

Polar Cardio GX: Help Topics

Table of Contents

The Polar Cardio GX system	1
Quick steps	2
PC requirements	2
Training articles.....	3
Bluetooth	3
Introduction to hardware	5
Base station	5
Front panel	6
Facts.....	6
Technical features	7
Charger	7
Facts.....	8
Transmitters	8
Facts.....	9
Technical features	9
Lights and sounds	9
Base station.....	10
Connector	10
Introduction to software.....	13
Admin tool	13
Admin tool.....	13
Session management.....	15

Polar Cardio GX: Help Topics

System management	18
Session tool.....	20
Session tool	20
Before training	21
During training	23
After training	24
How to	27
How to set up hardware	27
Before each session.....	28
Connections	28
How to connect base station to PC	29
How to set up wireless connection	29
Transmitters	32
How to insert connectors into charger.....	32
How to teach connectors.....	34
How to remove connectors from system	36
How to use transmitters.....	36
How to recharge connector batteries	37
Session management	37
How to add session	37
How to modify session	40
How to remove session	40
How to add advertisement.....	41

Sessions.....	41
How to start a session	41
How to sign up.....	43
How to end session	44
How to change session settings.....	45
How to follow up.....	45
Troubleshooting	47
Search tips.....	47
Glossary	47
Training articles	47
Connections	47
PC and Ethernet cable	48
PC and Wireless connection	49
Online training.....	51
Training computer	52
Transmitters	53
Customer service information	55
Service.....	55
Care and maintenance instructions	55
Transmitter straps	55
Connectors	56
Charger and base station	56
Precautions	56

Polar Cardio GX: Help Topics

Minimizing Possible Risks	56
Important safety information	58
Base station.....	58
AC-powered devices	58
Battery-powered devices.....	59
Wireless devices	60
All devices	60
Regulatory Information.....	60
Base Station	60
Transmitter	62
Industry Canada (IC) regulatory information	63
Charger.....	64
technical specifications	66
Transmitter	66
Radio frequency technical specifications	66
Guarantee and disclaimer	67
Limited polar international guarantee	67
Disclaimer.....	68

INTRODUCTION TO POLAR CARDIO GX

Welcome to Polar Cardio GX! Polar Cardio GX is a Polar solution for group exercise at fitness and health clubs. Cardio GX enables arranging heart rate-based classes where the heart rates of participants are displayed on a screen. Polar Cardio GX is suitable for different kinds of indoor and outdoor group exercise sports



The Polar Cardio GX system

The Polar Cardio GX system consists of a PC software, a base station, transmitters (strap and connector) and a charger. Find out more about the hardware in the [hardware section](#) of this help.

The PC software consists of two parts:

- **admin tool** allows managing the sessions, advertisements and hardware;
- **session tool** is used before a class for signing up, during the class for heart rate monitoring, and after the class for summarizing the individual heart rate data.

We recommend that you read through this manual before beginning to work with the Polar Cardio GX system. It is the easiest way to learn how to utilize the system at your club.

Quick steps

1. Install the PC software from the CD.
2. [Set up the system](#) (sessions and hardware) with admin tool.
3. Give the transmitters to the exercisers.
4. [The exercisers sign up for the session](#) (in the session tool).
5. [Instructor starts the heart rate-based group exercise class!](#)
6. An individual session summary is displayed for each exerciser after the class.
7. [Follow up](#) arranged heart rate-based classes.

PC requirements

For proper and smooth operation of the Polar Cardio GX software, make sure your PC meets the following requirements:

Minimum system requirements are:

- 1.6 GHz processor
- 1 GB RAM
- 1 GB of free hard drive space
- XGA (1024 x 768) monitor
- Microsoft Windows XP or Vista (32-bit)

Recommended system requirements are:

- 2 GHz processor
- 2 GB RAM
- 1 GB of free hard drive space
- Wireless connection (IEEE802.11b or newer), WEP encryption
- Microsoft Windows XP or Vista (32-bit)

In addition to the requirements listed above, it is recommended that you update system drivers, especially Wi-Fi adapter drivers. Contact your Wi-Fi adapter manufacturer's web site to find the latest release of the drivers.

Training articles

For more information on the physiological aspects and other features of Polar products, visit the [Polar Collection of Training Articles](#).

Bluetooth

Polar Cardio GX uses Bluetooth wireless communication between the transmitters and the base station. Bluetooth provides the most reliable and secured technology for transmitting live data in the sports instrument industry today.

HARDWARE

Introduction to hardware

The Polar Cardio GX system includes the following hardware:

- [Base station](#)
- [Charger](#)
- [Ten transmitters](#) consisting of connectors and straps. Extra connectors and transmitter straps can be purchased separately.

The light and sound indicators are presented in the [Lights and sounds](#) topic.

Base station

The base station is the device that connects the transmitters with the PC software. The easiest way to connect the base station with the PC is to use a network cable. Wireless connection can also be used.

- [How to connect base station to PC](#)
- [How to set up wireless connection](#)



Front panel



1. Charger and power indicators (see [Lights and sounds](#))
2. Number indicators for connections and a Bluetooth logo (see [Lights and sounds](#))
3. Power button
4. Ethernet port and power plug under the cover

Facts

- The base station is water-resistant. It can be used also outdoors and in the rain as long as the plug is in place. Always use wireless connection and battery power in the rain!
- AC adapter is included in the Cardio GX set. There are four different plugs for the AC adapter. Choose the correct plug (according to the country) and place it into the adapter.
- During charging the legs of the base station must be used because the bottom of the base station heats up to 60°C (140°F). During charging, the maximum operating temperature is 45°C (113°F).
- The detachable legs must be used when base station is placed on moist ground, e.g., on a wet lawn.
- When the base station is placed on the wall, the plug must be towards the ground, especially outdoors.
- It is recommended that the base station is placed 2 meters (6.5 ft) above the ground to optimize the signal.
- Check the range of the signal if the base station is surrounded by metal.
- A wall mounting kit is included in the Cardio GX set. The sockets that are provided in the wall mounting kit are meant for concrete surfaces.

Technical features

- Allows you to display up to 28 exercisers' heart rates simultaneously in real time.
- Built-in Wi-Fi (IEEE802.11b) to allow wireless connection between the PC and the base station.
- Built-in Bluetooth (100 m (330 ft) range)
- RJ45 connector for Ethernet connection
- Re-chargeable batteries with up to 12 hours stand alone use. Charging time 4 hours
- Operating temperature -20°C - +60°C (-4°F - +140°F)

Charger

The charger is used to re-charge the batteries of the [connectors](#). The charger can only be used indoors.

Data transfer between the connectors and the PC is enabled only when the connectors are inserted into the charger and the power cable is plugged into the charger.

- [How to insert connectors into the charger](#)



Facts

- Up to ten connectors can be inserted into the charger at a time.
- [The connectors are inserted into the charger](#) with the led light left on the outside. The led is located next to the Polar Team² logo's letter R.
- Only for indoor use (not water-resistant)
- AC adapter is included in the Cardio GX set. There are four different plugs for the AC adapter. Choose the correct plug and place it into the adapter.
- A wall mounting kit is included in the Cardio GX set.

Transmitters

The transmitter consists of a transmitter strap and a connector. The connector detects the heart rate and transmits it to the PC via [base station](#) using Bluetooth. During training the heart rate data can also be monitored with a compatible Polar training computer.

- [How to insert connectors into the charger](#)
- [How to teach connectors to the system](#)

- [How to use transmitters](#)



Facts

- Connector is water-resistant.
- The connector is in the sleep mode if it's not inserted into charger or attached to the strap.
- If the data transmission ceases during training, the connector searches for a new connection automatically.
- For example, the following Polar training computers can be used with the transmitter: FT40, FT60, FT80, F4, F6, F7, F11, F55, FS1, FS2, FS3, RS300X, RS400. Full list of compatible training computers can be found at [Polar website](#).
- The strap works only with a Team² connector.

Technical features







- Re-chargeable battery, up to 30 hours of stand alone use. Charging 24 hours
- Connectors with Polar magnetic communication technology
- Built-in Bluetooth (100 m (330 ft) range)
- See transmitter strap and connector materials in [Technical specifications](#) topic

Lights and sounds

The base station and connectors include different lights and sounds to inform their status to the user.

Base station

The lights are located in the [front panel](#) of the base station.

Light	Function
Charge indicator 	Green light is on: Power cable is connected and/or the battery is full. Red light is on: Battery is low and charging. Red light is blinking every 5 seconds: Battery is low and not charging. Red light blinks for 3 seconds and power switches off automatically: Battery is empty.
Power indicator 	Base station is on.
Blue 1 	Base station is ready for use. It takes approx. 1 minute to light up after switching on.
Blue 2 	PC is connected to the base station and the software is running.
Blue 3 	At least one connector is connected to the base station with Bluetooth.
Blue 4 	Not in use.

NOTE:

- The Bluetooth logo  is not a light; it is only a label.

Connector

See the table below for a description for lights and sounds during training.

Light/Sound	Function
Green led is blinking at the same pace with heart rate.	Connector detects the HR signal and is ready for transmitting.
Red led is blinking at the same pace with heart rate.	Connector detects the HR signal and is ready for transmitting. Memory or battery level is low.
Start transmitting sound, one beep.	Connector starts detecting and transmitting heart rate.
Green led is blinking every 3 seconds.	Connector is transmitting.
Stop transmitting sound, two beeps.	Connector stops detecting and transmitting heart rate.
Red led is double blinking every 5	Transmitting cannot be started.

seconds for 30 seconds. Stop recording sound.	
Red led is double-blinking every 5 seconds for 10 minutes. Stop transmitting sound.	Transmitting has been stopped because the battery is empty.

See the table below for a description for lights and sounds during charging/while the connectors are in charger.

Light/Sound	Function
Red led is on for 5 seconds. Short sound.	Connector is properly placed into the charger.
Red led is blinking every 5 seconds.	Connector is charging.
Green led is blinking every 10 seconds.	Connector's battery is full.
Green led is on.	During teaching, the user can activate the connection between a new connector and the system by removing the connector from the charger.
Red led is on for 5 seconds. Three short sounds.	Connector is properly placed into the charger, but is in non-secured mode. Connector cannot communicate with the system while it is in non-secured mode. To change the mode to secured, remove the connector from the charger and insert it back after a minimum of three seconds. Only one sound should be heard.

SOFTWARE

Introduction to software

The Polar Cardio GX software consists of two parts:

- [admin tool](#) for managing the sessions, advertisements and hardware;
- [session tool](#) is used before a class for signing up, during the class for heart rate monitoring, and after the class for summarizing the individual heart rate data.

The admin tool is opened from the Windows desktop (**Polar Cardio GX Admin Tool**) or from the Start menu: **Start > All Programs > Polar Cardio GX > Polar Cardio GX Admin Tool**.

The session tool is opened by double-clicking the **Polar Cardio GX Session Tool** shortcut on the Windows desktop.

The Polar Cardio GX software saves a log file with session details from every session allowing following up the arranged heart rate-based sessions. For more information, see [How to follow up](#).

Admin tool

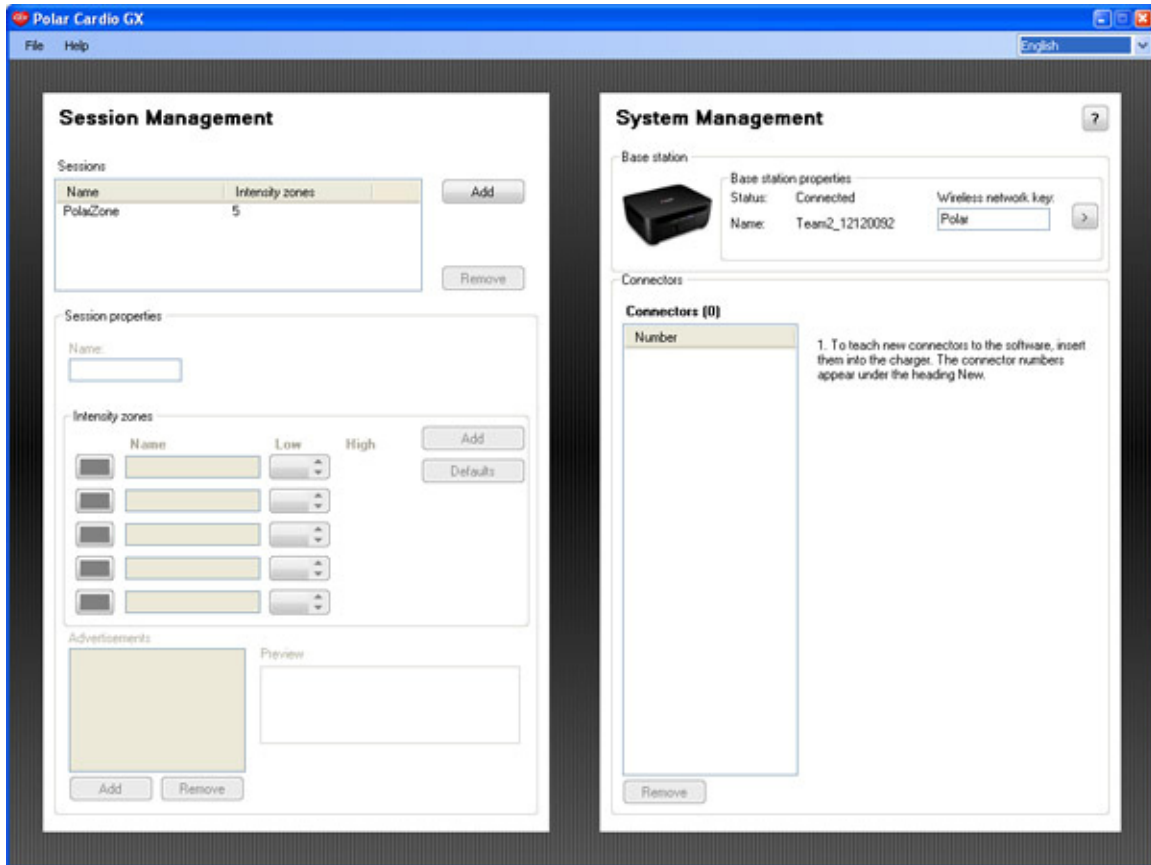
Admin tool

Admin tool is opened from the Windows desktop (**Polar Cardio GX Admin Tool**) or from the Start menu: **Start > All Programs > Polar Cardio GX > Polar Cardio GX Admin Tool**.

The admin tool allows you to manage sessions, advertisements and hardware. The admin tool is meant for Cardio GX system's key users.

- [Manage the sessions](#) on the left side of the admin tool.
- [Manage the system](#) on the right side of the admin tool.

Polar Cardio GX: Help Topics

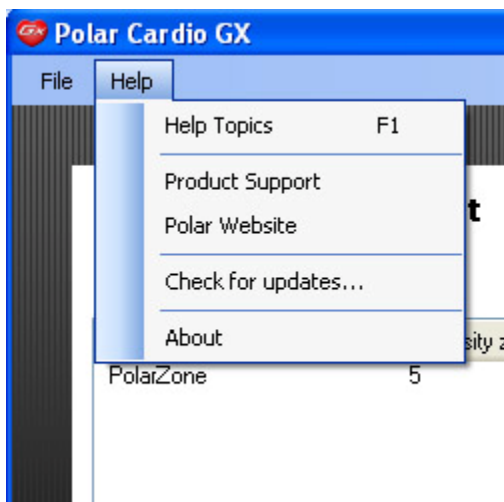


Menu

File

Close the admin tool by selecting **File > Exit** from the main menu.

Help

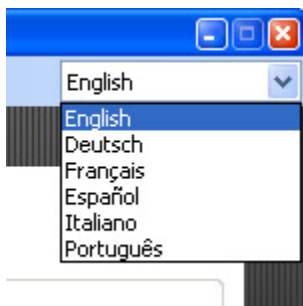


Open the software help by selecting **Help > Help topics** or by pressing **F1** on the keyboard.

Check software updates by selecting **Help > Check for updates**.

Check the Polar Cardio GX software's version and other information by selecting **Help > About**.

Language selection



Change the language of the Polar Cardio GX software by selecting the desired language from the drop-down list in the upper right corner. The available languages are English, German, French, Spanish, Italian and Portuguese. The new language is taken into use after restarting.

Session management

You must create sessions before arranging heart rate-based classes. Sessions are added, defined, modified and removed in **Session Management** on the left side of the admin tool. The number of sessions is not limited.

NOTE: The admin tool and the session tool cannot be open simultaneously. Therefore, close the session tool before modifying the sessions.

Every session has a name, three to five [intensity zones](#), a [type](#) and optionally also [advertisements](#). Each intensity zone has a distinctive color, name, and lower and upper heart rate limits.

Sessions can be used as templates for different kinds of heart rate-based classes. For example, after a "**Light indoor cycling**" session is created in the admin tool, it can be used in each light indoor cycling class your club arranges.

Sessions

Session Management

Sessions

Name	Intensity zones	
Polar 1	4	
Polar 2	3	
PolarZone	5	

Add

Remove

At the top of the **Session Management** section of the admin tool, there is a list of current sessions. Polar Cardio GX includes one default session (*PolarZone session*).

Click **Add** to create a new session and **Remove** to remove the selected session. To modify a session, select it and make changes in **Session properties**. Changes are saved automatically.







There must always be at least one session in the system. The software does not allow you to delete all the sessions.

Session properties

Session properties

Name:

Intensity zones

	Name	Low	High	
	<input type="text" value="Maximum"/>	<input type="text" value="90"/>	<input type="text" value="- 100%"/>	
	<input type="text" value="Hard"/>	<input type="text" value="80"/>	<input type="text" value="- 89%"/>	
	<input type="text" value="Moderate"/>	<input type="text" value="70"/>	<input type="text" value="- 79%"/>	
	<input type="text" value="Light"/>	<input type="text" value="60"/>	<input type="text" value="- 69%"/>	
	<input type="text" value="Very light"/>	<input type="text" value="50"/>	<input type="text" value="- 59%"/>	

Add


Defaults

When you have either created a new session by clicking **Add** next to the session list or have selected an existing session to modify it, the session information is displayed in **Session properties**. You can modify the name, [the type](#) and [the intensity zones](#) of the session.

Changes are saved automatically. To restore default session properties for the selected session, click **Defaults**.

Intensity zones

A session can include from 3 to 5 intensity zones and you can set color, name and the lower limits for each zone.

To delete an intensity zone, click the delete icon  next to the zone. The software asks for your confirmation. **NOTE:** Only the lowest zone can be deleted. To reduce the number of zones from 5 to 3, delete first the lowest zone and then the second lowest zone.

To add an intensity zone, click the **Add** button next to the intensity zones.

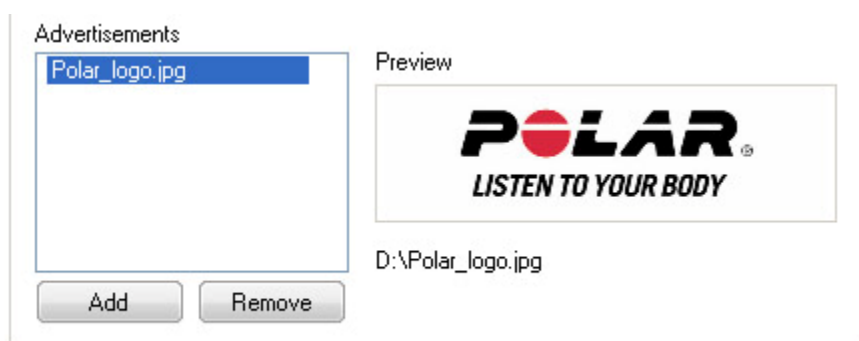
Session types

Each session has a type. The type determines whether the intensity zones are based on maximum heart rate (**HRmax**) or anaerobic threshold. The session type is set by selecting one of the two options next to the session name under **Session properties**. The type can be changed when modifying session properties.

When **maximum heart rate** is selected as the session type, the intensity zones are based on the maximum heart rate. The exercisers cannot exceed their maximum heart rates during the class, if the maximum heart rates are set correctly during [signing up](#).

When **anaerobic threshold** is selected as the session type, the intensity zones are based on anaerobic threshold which is the 100% point but not the maximum heart rate point. When anaerobic threshold is exceeded, muscles start to work without oxygen. **NOTE:** In order the anaerobic threshold intensity zones to work properly during a training session, the exercisers must know their anaerobic thresholds and set them correctly during [signing up](#).

Advertisements



Each session can include advertisements that are displayed on the screen during the session. The number of ads is not limited. To add an advertisement to the selected session, select **Add** below the **Advertisements** list and browse the ads from your computer one by one.

A preview of the selected ad is displayed next to the ad list.

To remove an advertisement, select it from the list and click **Remove** below the list.

Advertisement format:


- Advertisements must be either in JPG, PNG, BMP or GIF format.
- It is recommended that the advertisements have a certain aspect ratio. The best result is achieved when the aspect ratio of an advertisement is 3:1. For example, a good size for advertisement is 600 x 200 pixels.
- The size of an advertisement should be less than 2 MB.
- **Tip:** To get the best visual outcome, it is recommended to use PNG (or GIF) pictures that have transparent background. See the example pictures below: on the left a JPG ad without transparent background and on the right a PNG ad with transparent background.



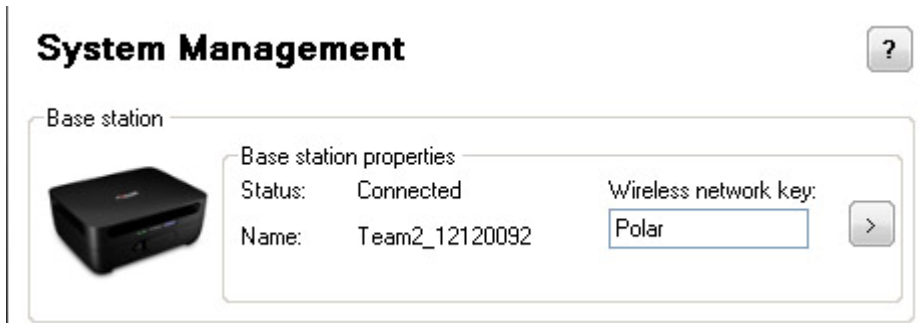
For more information about transparency in picture files, contact your technical support or advertisement agency.

System management

Use the **System Management** part of the admin tool to set up the Polar Cardio GX system and hardware before arranging heart rate-based classes.

To get visual instructions on how to setup the Polar Cardio GX hardware, click the question mark icon  in the upper right corner.

Base station



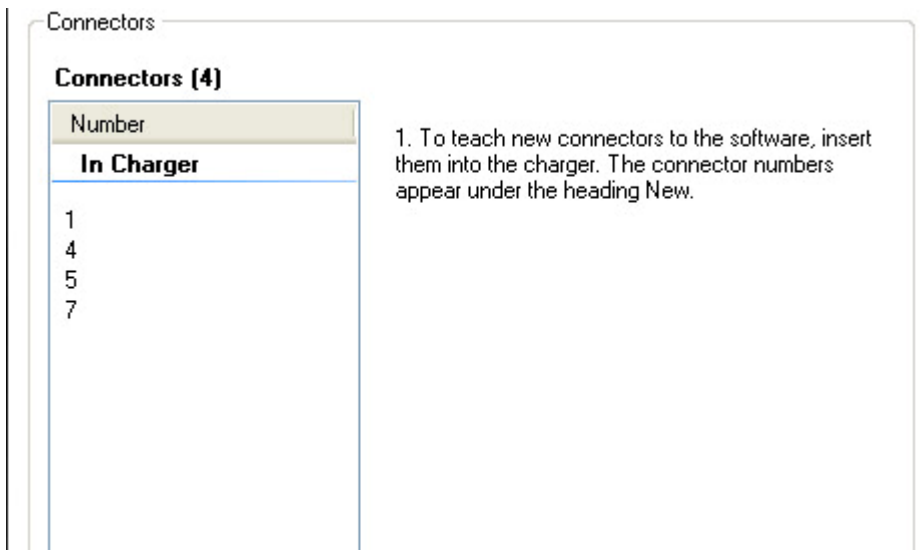
After the base station is connected to the PC and the admin tool is running, the base station image, the base station connection **Status**, **Name** (Polar_XXXXXXXX) and **Wireless network key** are displayed. The base station name is also the name of the base station's wireless network.

The wireless network key is a password that is required when establishing a wireless connection between the base station and the PC. By default, the wireless network key is "Polar". It is recommended to change the wireless network key when using the Polar Cardio GX system for the first time to ensure your system security.

If the base station is connected to the PC with a wireless connection, it is not recommended to change the wireless network key.

- [How to connect base station to PC](#)
- [How to change the wireless network key](#)

Connectors



Polar Cardio GX: Help Topics

Before you can use transmitters for online monitoring, the connectors must be introduced to the system (base station and the PC software). This is called teaching. It takes only a few minutes, and it has to be done only once for every connector. You can teach up to 28 connectors to the system.

If you purchase more connectors, you will have to teach them also.

You can also remove connectors from the system by using the admin tool.

- [How to teach connectors to the system](#)
- [How to remove connectors from the system](#)

Connectors that you have introduced to the system are listed in the **Connectors** list under **In Charger** and **Not in Charger** headings.


Session tool

Session tool

Open the session tool by double-clicking the **Polar Cardio GX Session Tool** shortcut on the Windows desktop. You can also open it from the Start menu: **Start > All Programs > Polar Cardio GX > Polar Cardio GX Session Tool**.

The Polar Cardio GX session tool is used to arrange heart rate-based classes. It is used before a class for signing up, during the class for heart rate monitoring, and after the class for summarizing the individual heart rate data.

The Polar Cardio GX software records a session log for each session. The log file can be used to follow up and monitor the arranged heart rate-based classes. See [After training](#) topic for more information.

The session tool opens into a full screen mode. You can close it from the **Instructor Settings** view and after a session by clicking the Exit button .

While the session tool is running, you can access your Windows desktop by pressing the Windows key on your keyboard. If you have other applications running simultaneously, <Alt> + <Tab> key combination allows you to toggle between applications.

See also:

- [Before training](#)

- [During training](#)
- [After training](#)

Screen saver

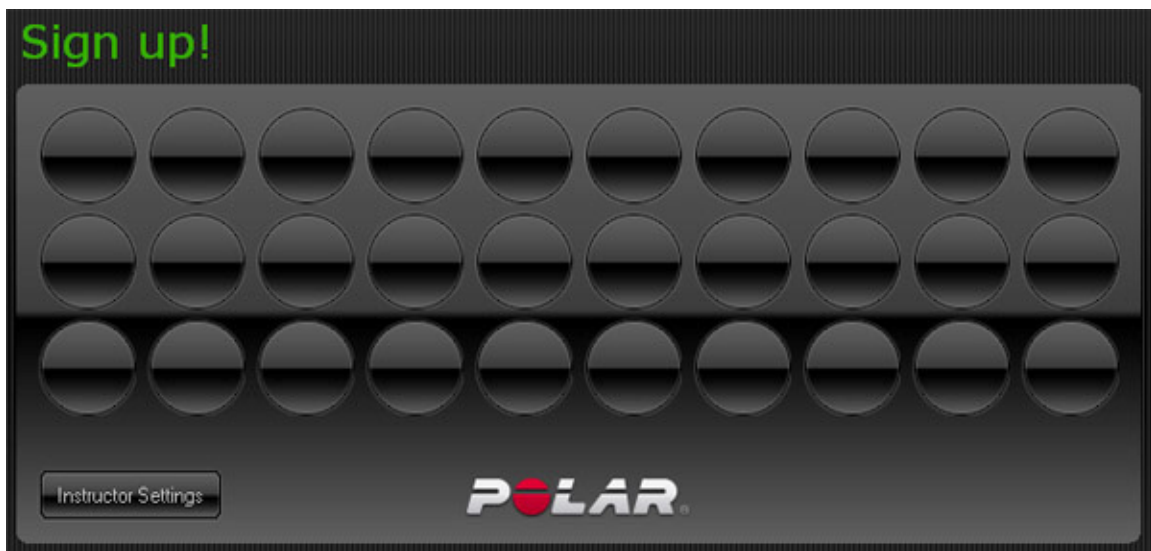
It is recommended that you turn off the screen saver or set the screen saver wait time to 90-120 minutes.

Windows XP:

1. **Start > (Settings >) Control Panel > Display > the Screen Saver** tab.
2. Turn off the screen saver by selecting **None** from the drop-down list or set the **Wait** time to 90-120 minutes.

Windows Vista:

1. **Start > Control Panel > Personalization > Screen Saver**.
2. Turn off the screen saver by selecting **None** from the drop-down list or set the **Wait** time to 90-120 minutes.



Before training

Before starting a training session, the Cardio GX system must be set up in the [admin tool](#). The setup includes both hardware and session configuration. Club employees must be taught to use the system and club customers must be taught to use the transmitters and sign up for a training session.

Before the first heart rate-based class:

1. Install the Polar Cardio GX software.
2. [Set up the hardware](#) (base station and connectors).
3. [Set up at least one session](#). You can also use the default session (*PolarZone session*).
4. Set up the system to the room where you intend to use Polar Cardio GX.
5. Instruct your club employees to use the system.

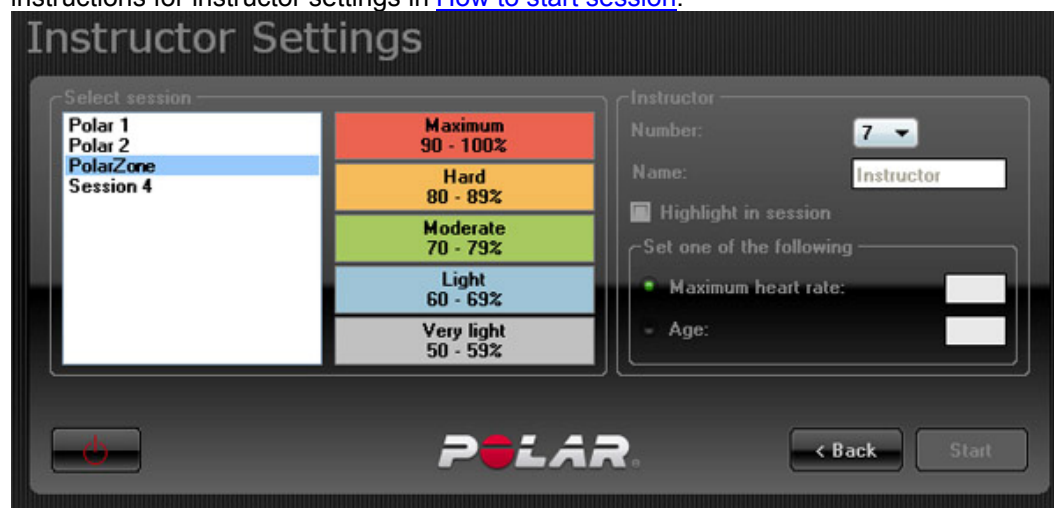
Before every heart rate-based class:

1. Give transmitter connectors to the exercisers, for example at the reception. **Make sure** the exercisers know their connector numbers. The number is needed when signing up. It can be found at the label on the connector.




2. Exercisers put on the transmitters in the locker room [according to the instructions](#).
3. The instructor [sets up the Polar Cardio GX](#) ready for the heart rate-based class.
4. The instructor selects the training session in the **Instructor Settings** view and types in his/her information. The instructor selects **Exerciser sign-up**. See more detailed

instructions for instructor settings in [How to start session](#).




5. After the instructor has selected the session and set up his/her information, the exercisers sign up for the class with the PC. See more detailed instructions for signing up in [How to sign up](#).
6. Instructor selects **Session** in the **Sign-up** view.

NOTE: The session tool can be closed by clicking the exit button  in the **Instructor Settings** view. The software asks for your confirmation.

Continue to the [During training](#) topic.






During training

After the instructor has selected **Session** in the **Sign-up** view (see [Before training](#)), a grid with names is displayed on the screen. Exercisers and the instructor can locate their names before a session starts. Possible advertisements are already shown and the timer is displaying 00:00.

To begin the heart rate-based class, the instructor clicks the start button . A countdown from 3 to 1 is displayed. The timer starts to run and heart rates appear on the screen. The instructor can guide the exercisers based on the heart rates or intensity zones.

The exercisers can also monitor and record their heart rate with a compatible Polar training computers. See an example list in the [Transmitter](#) topic.

Controls

- Pause the session by clicking the pause button . To continue the session, click the start button .
- End the session by clicking the stop button . To start a new session with the same exercisers' data, click the start button . See more information in the [After training](#) topic.
- Before the session is started or when the session is stopped (the stop button), the settings button  becomes enabled. Change the session settings by clicking the settings button, selecting a new session and selecting **OK**.

Continue to the [After training](#) topic.

Intensity zones


During training the intensity zones are displayed at the bottom of each exerciser's heart rate box with colors selected in the session settings in the admin tool. The background color of the heart rate box changes according to the intensity zone where the exercisers are in.


The instructor can guide the exercisers using either the **intensity zone number** (e.g. "train in zone 3"), the **intensity zone color** (e.g. "train in green zone") or the **percentage of the heart rate maximum** (e.g. "train at 60 - 65 % intensity").

Problems?

If exerciser's heart rate disappears from the screen ("- -" displayed instead), the connection between the connector and the base station is momentarily disconnected or the strap's electrode areas are dry. For more information, see [Online training](#) topic in the troubleshooting chapter.


After training


After the instructor has ended the training session by clicking the stop button  (see [During training](#)), the Polar Cardio GX software displays an individual session summary for each exerciser. In addition to the exerciser's name, the average and maximum heart rate is displayed with the intensity zone summary. To be able to compare the times spent on each intensity zone, the durations are displayed in minutes and seconds and with colored bars.


The instructor can discuss about the results with the exercisers and end the session by selecting the exit button .

The exercisers follow the [care and maintenance instructions](#) with the transmitter straps and connectors, and return the connectors to the reception.

Starting a new session

After the session has ended, it can be started again with the same exerciser data by clicking the start button . The timer is set to 00:00 again and previous heart rate data is erased.

When the session is stopped (the stop button), the settings button  becomes enabled. Change the session settings by clicking the settings button, selecting a new session and selecting **OK**. Sessions that are different type than the current selected session are disabled.

NOTE: After the session tool is closed by clicking the exit button , all the exerciser information (name, maximum heart rate / age) is lost and exercisers must sign up again to be able to participate to the session.


Log file

The Polar Cardio GX software records a session log for each session. The log file can be used to follow up and monitor arranged heart rate based classes. The log file tells you what kind of sessions have been held and did the sessions meet the requirements and thus helps you to improve your club's quality. The exercisers come back if the sessions are what you promise them to be.

The log file gives you answers for example to the following questions:

- Was the "**Light indoor cycling**" session really light or were the exercisers on the highest zone too much?
- Did the instructor push the exercisers to their limits during the "**Maximize your fitness**" session?

Location

The log file can be accessed from the admin tool. To open the log file, click on the log file button  in the upper right corner of the **Session Management** section of the admin tool. The *Sessions.csv* file opens into Microsoft Excel or similar software. Make sure you have compatible software installed onto your computer.

Reading the file

Polar Cardio GX: Help Topics

All the session logs are stored into one *Sessions.csv* file. There is one line for each session in the file. The newest session is at the bottom of the list. You can easily copy and paste the information into another document.

The *Sessions.csv* file consists of 16 columns.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Date	Start Time	Duration	Instructor	Exercisers	Session	Zone 1 Time	Zone 2 Time	Zone 3 Time	Zone 4 Time	Zone 5 Time	Zone 1 Total Time	Zone 2 Total Time	Zone 3 Total Time	Zone 4 Total Time	Zone 5 Total Time
2	30.6.2009	14:01:05	0:01:00	Mike	28	Light indoor cycling	15 %	48 %	32 %	5 %		04:16:12	13:39:50	09:06:33	01:25:24	
3	1.7.2009	13:00:10	0:59:00	Nancy	27	Polar sport zones	10 %	32 %	35 %	20 %	3 %	02:39:18	08:29:45	09:17:33	05:18:36	00:47:47
4																
5																
6																

- **Date** - The date of the session.
- **Start Time** - The time the session started.
- **Duration** - The session duration displayed in hours, minutes and seconds.
- **Instructor** - The name of the session instructor.
- **Exercisers** - The number of exercisers in the session.
- **Session** - The session name.
- **Zone 1 Time, Zone 2 Time, Zone 3 Time, Zone 4 Time, Zone 5 Time** - The percentage of time spent in each zone. All exercisers' times in each of the zones is summed up and shown as percentages of total time. Total time is exercisers' training durations summed up, differing from **Duration**.
 - For example, if there were 20 exercisers in the session, and 10 of them trained 10 minutes (10 x 10 minutes) and the other 10 trained 5 minutes (10 x 5 minutes) in zone 1, and the total duration of the session was 1200 minutes (20 x 60 minutes), the **Zone 1 Time** would be 12,50 % (150 minutes out of 1200 minutes).
- **Zone 1 Total Time, Zone 2 Total Time, Zone 3 Total Time, Zone 4 Total Time, Zone 5 Total Time** - The total (combined) durations in each zone. All exercisers' durations in each of the zones is summed up and the sums are displayed in the five columns. The total times are displayed in hours, minutes and seconds.
 - For example, if there were 20 exercisers in the session and 10 of them trained 10 minutes in zone 1, and the other 10 trained 5 minutes in zone 1, the **Zone 1 Total Time** would be 150 minutes.

HOW TO

How to

How to articles are divided into following categories:

- [Connections](#)
- [Transmitters](#)
- [Session management](#)
- [Sessions](#)



There are also two separate How to articles:


- [How to set up hardware](#), and
- [How to follow up](#).

How to set up hardware

The Polar Cardio GX system and hardware must set up before heart rate-based classes can be arranged. This is done in the **System Management** part of the admin tool. **The hardware setup includes selecting the wireless network key and teaching of the connectors.**


After installation of the Polar Cardio GX software:

1. Open the admin tool from the Start menu: **Start > All Programs > Polar Cardio GX > Polar Cardio GX Admin Tool**.
2. Plug in the power cable into the base station and the wall outlet.
3. [Connect the base station to the PC](#) with the network cable provided in the set. The lights  and  are lit on the base station front panel when the connection between the base station and the PC is ready.
4. [Select a wireless network key](#) for the base station.
5. [Teach connectors to the system](#).

Also visual instructions on how to setup the Polar Cardio GX hardware are available in the admin tool: click on the question mark icon  in the upper right corner to open the instructions.

Polar Cardio GX: Help Topics

Hardware setup is instructed step by step with helpful animations. Change the animation by clicking the steps on the left.




Follow the given instructions to start using the Polar Cardio GX system.

Hardware

Before teaching the connectors, set up the hardware. ①



- 1) [Plug the power cable into the base station.](#)
- 2) [Connect the base station to the PC with the network cable.](#)
- 3) [Switch on the base station. Wait until !\[\]\(4bc17f06788033d9b8b3ff4b2e7856e6_img.jpg\) and !\[\]\(cacb2a71cc4d30275b511bb2a429de97_img.jpg\) are lit \(approx. 1 min\).](#)
- 4) [Plug the power cable into the charger.](#)
- 5) [Insert connectors 1-10 into the charger. Wait until !\[\]\(cc550a6475ae0a4b1b30a2c3ecc0f2f6_img.jpg\) is lit on the base station.](#)



Close

Before each session

At the beginning of each session, the Polar Cardio GX system must be set up to the Cardio GX room.

1. Open the session tool from the Windows desktop by double-clicking the **Polar Cardio GX Session Tool** shortcut.
2. Plug in the power cable into the base station and the wall outlet.
3. Switch the base station on.
4. Connect the base station to the PC [with the network cable](#) provided in the set or by [using the wireless connection](#). The lights  and  are lit on the base station front panel when the connection between the base station and the PC is ready.



The Polar Cardio GX is now ready for [sign-up](#).

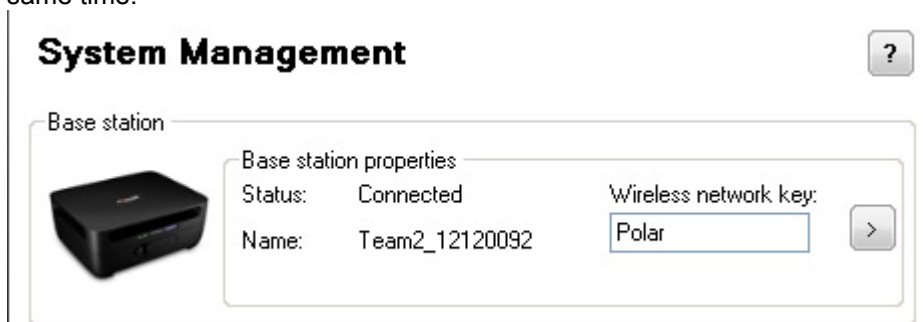
Connections


How to connect base station to PC



The base station can be connected to the PC with either an Ethernet cable (cross-over) or wireless connection. When Cardio GX is taken into use for the first time, the base station must be connected to the PC with the Ethernet cable.

To connect the base station to the PC:

1. Turn on your PC and open the Cardio GX software (either the admin or session tool).
2. Plug the power cable into the base station and the wall outlet. **NOTE:** Using power cable is only allowed indoors. In outdoor use, use the battery as power source.
3. Connect the base station to the PC with the network cable provided in the set. **NOTE:** The cable must be a crossover RJ45 cable.
4. Switch on the base station. Wait until  and  are lit (approx. 1. min) on the base station.
 - When you open the admin tool, the base station image becomes visible at the same time.



- If you open the session tool, only the light indicator  on the base station front panel shows when the connection is ready.

When the lights  and  are lit, the base station is ready to communicate with the PC software.

See also: [How to setup wireless connection](#).

See detailed step-by-step help in the [Connections](#) topic in the troubleshooting chapter.

How to set up wireless connection

The base station can be connected to the PC with either an Ethernet cable (crossover) or wireless connection. Instructions for creating a wired connection between the base station and PC can be found [here](#). A wired connection is necessary when Cardio GX is used for the first time.



Wireless connection requires that there is a Wi-Fi adapter installed into the computer you are using with the Cardio GX system.

Wireless network key

Wireless connection requires a wireless network key (=password) to establish a secured wireless connection from the PC to the base station. A secured connection prevents an outsider from connecting to the base station's wireless network. Wireless network key is selected in the admin tool. Wireless network key can be changed when the base station and the PC are connected with a network cable and the admin tool is running.

It is recommended to change the wireless network key when using the Polar Cardio GX system for the first time to ensure your system security.

Changing/selecting the wireless network key

1. Turn on your PC and open the admin tool from the Start menu: **Start > All Programs > Polar Cardio GX > Polar Cardio GX Admin Tool**.
2. Connect the base station to the PC with the network cable provided in the set. **NOTE:** The cable must be a crossover RJ45 cable.
3. Switch on the base station. Wait until  and  are lit (approx. 1. min) on the base station. The base station image becomes visible at the same time.
4. Replace the default wireless network key ("Polar") by typing a new one into the **Wireless network key** text field in the upper right corner of the software.
5. The software instructs you to select a password that is either 5 or 13 characters long. If the network key is too short, the background of the field is red.





6. Save the new wireless network key by clicking the save wireless network key button .

NOTE: If you have forgotten your wireless network key, connect the base station to the PC with the network cable and go through the **Changing/selecting the network key** steps.


Establishing Wireless Connection


Your computer should remember the wireless connection settings. Therefore, the wireless connection has to be set only once.

Windows XP

1. Switch on the base station. Wait until  on the base station is lit.
2. If there is a separate on/off switch for the wireless adapter (on the PC), make sure that the adapter is switched on.
3. In Windows, open Network Connections by selecting **Start > (Settings >) Control Panel > Network connections**.
4. If the wireless adapter is *disabled*, right-click **Wireless Network Connection** and select **Enable**.
5. Right-click **Wireless Network Connection** and select **View Available Wireless Networks**.
6. Wait for couple of seconds while the computer searches the networks. If your base station's name (**Polar_XXXXXXXX**) does not appear on the list, try to refresh the list by clicking **Refresh** network list on the left panel.
7. Select **Polar_XXXXXXXX** from the networks list and click **Connect**.
8. You are asked to give the network key to finalize the connection.  on the base station is lit when the Cardio GX software is running and the connection is OK.

Windows Vista

1. Switch on the base station. Wait until  on the base station is lit.
2. If there is a separate on/off switch for the wireless adapter (on the PC), make sure that the adapter is switched on.
3. In Windows, open Network and Sharing Center by selecting **Start > Control Panel > Network and Sharing Center**.
4. Click **View status** of the wireless network connection.

5. If the **Media State** is *disabled*, click the **Enable** button at the bottom of the window.
6. Select **Start > Connect to**.
7. Wait for couple of seconds while the computer searches for the networks. If your base station's name (**Polar_XXXXXXXX**) does not appear on the list, try to refresh the list by clicking the **Refresh** button in the upper right corner.
8. Select **Polar_XXXXXXXX** from the networks list and click the **Connect** button.
9. You are asked to give the network key to finalize the connection.  on the base station is lit when Cardio GX software is running and the connection is OK.

Note

- If you are using different software, provided by the PC or wireless adapter manufacturer, to manage wireless connections, these instructions do not apply. In that case, you can find more information from the connection management software's help or web site.
- If you have problems connecting to the base station:
 - Some computers block the Wi-Fi connection automatically if the Ethernet cable is plugged in even though the Wi-Fi adapter is enabled. If this is the case, remove the Ethernet cable from the PC's Ethernet port.
 - Some computers block the Wi-Fi connection automatically if you are using a docking station. If this is the case, remove the laptop from the docking station.

See detailed step-by-step instructions in the [Connections](#) topic in the troubleshooting chapter.

Transmitters

How to insert connectors into charger

Connectors are inserted into charger for two reasons:

- To recharge the batteries
- [To teach new connectors to the system](#)

Inserting the connectors into the charger:

1. Plug in the power cable into the charger.

2. Insert connectors into the charger so that the P of the Polar logo is not visible. The led light is left on the outside. The led is located next to the Polar Team² logo's letter R.



3. When a connector is inserted correctly into the charger, the red led on the connector is lit for 5 seconds. At the same time you can hear a short sound.
 - If the admin tool is open and the base station is connected to the PC, the admin tool displays which connectors are connected to the base station.

Connectors inserted correctly into the charger (**note** the position of the led lights):






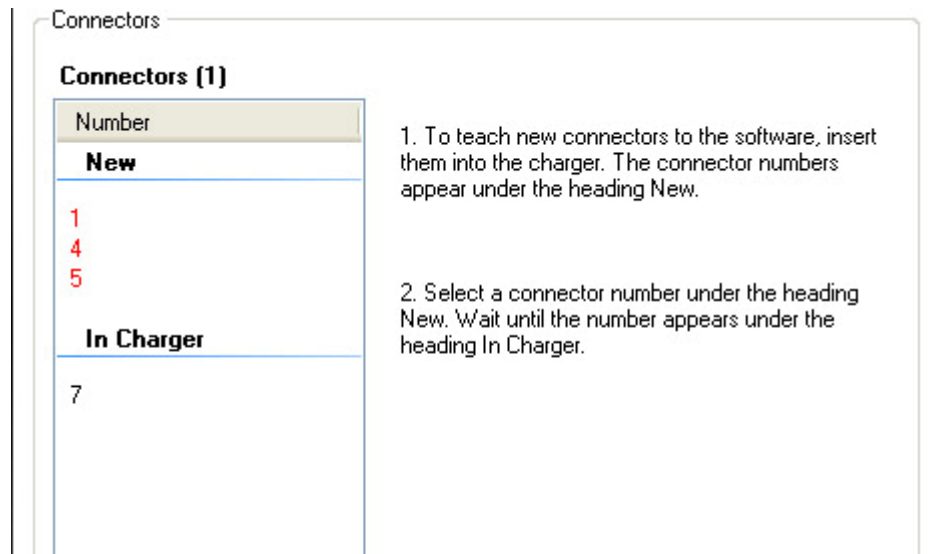
How to teach connectors

Before you can use transmitters for online monitoring, the connectors must be introduced to the system (base station and the PC software). This is called teaching. It takes only a few minutes, and it has to be done only once for every connector. You can teach up to 28 connectors to the system.

If you purchase more transmitters, you will have to teach them also.

The connectors can also be [removed from the system](#) by using the admin tool.

1. Turn on your PC and open the admin tool from the Windows desktop (**Polar Cardio GX Admin Tool**) or from the Start menu: **Start > All Programs > Polar Cardio GX > Polar Cardio GX Admin Tool**.
2. Connect the base station to the PC either [with the network cable](#) provided in the set or [with a wireless connection](#).
3. Switch on the base station. Wait until  and  are lit (approx. 1. min) on the base station. The base station image in the admin tool becomes visible at the same time.
4. Plug in the power cable into the charger and [insert the \(new\) connectors into the charger](#).
5. Wait until  is lit on the base station. New connectors appear to the **Connectors** list under **New** in the admin tool.



6. To teach a connector, select it from the **New** list. Wait until the number moves under the heading **In Charger**. **NOTE:** It may take approx. 10 seconds.

Connectors

Connectors (2)

Number
New
4
5
In Charger
1
7

1. To teach new connectors to the software, insert them into the charger. The connector numbers appear under the heading New.
2. Select a connector number under the heading New. Wait until the number appears under the heading In Charger.
3. Remove the connector with the continuously lit green light from the charger. Mark the removed connector with a sticker number 1.

Repeat steps 2 and 3 until all connectors are

7. A green light starts blinking on one of the connectors in the charger. Remove the connector with a green blinking light from the charger to finalize the teaching. The removed connector moves under **Not in Charger** heading in the admin tool.

- **NOTE:** Do not click the **Remove** button below the list during teaching. It is for [removing the connectors from the system](#).

8. Mark the removed connector with a correspondingly numbered sticker.
9. Repeat steps 6 to 8 until you have taught all the connectors to the system.

If you re-insert the taught connectors into the charger again, they appear in the **Connectors** list under **In Charger**.

Connectors

Connectors (4)




Number
In Charger
1
4
5
7

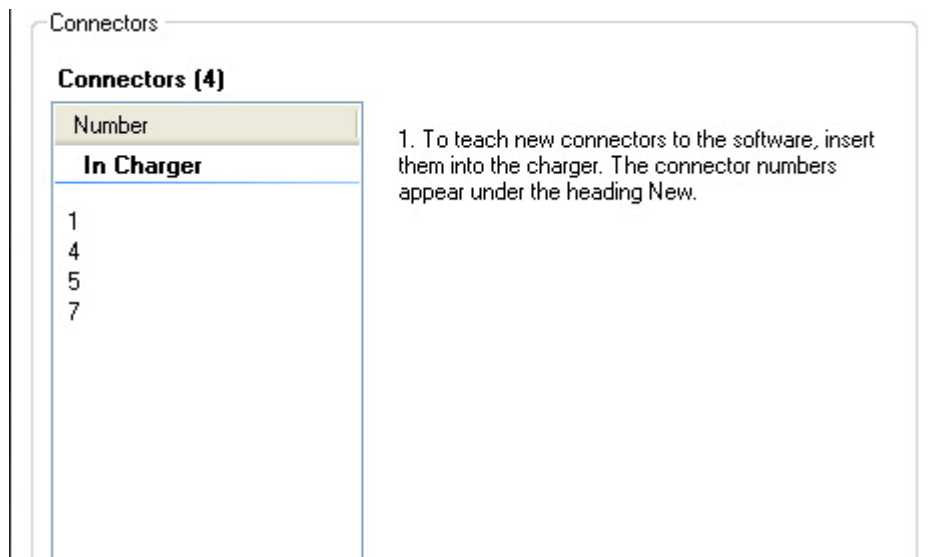
1. To teach new connectors to the software, insert them into the charger. The connector numbers appear under the heading New.

How to remove connectors from system

A connector may brake and can be replaced with a new one. The old connector must be removed from the system before teaching the new connector. You can reteach connectors at any time.

If you want to remove a connector from the system (base station and the PC software), follow the steps below.

1. Turn on your PC and open the admin tool from the Windows desktop (**Polar Cardio GX Admin Tool**) or from the Start menu: **Start > All Programs > Polar Cardio GX > Polar Cardio GX Admin Tool**.
2. Connect the base station to the PC either [with the network cable](#) provided in the set or [with a wireless connection](#).
3. Switch on the base station. Wait until  and  are lit (approx. 1. min). The base station image in the admin tool becomes visible at the same time.
4. Plug in the power cable into the charger and [insert the connectors into the charger](#).
5. Wait until  is lit on the base station. Connectors in the charger appear to the **Connectors** list under **In Charger** in the admin tool.



6. Select a connector from the list and click the **Remove** button below the list. The software asks for your confirmation.
7. Repeat step 6 for each connector you want to remove.

How to use transmitters

In order for the transmitters to work properly (detect and transmit heart rate data), follow the instructions below.

1. Wet the electrode areas of the strap well under running water.
2. Attach the connector to the strap. Adjust the strap length to fit tightly but comfortably.
3. Tie the strap around your chest, just below the chest muscles, and attach the hook to the other end of the strap.
 - Note that if you are wearing a sports bra, place the strap below the bra.
4. Check that the wet electrode areas are firmly against your skin and that the Polar logo of the connector is in a central and upright position.
 - When the transmitter starts detecting and transmitting your heart rate, you can hear a short beep and a green light starts blinking on the connector. Now you can also monitor your heart rate with a [compatible Polar training computer](#).

After training, detach the connector from the strap and follow the [care and maintenance](#) instructions.

NOTE: A Team² connector can be used only with a Team² strap.

How to recharge connector batteries

1. Plug in the power cable into the charger and the wall outlet.
2. [Insert connectors into the charger](#). Recharging begins automatically.

When green leds start blinking on the connectors, the batteries are full.

Session management

How to add session

Before sessions can be used during class, they must be created in the admin tool. Polar Cardio GX includes one default session (*PolarZone session*).

The number of sessions is not limited. **All the changes are saved automatically.**

1. Open the admin tool from the Start menu: **Start > All Programs > Polar Cardio GX > Polar Cardio GX Admin Tool**.

2. Under **Session Management**, click the **Add** button. A new session appears in the **Sessions** list.

Session Management

Sessions

Name	Intensity zones
Polar 1	4
Polar 2	3
PolarZone	5
Session 4	5


Add

Remove

Session properties

Name:

Session 4







3. Select the session and type in the session **Name** in **Session properties**. The session name is displayed on the screen during session.
4. Select a type for the session, the options are **HRmax** (maximum heart rate) and **Anaerobic threshold**. See more information about session types in [Session management](#).
5. Determine the **Intensity zones** for the selected session: you can change the names and set the lower limits for the zones. Adjust the lower limits by clicking the up and down arrows.
 - A session can include from 3 to 5 intensity zones.
 - To delete a zone, click the delete icon  next to the zone. The software asks for your confirmation. **NOTE:** Only the lowest zone can be deleted.
 - To add a zone, click the **Add** button next to the intensity zones. The new zone appears to the bottom of the zone list.

- You can restore the default intensity zone settings by clicking **Defaults** next to the intensity zones.

Session properties

Name:
Session 4

Intensity zones

	Name	Low	High	
	Maximum	90	100%	<input type="button" value="Add"/> <input type="button" value="Defaults"/>
	Hard	80	89%	
	Moderate	70	79%	
	Light	60	69%	
	Very light	50	59% 	

- Click **Add** below the **Advertisements** list to add an advertisement. Select the file from the computer and select **Open** to confirm the selection. Repeat to add more advertisements.

Advertisements

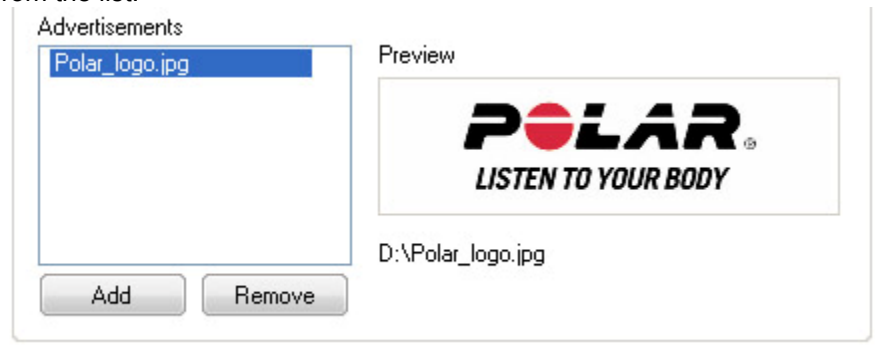


Preview



- Ads must be either in JPG, PNG, BMP or GIF format. See other advertisement instructions in the [Session management](#) topic.

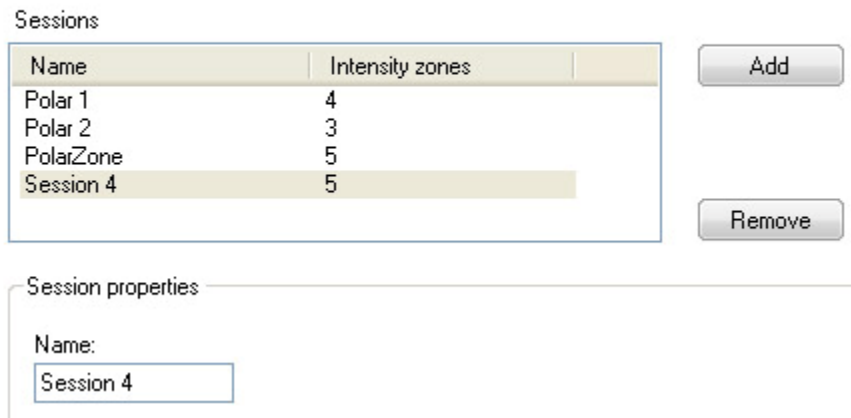
- Uploaded advertisements can be viewed in the Preview box by selecting an ad from the list.



How to modify session

1. Open the admin tool from the Start menu: **Start > All Programs > Polar Cardio GX > Polar Cardio GX Admin Tool.**
2. Under **Session Management**, select the session you want to modify by clicking it.

Session Management



3. When the session is selected, you can modify the session **Name**, **Type**, **Intensity Zones** and **Advertisements**. See more information on the settings in [How to add session](#).

Changes are saved automatically.

NOTE: Sessions cannot be modified if a session is ongoing, because only either the admin tool or the session tool can be open at a time.

How to remove session

1. Open the admin tool from the Start menu: **Start > All Programs > Polar Cardio GX > Polar Cardio GX Admin Tool.**
2. Under **Personalize session**, select the session you want to remove by clicking it.
3. Click the **Remove** button next to the sessions list. The software asks for your confirmation.

Session Management

Sessions

Name	Intensity zones
Polar 1	4
Polar 2	3
PolarZone	5
Session 4	5

Add

Remove

Session properties

Name:

Session 4

NOTE: There must always be at least one session in the system. The software does not allow you to delete all the sessions.

How to add advertisement

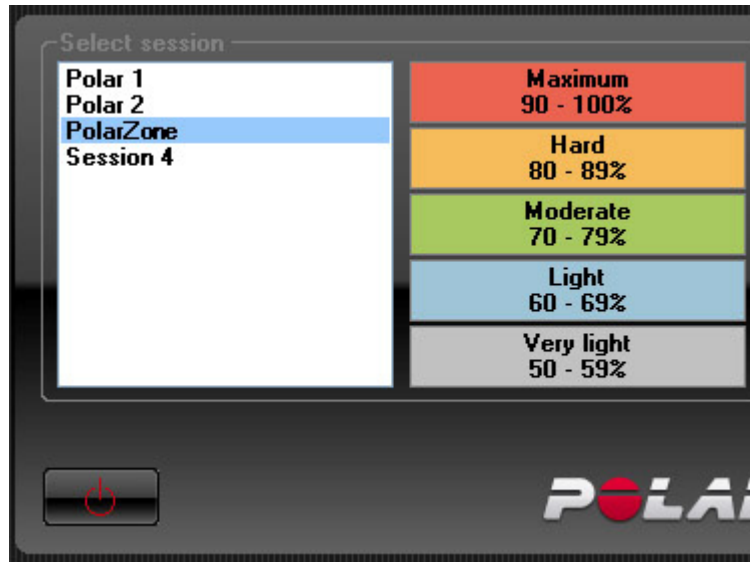
You can add advertisements to the sessions you have created in the admin tool. See the instructions in the [How to add sessions](#) and [How to modify sessions](#) topics.

Sessions

How to start a session

1. [Set up the system.](#)

2. Select a session from the left. You can see the selected session's settings next to the list.



3. Select the connector number from the **Number** drop-down list.
4. Type in your name / initials / nickname into the **Name** field.
5. Check the **Highlight in session** box if you want your information to be highlighted on the screen during the session.
6. Based on the selected training session, the system asks you either to select **Maximum heart rate** or **Age** and type in the value, or to set your **Anaerobic threshold**.

In case the training session is based on maximum heart rate:

- If you do not know your maximum heart rate, it can be calculated (estimated) based on your age ($220 - \text{age} = \text{maximum heart rate}$).
 - The age must be set between 10 and 99 years and the maximum heart rate between 120 and 250 beats per minute. If the value you give does not meet these limits, the background of the field is red.
7. Select **Exerciser sign-up**. The exercisers sign up for the session. For more information see [How to sign up](#).
 8. After all the exercisers have signed up for the session, the instructor selects **Session** in the **Exerciser sign-up** view.
 9. The names of the exercisers are displayed on the screen. Make sure everyone is ready to start the session.

10. Click the start button  to start the session.

How to sign up

All the exercisers must sign up for the class before the training session.

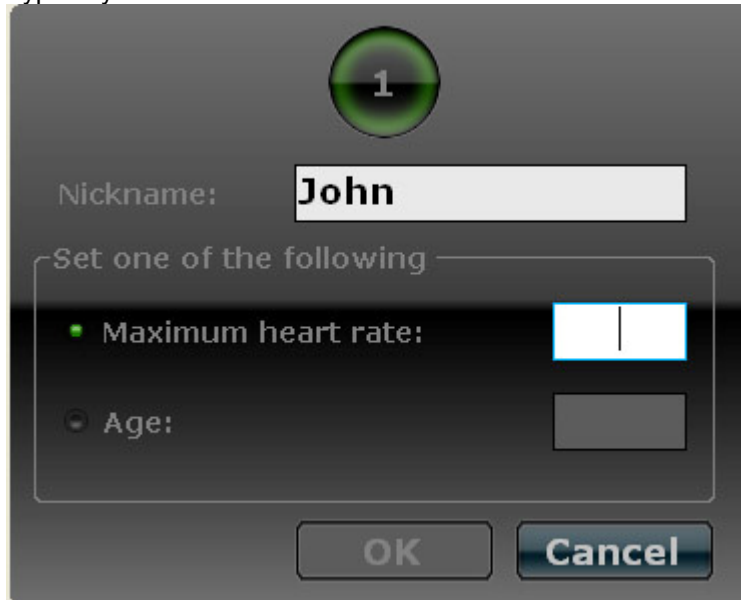
Before signing up, the instructor:

- [sets up the system](#) and opens the session tool from the Windows desktop (**Polar Cardio GX Session Tool**),
- [selects the training session type and fills in his/her information](#), and
- opens the **Exerciser sign-up** view from the **Instructor settings** view.

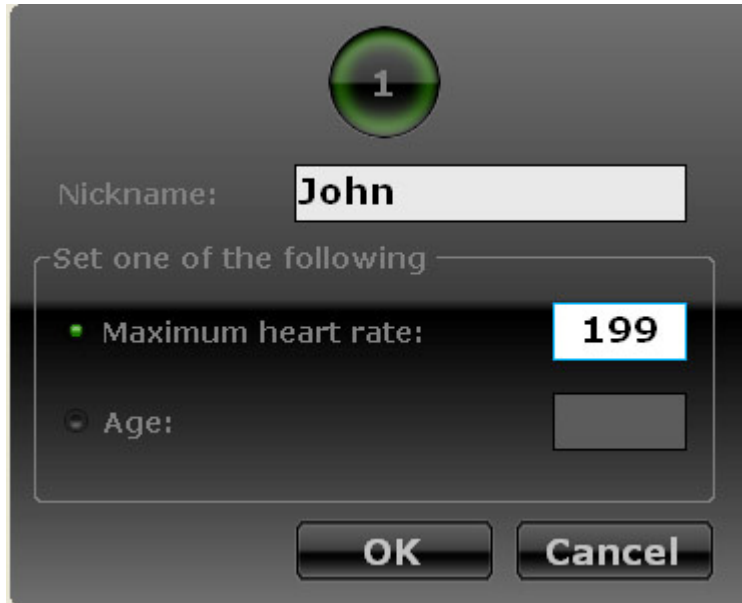
When the exercisers (wearing the transmitter) come to the Cardio GX room, the base station starts detecting the transmitter signals. The connector numbers start appearing in the sign-up view. An exerciser can sign up for the class after his / her connector number has appears in the view.

Signing up:

1. Select your connector number from the screen by clicking the number. A pop-up window appears.
2. Type in your name / initials / nickname into the **Nickname** field.



3. Based on the selected training session, the system asks you either to set your **Maximum heart rate** or **Age**, or your **Anaerobic threshold**.





In case the training session is based on maximum heart rate:

- If you do not know your maximum heart rate, it can be calculated (estimated) based on your age ($220 - \text{age} = \text{maximum heart rate}$).
 - The age must be set between 10 and 99 years and the maximum heart rate between 120 and 250 beats per minute. If the value you give does not meet these limits, the background of the field turns red.
4. Select **OK** to save the settings. Your connector number becomes disabled in the **Sign-up** view.


NOTE: If you selected a wrong connector number, select **Cancel** to return to the number selection without saving the changes.

How to end session

1. To end the training session, select the stop button .
2. The Polar Cardio GX software displays an individual session summary for each exerciser. In addition to the exerciser's name, the average and maximum heart rate is displayed with the intensity zone summary. To enable comparing the times spent on each intensity zone, the durations are displayed in minutes and seconds and with colored bars.
3. Close the session tool by selecting the exit button .

The Polar Cardio GX software records a session log for each session. See [After training](#) topic to get more detailed information.



Starting a new session


After the session has ended, it can be started again with the same exerciser data by clicking the start button . The timer is set to 00:00 again and previous heart rate data is erased.


See more information in the [After training](#) topic.

How to change session settings

In the session tool, the session settings can be changed without losing the exerciser's information even after the heart rate-based session is started. This feature may become useful for example if the instructor selects a wrong session in the **Instructor Settings** view.


1. If the session has already started, stop it by clicking the stop button .
2. Click the settings button .
3. Select a new session. **NOTE:** Sessions that are different type than the current selected session are disabled.
4. Click **OK** to save the changes.

Start (or re-start) the session by clicking the start button . The timer is set to 00:00 again and previous heart rate data is erased.

NOTE: After the session tool is closed by clicking the exit button , all the exerciser information (name, maximum heart rate / age) is lost and exercisers must sign in again to be able to participate to the session.

How to follow up

You, as a club owner, group exercise manager or Polar Cardio GX key user, can follow up and monitor arranged heart rate based classes. The Polar Cardio GX software records a session log for each session.

The log file can be accessed from the admin tool. To open the log file, click on the log file button  in the upper right corner of the **Session Management** section of the admin tool. The

Polar Cardio GX: Help Topics

Sessions.csv file opens into Microsoft Excel or similar software. Make sure you have compatible software installed onto your computer.

For more information about the log file, see [After training](#) topic.

TROUBLESHOOTING

Troubleshooting

Troubleshooting offers you firsthand help when you have a problem either with the hardware or the PC software.

The search engine in the help is helpful in many situations. The **search** engine can be found from the upper right corner. Additionally, lots of information can be found in the How to articles in [How to section](#).

Search tips

- Use simple search words or sentences. Two or three words are enough.
- Use basic forms of verbs.
- The search engine does not understand the meaning of interrogatives like "why", "what" and "when". Instead use keywords, such as "transmitter", "green light" and "managing", as search words.



Glossary

There is also a glossary included in the help. It can be accessed by clicking the **Glossary** tab above the help menu.

Training articles

For more information on the physiological aspects and other features of Polar products, visit the [Polar Collection of Training Articles](#).

Connections

Here is a check list for connection problems between the base station and a PC. When the connection between the base station and your PC is established correctly, the lights  and  are lit on the base station. This requires that the Cardio GX software (either the admin or session tool) is running.

- [PC and Ethernet cable](#)
- [PC and wireless connection](#)

PC and Ethernet cable

- Make sure that the Cardio GX software (either the admin or session tool) is running.
- Make sure that the base station is switched on.
- Make sure that you are using a correct type of network cable, like the one that was provided in the set. The cable must be a crossover RJ45 cable.
- Make sure that the network cable is plugged in correctly to the base station and to your PC.
- Check that the lights next to the Ethernet port on your PC are flashing. The flashing means that the connection is working.
- Make sure that your Ethernet adapter is *enabled* in Windows settings:

Windows XP:

1. Select **Start > (Settings >) Control Panel > Network connections**.
2. Right-click **Local Area Connection**.
3. If the right-click menu includes option **Enable**, the adapter is at the moment *Disabled*. In this case, select **Enable**.

Windows Vista:

1. Select **Start > Control Panel > Network and Sharing Center**.
2. Click **View status** of the **Local Area Connection**.
3. If the **Media State** is *disabled*, click the **Enable** button at the bottom of the window.

If you have checked all the issues mentioned above:

1. Close the software and switch off the base station.
2. Open the software and switch on the base station again.

If the connection between the base station and your PC still does not work, check that the status of your LAN connection is *Connected* and the IP address of the base station is *192.168.42.x* (x can be any number):

1. Select **Start > (Settings >) Control Panel > Network connections**.

2. Right-click **Local Area Connection** and select **Status**. The status is displayed on the first page.
3. Select **Support** tab. The IP address is displayed.

If you have checked all the issues mentioned above:

- Try to reboot your PC.
- Update the drivers of the LAN adapter. Contact the adapter's manufacturer's web site.

PC and Wireless connection

If you have not tried to establish wireless connection between the base station and the PC before, see [How to setup wireless connection](#).

- Make sure that the Cardio GX software is running.
- Make sure that the base station is switched on.
- Make sure that your PC is trying to connect to the base station:

Windows XP:

1. In Windows, select **Start > (Settings >) Control Panel > Network connections**.
2. Right-click **Wireless Network Connection** and select **View Available Wireless Networks**.
3. Select the base station's network (base station's name, **Polar_XXXXXXXX**) from the list and click **Connect**.
4. Computer prompts you for the wireless network key.

Windows Vista:

1. In Windows, select **Start > Connect to**.
2. Wait for couple of seconds while the computer searches for the networks. If your base station's name (**Polar_XXXXXXXX**) does not appear on the list, try to refresh the list by clicking the **Refresh** button in the upper right corner.
3. Select **Polar_XXXXXXXX** from the networks list and click the **Connect** button.
4. Computer prompts you for the wireless network key.

Polar Cardio GX: Help Topics

- Make sure you are using the correct wireless network key. The network key is set in the admin tool. If you have forgotten your wireless network key, change it according to the [instructions](#).
- If there are visible light indicators in your Wi-Fi adapter, check that they are flashing. The flashing means that the connection is working.
- If you have a separate on/off switch for your Wi-Fi adapter (e.g. touch button on your laptop), make sure the adapter is switched on.
- Make sure that your wireless connection adapter is *enabled* in Windows settings:

Windows XP:

1. Select **Select Start > (Settings >) Control Panel > Network connections**.
2. Right-click **Wireless Network Connection**.
3. If the right click menu includes option the **Enable** option, the adapter is currently *Disabled*. In this case, select **Enable**.

Windows Vista:

1. Select **Start > Control Panel > Network and Sharing Center**.
 2. Click **View status** of the **Wireless Network Connection**.
 3. If the **Media State** is *disabled*, click the **Enable** button at the bottom of the window.
- Some computers block the Wi-Fi connection automatically if the Ethernet cable is plugged in. If this is the case, remove the Ethernet cable from the PC port.
 - Some computers block the Wi-Fi connection automatically if you are using a docking station. If this is the case, remove the laptop from the docking station.

If you have checked all the issues mentioned above:

1. Close the software and switch off the base station.
2. Open the software and switch on the base station again.

If you have checked all the issues mentioned above:

- Try to reboot your PC.

- Update the drivers of the wireless connection adapter. Contact the adapter's manufacturer's web site.

Online training

Below you can find help to some common problems with online training.

Problem	Cause	Solution
Transmitter/Exerciser's information disappears from the grid.	<ol style="list-style-type: none"> 1. Connector's battery is empty. 2. Strap's electrode areas are dry or strap is secured incorrectly. 3. Connection between the PC and the base station is momentarily disconnected. 4. Base station's battery is empty. 5. The transmitter is out of the base station's range. 	<ol style="list-style-type: none"> 1. Recharge connector's battery. 2. Wet the electrode areas of the strap under running water. Make sure that the strap is secured correctly and the wet electrode areas are firmly against exerciser's skin. 3. Wait for a moment. If connection is not restored, switch the base station off and on again. Also re-open the software and establish connection between PC and base station normally. 4. Plug the power cable into the base station and into wall outlet. 5. Wait until the exerciser is again in the base station's range. Make sure nothing is interfering the connection from the transmitter to the base station.
Transmitter/Exerciser is not shown during online training.	<ol style="list-style-type: none"> 1. Connector's battery is empty. 2. Strap's electrode areas are dry or strap is secured incorrectly. 3. Connection between the PC and the base station is not established correctly. 	<ol style="list-style-type: none"> 1. Recharge connector's battery. 2. Wet the electrode areas of the strap under running water. Make sure that the strap is secured correctly and the wet electrode areas are firmly against exerciser's skin.

	<ol style="list-style-type: none"> 4. Base station's battery is empty. 5. The exerciser is not signed up for the session. 6. Connector is in non-secured mode. 	<ol style="list-style-type: none"> 3. Make sure the connection between the base station and the PC is established correctly. 4. Plug the power cable into the base station and into wall outlet. 5. The exerciser should sign up for the session. 6. Change the connector's mode to secured by removing the connector from charger and inserting it back after a minimum of 3 seconds. Only one sound should be heard.
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Training computer

Below you can find help to some common problems with training computer usage with the Cardio GX system.

Problem	Cause	Solution
The heart rate does not display on the training computer display.	<ol style="list-style-type: none"> 1. Your Polar training computer is not compatible with the Cardio GX transmitters. 2. Your Polar training computer is not in training mode. 	<ol style="list-style-type: none"> 1. For example, the following Polar training computers are compatible with the Cardio GX transmitters: FT40, FT60, FT80, RS300X, F4, F7, F11, S610i, S625X, S710i, S720i, S725X, S810i, AXN500 and AXN700. 2. Set your training computer in training mode. Usually, it is done by pressing the Red or OK button twice. For more information, see the

		user manual of your Polar product.
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Transmitters

Below you can find help to some common problems with transmitters with the Cardio GX system.

Problem	Cause	Solution
The connector cannot be taught to the system via admin tool.	The connector is in secured mode, because it has already been paired with another base station.	Change the connector's mode to non-secured by removing the connector from the charger and inserting it back within 3 seconds. When inserted into the charger, three short sounds are heard instead of one. Note that after you have taught the connector to the system, the connector's mode is automatically changed to secured.
When inserted into charger, there is no sound or light.	<ol style="list-style-type: none"> 1. Power cable is not plugged into the charger. 2. Connector is inserted into charger incorrectly. 	<ol style="list-style-type: none"> 1. Plug the power cable into charger and into the wall outlet. 2. Insert connector into the charger so that the P of Polar logo is not visible. The led is located next to the R of Polar logo. See How to insert connectors into charger for more information.
Connectors are not shown as connected even if they are inserted into the charger correctly and there is a connection between the base station and the PC.	<ol style="list-style-type: none"> 1. Power cable is not plugged into the charger. 2. The connectors are in non-secured mode. 	<ol style="list-style-type: none"> 1. Plug the power cable into charger and into wall outlet. 2. Change the connector's mode to secured by removing the connector from charger and inserting it back after a minimum of 3 seconds. Only one sound should be heard.
New connector does not	1. Connector is	1. Insert connector into

<p>appear to the connector list in the admin tool.</p>	<p>inserted into charger incorrectly.</p> <ol style="list-style-type: none"> 2. There is no connection between the base station and the PC. 3. Contact problem between the connector and the charger. 	<p>the charger so that the P of Polar logo is not visible. The led is located next to the R of Polar logo.</p> <ol style="list-style-type: none"> 2. Establish either a wired or wireless connection between the base station and the PC according to the instructions here. 3. Remove the connectors that were not found from the charger and insert them back. You can also try to insert the connector into another slot of the charger.
<p>The number label has come off and you don't know which connector it is.</p>		<ol style="list-style-type: none"> 1. If only one connector doesn't have a label, check the rest of the connectors' labels. The number that is missing is the connector's number. 2. If there are two or more connectors without a label, insert the connectors one by one into the charger (one at a time). Open the admin tool and establish connection between the base station and the PC. Wait until the connector is connected to the system. Find out which connector is marked as connected in the transmitter list. Repeat this until you know the numbers of each transmitter.

CUSTOMER SERVICE INFORMATION

Customer service information

- [Care and maintenance instructions](#)
- [Precautions](#)
- [Important safety information](#)
- [Regulatory information](#)
- [Radio frequency technical specification](#)
- [Guarantee and disclaimer](#)

Service

Your Polar Cardio GX system is designed to help you achieve your personal fitness goals and indicate the level of physiological strain and intensity during training sessions. No other use is intended or implied.

During the one-year guarantee/warranty period we recommend that you have service done by an authorized Polar Service Center only. The warranty does not cover damage or consequential damage caused by service not authorized by Polar Electro.

Register your Polar product at <http://register.polar.fi> to ensure we can keep improving our products and services to better meet your needs.

Care and maintenance instructions

It is important to follow the care and maintenance instructions to assure the long life of the Cardio GX hardware. Sweat and moisture can keep the electrodes wet and the transmitter activated, which shortens battery life.

Transmitter straps

- After training, detach the connector from the strap.
- Rinse the straps under running lukewarm water after every use.

Polar Cardio GX: Help Topics

- Wash the straps in a washing machine at 40 °C (104°F) after every fifth use. Always use the washing pouch (included in the Cardio GX set). **NOTE:** Detach the connector from the strap before wash!
- Do not use bleach or fabric softener.
- Make sure straps are dry before storing. Do not store wet.

Connectors

- Detach the connector from the strap and store separately.
- Rinse the connectors under running lukewarm water after every use.
- Do not insert wet connectors into the charger.
- You may store the connectors in the charger, but make sure the charger's power cable is not plugged in during storage.
- When the transmitters are not in daily use or are stored for a longer period of time, recharge the connectors regularly to prevent a complete exhaustion of the batteries inside the connectors.

Charger and base station

- Wipe the base station and the charger regularly with a moist cloth.

Precautions

Minimizing Possible Risks

Training may include some risk. Before beginning a regular training program, answer the following questions concerning your health status. If you answer yes to any of these questions, consult a physician before starting any training program.

- Have you been physically inactive for the past 5 years?
- Do you have high blood pressure or high blood cholesterol?
- Do you have symptoms of any disease?
- Are you taking any blood pressure or heart medication?

- Do you have a history of breathing problems?
- Are you recovering from a serious illness or medical treatment?
- Do you use a pacemaker or other implanted electronic device?
- Do you smoke?
- Are you pregnant?

Note that in addition to training intensity, medications for heart conditions, blood pressure, psychological conditions, asthma, breathing, etc., as well as some energy drinks, alcohol, and nicotine may also affect heart rate. It is important to be sensitive to your body's responses during training. If you feel unexpected pain or excessive fatigue when training, stop the exercise or continue at a lighter intensity.

If you have a pacemaker, defibrillator or other implanted electronic device, you use the Polar Cardio GX system at your own risk. Before starting use, take a maximal training stress test under the supervision of a physician. The test is to ensure the safety and reliability of the simultaneous use of the pacemaker and the Polar Cardio GX system. If you are allergic to any substance that comes into contact with your skin or if you suspect an allergic reaction due to using the product, check the listed materials in Technical Specifications. To avoid any skin reaction to the transmitter, wear it over a shirt. Moisten the shirt well under the electrodes to ensure flawless operation. If you use insect repellent on your skin, make sure that it does not come into contact with the transmitter.

Exercise equipment with electronic components may cause interfering stray signals. To tackle these problems, try the following:

1. Remove the transmitter from your chest and use the exercise equipment as you would normally.
2. Move the wrist unit around until you find an area in which it displays no stray reading or does not flash the heart symbol. Interference is often worst right in front of the display panel of the equipment, while the left or right side of the display is relatively free of disturbance.
3. Put the transmitter back on your chest and keep the wrist unit in this interference-free area as much as possible.

If the Polar Cardio GX system still does not work, the piece of equipment may be electrically too noisy for wireless heart rate measurement.

Polar Cardio GX transmitter may not be worn when swimming. For more information, visit <http://support.polar.fi>. Water resistance of Polar products is tested according to International Standard ISO 2281. Products are divided into three categories according to their water

resistance. Check the back of your Polar product for the water resistance category, and compare it to the chart below. Please note that these definitions do not necessarily apply to products of other manufacturers.

Marking on case back	Water resistant characteristics
Water resistant	Protected against wash splashes, sweat, raindrops etc. Not suitable for swimming.
Water resistant 30 m/50 m	Suitable for bathing and swimming
Water resistant 100 m	Suitable for swimming and snorkeling (without air tanks)

Important safety information

Base station

- The detachable legs must be used when base station is placed on moist ground, e.g., on a wet lawn.
- During charging the legs of the base station must be used because the bottom of the base station heats up to 60°C (140°F). During charging, the maximum operating temperature is 45°C (113°F).

AC-powered devices

These precautions apply to all products that plug into a standard wall power outlet.

Failure to take the following precautions can result in serious injury or death from electronic shock or fire or in damage to the device.

To select an appropriate power source for your device:

- Use only the power supply unit and AC power cord that came with your device or that you received from an authorized repair center.
- AC adapters are only for indoor use.
- Confirm that your electrical outlet provides the type of power indicated on the power supply unit (in terms of voltage [V] and frequency [Hz]). If you are not sure of the type of power supplied to your home, consult a qualified electrician.

- Do not use non-standard power sources, such as generators or inverters, even if the voltage and frequency appear acceptable. Use only AC power provided by a standard wall outlet.
- Do not overload your wall outlet, extension cord, power strip, or other electrical receptacle. Confirm that they are rated to handle the total current (in amps [A]) drawn by the device (indicated on the power supply unit) and any other devices that are on the same circuit.

To avoid damaging the power cords and power supply:

- Protect the power cords from being walked on.
- Protect cords from being pinched or sharply bent, particularly where they connect to the power outlet, the power supply unit, and the device.
- Do not jerk, knot, sharply bend, or otherwise abuse the power cords.
- Do not expose the power cords to sources of heat.
- Keep children and pets away from the power cords. Do not allow them to bite or chew on them.
- When disconnecting the power cords, pull on the plug - do not pull on the cord.

If a power cord or power supply becomes damaged in any way, stop using it immediately. Unplug your device during lightning storms or when unused for long periods of time.

For devices with an AC power cord that connects to the power supply, always connect the power cord according to the following instructions:

1. Plug the AC power cord into the power supply unit until it stops.
2. Plug the other end of the AC power cord into the wall outlet.

Battery-powered devices

These precautions apply to all products that use rechargeable or disposable batteries.

Improper use of batteries may result in battery fluid leakage, overheating, or explosion. Released battery fluid is corrosive and may be toxic. It can cause skin and eye burns, and is harmful if swallowed.

Rechargeable batteries only:

- Charge only with the recharger provided with the product.

Wireless devices

Such as **Base station** and **transmitter**.

Before boarding any aircraft or packing a wireless device in luggage that will be checked, remove the batteries from the wireless device or turn the wireless device off (if it has an on/off switch).

Wireless devices can transmit radio frequency (RF) energy, much like a cellular telephone, whenever batteries are installed and the wireless device is turned on (if it has an on/off switch).

All devices

Do not attempt repairs

Do not attempt to take apart, open, service, or modify the hardware device or power supply. Doing so could present the risk of electrical shock or another hazard. Any evidence of any attempt to open and/or modify the device, including any peeling, puncturing, or removal of any of the labels, will void the Limited Warranty.

Choking hazard

This device may contain small parts that which may be a choking hazard to children under 3. Keep small parts away from children.

Regulatory Information

- [Base Station](#)
- [Transmitter](#)
- [Charger](#)

Base Station

FCC regulatory information

This device complies with part 15 & 18 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules and for a miscellaneous type ISM device, pursuant to part 18 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate

radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- 1) Reorient or relocate the receiving antenna.
- 2) Increase the separation between the equipment and receiver.
- 3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- 4) Consult the dealer or an experienced radio/TV technician for help.

Caution! Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Radiation Exposure Statement

The radiated output power of the Base Station is far below the FCC radio frequency exposure limits. Nevertheless, the Base Station should be used in such a manner that the potential for human contact during normal operation is minimized. To avoid the possibility of exceeding the FCC radio frequency exposure limits, you should keep a distance of at least 20 cm between you and the Base Station.

Industry Canada (IC) regulatory information

This device complies with RSS-210 and ICES-001 of Industry Canada rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Industry Canada (IC) Radiation Exposure Statement

The radiated output power of the Base Station is far below the Industry Canada radio frequency exposure limits. Nevertheless, the Base Station should be used in such a manner that the potential for human contact during normal operation is minimized. To avoid the possibility of exceeding the Industry Canada radio frequency exposure limits, you should keep a distance of at least 20 cm between you and the Base Station.

Europe



This product is compliant with Directives 93/42/EEC and 1999/5/EC. The relevant Declaration of Conformity is available at www.polar.fi/support.



Polar products are electronic devices and are within the scope of Directive 2002/96/EC of the European Parliament and of the Council on waste electrical and electronic equipment (WEEE). These products should thus be disposed of separately in EU countries. Polar encourages you to minimize possible effects of waste on the environment and human health also outside the European Union by following local waste disposal regulations and, where possible, utilize separate collection of electronic devices.

South Africa



Transmitter

FCC regulatory information

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the

instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- 1) Reorient or relocate the receiving antenna.
- 2) Increase the separation between the equipment and receiver.
- 3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- 4) Consult the dealer or an experienced radio/TV technician for help.

Caution! Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Industry Canada (IC) regulatory information

This device complies with RSS-210 of Industry Canada rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Europe



This product is compliant with Directives 93/42/EEC and 1999/5/EC. The relevant Declaration of Conformity is available at www.polar.fi/support.



This marking shows that product is protected against electric shocks.



Polar products are electronic devices and are within the scope of Directive 2002/96/EC of the European Parliament and of the Council on waste electrical and electronic equipment (WEEE). These products should thus be disposed of separately in EU countries. Polar encourages you to minimize possible effects of waste on the environment and human health also outside the European Union by following local waste disposal regulations and, where possible, utilize separate collection of electronic devices.

South Africa



Charger

FCC regulatory information

This device complies with part 18 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a miscellaneous type ISM device, pursuant to part 18 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- 1) Reorient or relocate the receiving antenna.

- 2) Increase the separation between the equipment and receiver.
- 3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- 4) Consult the dealer or an experienced radio/TV technician for help.

Caution! Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Industry Canada (IC) regulatory information

This ISM device complies with ICES-001 of Industry Canada rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Europe



This product is compliant with Directives 93/42/EEC and 1999/5/EC. The relevant Declaration of Conformity is available at www.polar.fi/support.



Polar products are electronic devices and are within the scope of Directive 2002/96/EC of the European Parliament and of the Council on waste electrical and electronic equipment (WEEE). These products should thus be disposed of separately in EU countries. Polar encourages you to minimize possible effects of waste on the environment and human health also outside the European Union by following local waste disposal regulations and, where possible, utilize separate collection of electronic devices.

South Africa



technical specifications

Transmitter

Transmitter strap material:

- 35 % Polyester, 35 % Polyamide, 30 % Polyurethane.

Connector material:

- Back cover: PA+GF,
- Press-buttons: stainless steel AISI316,
- Front cover: ABS + GF,
- Lense on the front cover: PMMA

Radio frequency technical specifications

Charger unit

Frequency: 13.56 MHz, Industrial-Scientific-Medical (ISM) band used.

Bluetooth devices

Base station

RF output power: meets Bluetooth® requirements.
Frequency: 2400 MHz to 2483.5 MHz, max. 100 mW.
Bluetooth QD ID B011340.

Connector

RF output power: meets Bluetooth® requirements.
Frequency: 2400 MHz to 2483.5 MHz, max. 20 mW.
Bluetooth QD ID B011340.

2.4 GHz devices (such as base station and transmitter)

Non-specific short range device.

RF output power: meets all SRD requirements.

Frequency: within the range of 2400 MHz to 2483.5 MHz.

For Bluetooth and 2.4 GHz devices only: to comply with FCC RF exposure requirements, the following operating configurations must be satisfied: the antenna has been installed by the manufacturer and no changes can be made.

Guarantee and disclaimer

Limited polar international guarantee

- This limited Polar international guarantee is issued by Polar Electro Inc. for the consumers who have purchased this product in the USA or Canada. This limited Polar international guarantee is issued by Polar Electro Oy for the consumers who have purchased this product in other countries.
- Polar Electro Inc. / Polar Electro Oy guarantees to the original consumer/ purchaser of this product that the product will be free from defects in material or workmanship for one year from the date of purchase.
- Please keep the receipt as a proof of purchase!
- The guarantee does not cover the battery, damage due to misuse, abuse, accidents or non-compliance with the precautions; improper maintenance, commercial use, cracked or broken cases.
- The guarantee does not cover any damage/s, losses, costs or expenses, direct, indirect or incidental, consequential or special, arising out of, or related to the product. During the guarantee period the product will be either repaired or replaced at an authorized service center free of charge.
- This guarantee does not affect the consumer's statutory rights under applicable national or state laws in force, or the consumer's rights against the dealer arising from their sales/ purchase contract.

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Disclaimer

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GLOSSARY

A

admin tool: Part of the Polar Cardio GX software, for managing the sessions, advertisements and hardware

aerobic: Uses oxygen

anaerobic: Without oxygen

B

base station: Unit that connects the transmitters with the PC software

bpm: Beats per minute, heart rate

C

charger: Unit that is used to re-charge the batteries of the connectors

connector: Black plastic part of the transmitter that transmits the heart rate data to the base station or training computer

H

hardware: Equipment, devices. In this case all the equipment that is included in the Polar Cardio GX set.

HR: Heart rate, beats per minute

HRmax: Maximum heart rate

HRR: Heart rate reserve, the difference between the resting and maximum heart rate

I

intensity zone: Heart rate range that has a color, name and the lower and upper limits. A session can include 3 to 5 intensity zones

P

PolarZone session: Default session in the Polar Cardio GX software, can be deleted and modified by the user

R

recovery HR: A measure that indicates how long it takes for an exerciser's heart to slow down after been exercised as hard as possible

recovery time: An estimated time that it takes for an exerciser to recover after training, individual calculations

S

session: Template for heart rate-based class or the actual heart rate-based class

session tool: Part of the Polar Cardio GX software, used before a class for signing up, during the class for heart rate monitoring, and after the class for summarizing the individual heart rate data

software: PC application, in this case Polar Cardio GX software

T

teaching: Introducing connectors to the Polar Cardio GX system

training computer: Polar product that can be used to monitor and record heart rate data

transmitter: Unit that consists of a transmitter strap and a connector, detects and transmits heart rate data

transmitter strap: Textile part of the transmitter that is tied around one's chest

V

VO2max: The unit for oxygen uptake is millilitres per minute per weight unit (ml/min/kg). The VO2max values vary between 35–85 ml/min/kg, depending on the individual's performance and sport.