delay	Displays the current transmission delay. The minimum transmission delay is 2 seconds, due to technical reasons.
3	Menu Synchronise	Allows synchronising live data transmission.
4	List <i>Event</i>	Shows all events that have occurred during a mission in the corpuls3. The list <i>Event</i> is in chronological order and shows the date, time and text of the event.
5	Symbol  / 	Allows showing or hiding the list <i>Event</i> .
6	Live data	Shows all data that are currently displayed on the corpuls3.
7	Vital parameters	Shows all vital parameters that are currently displayed on the corpuls3. If a corpuls cpr is connected with the sending corpuls3, the parameters of the corpuls cpr are displayed as well.

Table 9-1 Overview Live data



9.2 Live History

If this option is enabled by the administrator, the user can get an overview of the mission so far and, with the "Live data history" view, go back and view the recorded data.

To clarify that these are historical data, the "Live data history" view has a white background.



While in "Live data history" view, the user is not able to perform a measurement, to change the representation of the leads and to select individual leads. The data can only be viewed and are not suitable for a current diagnosis.

By clicking on the buttons  or , the user can go back or forth by a few seconds on the timeline and by clicking on an event in the list *Event*, jump directly to the timestamp of the event. By dragging the slide control with the mouse, a certain timestamp can be selected.

Depending on the display on the corpuls3, the "Live data history" view can show the following:

- If the user performs a defibrillation in manual mode, a red bar with the message **Defibrillator Manual** appears.
- If the user performs a defibrillation in AED mode, a red bar with the message **Defibrillator AED** appears.
- If the user performs a pacer therapy, a green bar with the message **Pacer** appears.
- If the mission browser is opened, the message **Mission Browser** appears. As soon as the corpuls3 mission browser is closed, the data are visible again.
- The "Live data history" view always corresponds exactly to the view of the corpuls3 and changes automatically, e. g. the views "Big 4", "Big 6" or "Big 8" in which large parameter fields are displayed, are also supported.



The "Live data history" view is only available for corpuls3 devices from version 3.0.x.

The following illustration gives an overview of the option live data history on the tab **Live data**.

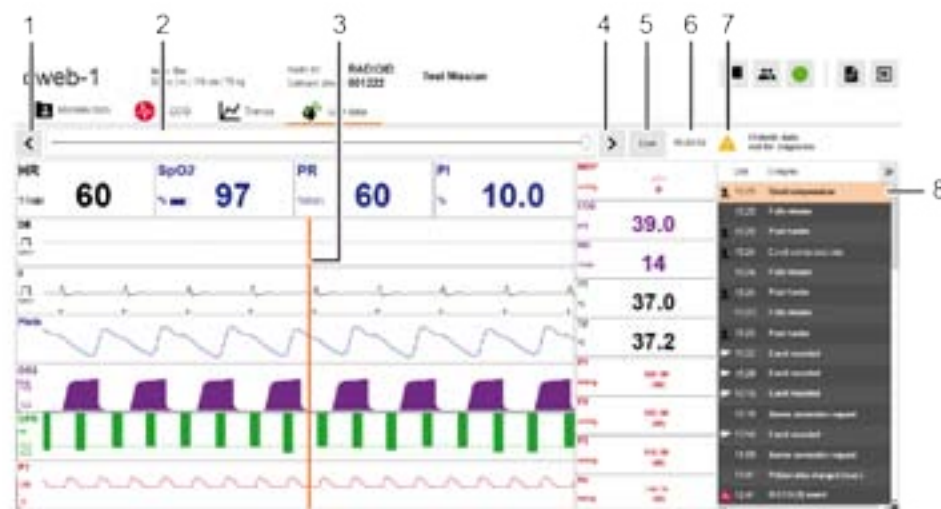



Figure 9-2 Overview Live data history

Item	Element	Description
1	Button Backward 	Jumps back a few seconds on the timeline
2	Timeline	Shows the complete mission.
3	Orange time indicator	Shows the exact timestamp in the mission data.



Item	Element	Description
4	Button Forward 	Jumps ahead a few seconds on the timeline
5	Button Live	Allows to return to the live data view.
6	Time	Indicates the exact timestamp.
7	Warning	Reminds the user that these are historical patient data.
8	List <i>Event</i>	Displays all events that have occurred during the mission.

Table 9-2 Overview Live History


9.3 Display options of the list Event

corpuls.mission LIVE shows all events in the list *Event* on the tab **Live data** besides the curves.

The list *Event* is in chronological order and shows the date, time and text of the event. The symbol  indicates if the event is an alarm.

The user can display the list *Event* in two views:

- Standard view
- Short view

If users need an optimal overview of the live data and no information on the events, they can change to the Short view by clicking on the symbol .

Analogously, the list can be displayed in Standard view by clicking on the symbol .

corpuls.mission LIVE also displays the events as exportable list on the tab **Mission data** after clicking the button [Events] (refer to 6.8 Button Events on page 40).

9.4 Synchronising live data

If the live data transmission is active over a longer period of time, there may be a transmission delay. The minimum transmission delay is 2 seconds, due to technical reasons. If the transmission delay is more than 2 seconds, the live data transmission can be synchronised.




If the transmission delay is more than 60 seconds, corpuls.mission LIVE synchronises the live data transmission automatically.

Prerequisite

- The transmission delay is more than 2 seconds

To synchronise the live data transmission, proceed as follows:

1. Select in the required mission the tab **Live data**.
2. Click on the small triangle besides the symbol .

The button [Synchronise] appears.

3. Click button [Synchronise].

The live data transmission is synchronised. The transmission delay is 2 seconds.

10 Error Messages and Warnings

The following table lists all error messages, notices and warnings of corpuls.mission LIVE and describes the cause as well as the remedial measures. Error messages, notices and warnings can have a number of different causes. Different causes are labelled with letters in the "Cause" column. The user can remedy error messages, notices or warnings by taking specific measures. Different measures are labelled with letters in the "Measure" column. The user must carry out the measures one by one from A to Z until one of the measures proves successful.

Error message, notice or warning	Cause	Measure
"The used browser [browser version, operating system] is not supported. This may result in errors or restricted functionality"	The user opens corpuls.mission LIVE and is working with a non-supported browser.	A Select a supported browser.
All time indications are displayed in [UTC + NUMBER]. Time zone of the corpuls3 is [UTC + NUMBER]. Offset is [+ NUMBER]	Displays the time difference.	-
Creating page [NUMBER]	The user is creating a mission report or is exporting a file.	-
D-ECG [NUMBER] has not been transferred to corpuls.web LIVE	corpuls3 has recorded a D-ECG. corpuls3 has not transmitted the D-ECG to corpuls.mission LIVE .	A Transmit D-ECG to corpuls.mission LIVE .
D-ECG [NUMBER] is being transferred to corpuls.web LIVE	A D-ECG is being transmitted to corpuls.mission LIVE .	-
"D-ECG [NUMBER] was not transferred completely to corpuls.web LIVE"	The user is opening a D-ECG that has been transmitted incompletely.	A Once more transmit D-ECG to corpuls.mission LIVE .
"HES® could not be transferred successfully to corpuls.web LIVE for D-ECG [NUMBER]"	The user is attempting to open the HES data of a D-ECG. The connection to the corpuls3 was prematurely aborted.	A Once more transmit D-ECG to corpuls.mission LIVE .
Mission has been opened in write-protected mode	The user is attempting to open a write-protected (already opened) mission.	A The user who has opened the mission must close the mission. The mission must then be opened anew by the user who wants to edit the mission.
The corpuls3 is not connected. The message might not be delivered.	The user is attempting to send patient data to a corpuls3. The corpuls3 is not connected to corpuls.mission LIVE .	A Connect corpuls3 to corpuls.mission LIVE .
"[NAME] could not be notified by [NAME]"	A notification could not be sent.	A Contact authorised sales and service partners.

Error message, notice or warning	Cause	Measure
"[NUMBER] failed login attempt(s) were recorded for your user account. If these login attempts were not caused by you, contact your administrator immediately"	The user has logged in successfully. Several login attempts with the user name have been made prior to the successful login.	A If login attempt was not made by user, contact authorised sales and service partner.
A new session has been opened with your user name. The current session has been terminated.	A new session has been opened with the user name of the user. The former session has been terminated.	-
"All non-saved changes will be lost"	A The user is navigating to another URL. B The user is closing the window in which corpuls.mission LIVE is open.	A Always exit corpuls.mission LIVE correctly.
"An error occurred"	An initialisation error of the client has occurred.	A Contact administrator.
"Correct the entered values"	The user has filled out a field with incorrect values.	A Fill out fields with correct values.
"D-ECG [NUMBER] could not be forwarded to [NAME]"	The user is attempting to forward a D-ECG.	A Contact authorised sales and service partners.
Do you want to finish editing this mission?	The user is attempting to incorrectly close a mission.	A Close mission correctly.
Exporting page [NUMBER]	The user is exporting a file.	-
"Failed to load the Live Board workstation"	The user opens "Live Board" monitoring.	A Contact administrator.
"File creation failed"	The user is attempting to export a D-ECG or a mission report.	A Contact administrator.
"Fill in all the required fields correctly"	The user has not filled in one or more mandatory fields.	A Fill in all mandatory fields.
"HES ECG measurement could not be completed"	The user is attempting to open the HES data of a D-ECG.	-
No D-ECG has been transmitted	The user is attempting to open a D-ECG. corpuls3 has not recorded any D-ECGs.	A Record D-ECG and transmit it to corpuls.mission LIVE .
No events have been transferred	corpuls.mission LIVE has not received any events from corpuls3.	A Re-connect corpuls3 to corpuls.mission LIVE .
No Live Board workstation has been defined. This is an administration task.	The user opens "Live Board" monitoring.	Contact administrator.
"Not all events have been transferred from the device. It is possible that the most recent events are not included in the list"	corpuls3 has established a connection with corpuls.mission LIVE for the sole purpose of transmitting a D-ECG. The most recent events have not been transmitted.	A Connect corpuls3 to corpuls.mission LIVE .

Error message, notice or warning	Cause	Measure
Password reset invalid	The user has requested a new password.	A Contact authorised sales and service partners.
Password reset requested	The user has requested a new password.	--
Password reset successful	The user has requested a new password.	--
Password token invalidated	The user has requested a new password.	A Contact authorised sales and service partners.
"The browser used could not be recognised. This may result in errors or restricted functionality"	The user opens corpuls.mission LIVE . corpuls.mission LIVE does not recognise the browser.	A Select a supported browser.
The mission has been closed by the editor. Do you want to leave the write-protected mode and re-open the mission?	The user has opened a mission in write-protected mode. The user who has activated the write-protected mode closes the mission.	A To leave the write-protected mode, click button [Yes]. B If you do not want to leave the write-protected mode, click button [No].
"The newly entered passwords have to be identical"	The user is attempting to change his password in the profile. The password in the field <i>Confirm password</i> does not agree with the new password.	A Password in <i>Confirm password</i> field must agree with the new password.
"The password is incorrect. Check your input and try again"	The user is attempting to log-in in the profile. The password is incorrect.	A Use correct password. B Contact administrator.
"The server seems to be temporarily unavailable"	A The user is using corpuls.mission LIVE and the server is unreachable. B The user is using corpuls.mission LIVE and has a poor internet connection.	A Restart corpuls.mission LIVE .
"The session is no longer valid or the connection to the server was lost. Reload the page and log in again."	A The session is no longer valid. B The connection to the server has been lost.	A Restart corpuls.mission LIVE .
The user [user name] is already logged in. Logging in again may cause data loss. Log in anyway?	The user is already logged-in in corpuls.mission LIVE and is attempting to log in again.	A Log out user. B To abort, click button [No].
User [NAME] could not send a webMessage to the device [NAME].	The user is trying to send a webMessage.	A Contact authorised sales and service partners.
User [NAME] is trying to send a webMessage to the device [NAME].	The user is trying to send a webMessage.	--
User [NAME]s has successfully sent a webMessage to the device [NAME].	The user is trying to send a webMessage.	--

Error message, notice or warning	Cause	Measure
"You do not have the required user rights to access this feature. Please contact your administrator."	The user opens "Live Board" monitoring.	A Contact administrator.
"Your user name or password is wrong. Check your input and try again"	The user is attempting to log in to corpuls.mission LIVE . Login is unsuccessful although input has been checked.	A Request new password. B Contact administrator.

Appendix

A Residual Risks

Degree of severity	Probability	Examples
Slight	Rare (can affect 1 of 1000 treated patients)	Minor reversible health impairments of patients
Medium	Rare (can affect 1 of 1000 treated patients)	Major reversible or minor irreversible health impairments of patients
Severe	Very rare (can affect 1 of 10000 treated patients)	Major irreversible health impairments or death of patients

B Regulatory information on the Associated Product “VECG-WEB” by VectraCor, Inc.

 VectraCor, Inc.

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Totowa, New Jersey 07512

In case of problems with this application (e.g. the calculation of the additional leads or the CEB® not working as described) please contact your authorized corpuls sales and service partner or the corpuls Application Support.



WARNING!

Functional error of the application!

Make sure that virus protection software and firewall software are installed on the PC hosting the VECGWEB application and are not disabled.

- ▶ If the installation is hosted by GS Elektromedizinische Geräte G. Stemple GmbH this is taken care of by the corpuls Application Support.

Indications for Use

The VECGWEB application is intended for use by healthcare professionals in a healthcare setting. It is a windows-based program which operates as follows:

- The application is run from a simple command-line interface.
- The application accepts a single command-line parameter, the name of a SCP file located in the same directory as the application.
- The application supports Web-SCP file format only.
- The data in the SCP file must have been acquired from adult patients (18+ years).
- Multiple instances of the application may be run concurrently.
- The SCP input file will remain unchanged.
- The application is intended to be used by healthcare professionals, or trained personnel.

C Frequently asked questions

The message "The used browser [browser version, operating system] is not supported. This may result in errors or restricted functionality" appears. What can I do?

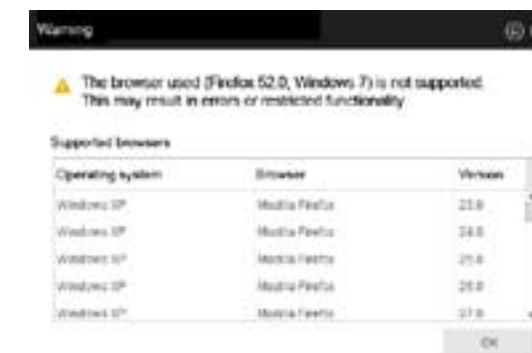


Figure A-1 The browser is not supported.

Work with browsers that comply with the system requirements (refer to 2.5 System Requirements on page 5).

I can't export D-ECGs. What can I do?

To export a D-ECG, the browser has to allow popups. If the popups are blocked, no D-ECGs can be exported. To solve this problem, allow popups for corpuls.mission LIVE.

Explanations about popups can be found in the Help-file of your browser.

The texts in my browser window are cut off. What can I do?

To display texts correctly, check the following:

- Make sure the browser window is maximised.
- Make sure the resolution is configured in accordance with the system requirements (refer to 2.5 System Requirements on page 5).
- Make sure the browser window is not zoomed in or zoomed out. The zoom factor has to be 100%.

Explanations regarding zoom factors can be found in the Help file of your browser.

The question The user [user name] is already logged in. Logging in again may cause data loss. Log in anyway? *appears. What can I do?*

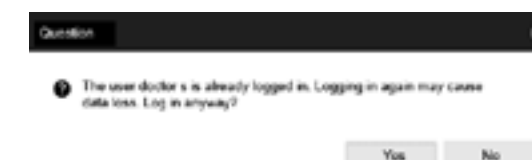


Figure A-2 Confirmation prompt for repeated log-in

The browser crashed or you have not logged out correctly after your last session with corpuls.mission LIVE . To be able to use corpuls.mission LIVE again, click button [Yes].

All non-saved data are lost.

I am using the Internet Explorer 8 and cannot hear notification sounds, although I have set the notifications user interface correctly. What can I do?

To be able to hear signalisation sounds, the Internet Explorer has to allow the execution of media playback. If the media playback is blocked, no signalisation sounds are audible. To solve this problem, allow media playback for corpuls.mission LIVE .

I am trying to download a D-ECG with the Internet Explorer 8 and after a query I am always being re-directed to the start page of corpuls.web. What can I do?

To be able to download a D-ECG, the Internet Explorer 8 has to allow downloads for corpuls.mission LIVE . To solve this problem, allow downloads for corpuls.mission LIVE .

I do not receive e-mails from corpuls.web LIVE. What can I do?

Contact your administrator.

The login procedure to corpuls.web LIVE takes unusually long and the phrase "Connecting to server" appears. What can I do?

Connection to the server is interrupted. Wait a few minutes and then reload the page. If the situation does not change, contact your administrator.

D List of Abbreviations

Abbreviations used

Measuring units:

Hz	Hertz
J	Joule
kB	Kilobyte
kg	Kilogramme
kPa	Kilopascal
kV	Kilovolt
mA	Milliampere
MB	Megabyte
MHz	Megahertz
min	Minute
mm	Millimetre
mmHg	Millimetres mercury
mm/s	Millimetres/second
mm/mV	Millimetres/Millivolt
ms	Millisecond
mV	Millivolt
s	Second

Abbreviations:

RR	Respiration rate
FTP	File Transfer Protocol
HR	Heart rate
ID	Identifier
LDAP	Lightweight Directory Access Protocol
m	male
NIBP	Non-invasive blood pressure monitoring
NTLM	NT LAN Manager
PDF	Portable Document Format
PI	Perfusion index
PR	Peripheral pulse
D-ECG	Diagnostic electrocardiogram

SCP	Standard Communications Protocol for computer-assisted electrocardiography
SMTP	Simple Mail Transfer Protocol
SpCO	Carboxyhaemoglobin levels
SpHb	Haemoglobin concentration
SpMet	Methaemoglobin levels
SpO ₂	Peripheral oxygen saturation
TLS	Transport Layer Security
URL	Uniform Resource Locator
f	female

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