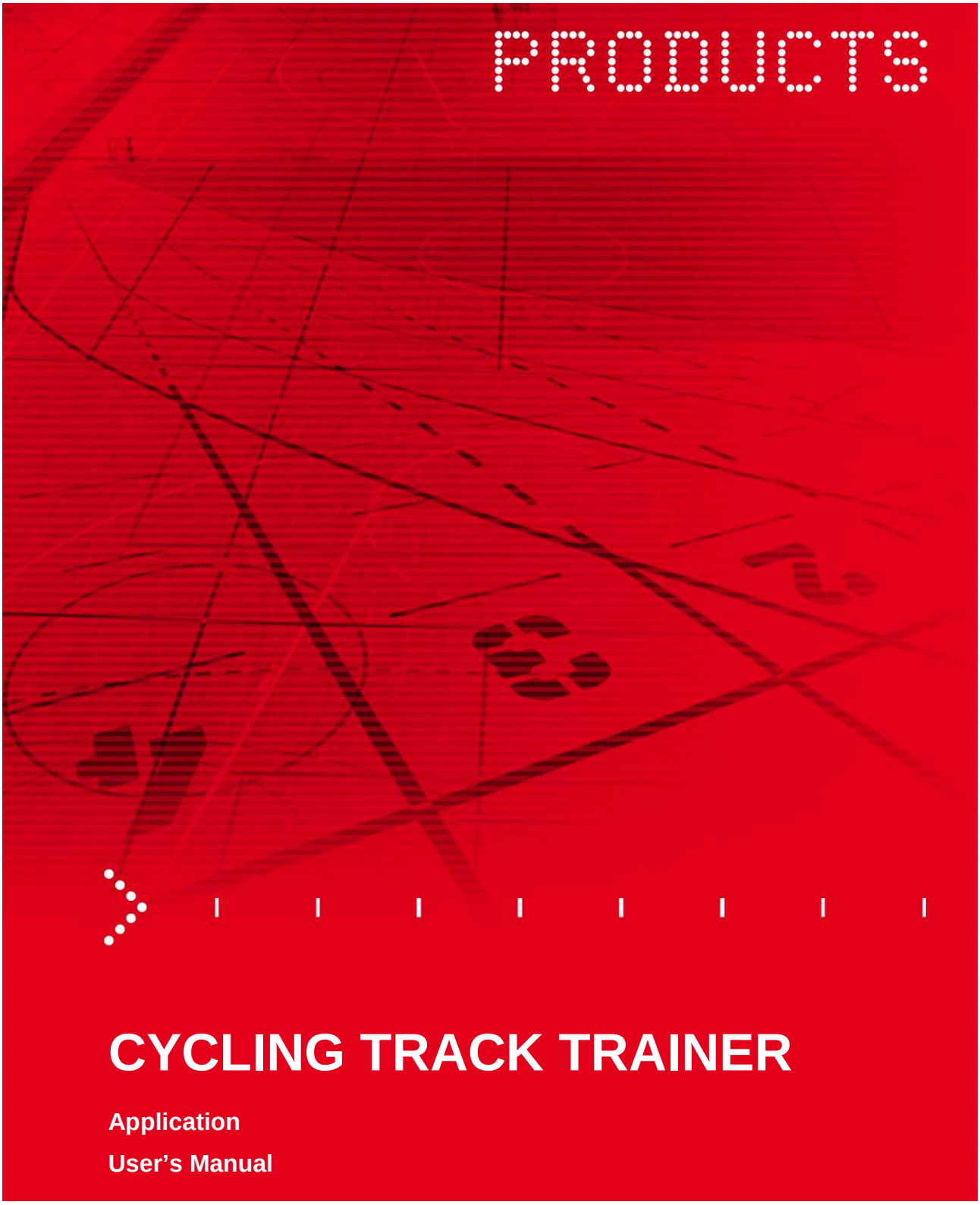
SWISS TIMING



CYCLING TRACK TRAINER

Application

User's Manual

3493.507.02

Version 1.1

Edition November 2013

Caution and safety precautions

- Never use any other charger than the supplied or a type approved by Swiss Timing. This could destroy the battery, cause damage to unit, and possible cause personal injury due to fire or/and electrical shock.
- Never bypass a power cord ground lead by breaking off the ground pin, or by using inappropriate extension cords or adapters.
- Never plug a power cord into the AC power source until you have made sure that all installation, cabling and power levels, are proper, and that the applicable procedures in this manual have been followed.
- Protect the equipment against splashing, rain and excessive sun rays.
- Never use the device if it is damaged or insecure.
- Verify the selection of the power distribution.
- Verify that the voltage quoted on the rating plate is the same as your voltage. Connect the appliance only to power sockets with protective earth. The use of incorrect connection voids warranty.
- This program may be modified at any time without prior notification.
- Do not open the case; there is nothing that needs servicing inside it. Nevertheless, if the case must be opened, you must call for some qualified personnel. The power supply cable must be disconnected before opening the case.
- During the transport of all Swiss Timing equipment delivered with a reusable carry case, the said case should be used at all times. This is imperative to limit the damage, such as shocks or vibration that can be caused to the units during transport.
- The same cases should also be used when returning equipment to Swiss Timing for repair. Swiss Timing reserves the right to refuse all guarantees if this condition is not fulfilled.
- If the installation includes a horn, be sure to maintain a sufficient security distance from the public.

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1 INTRODUCTION

About This Document

This document is intended to provide guidance on using the Cycling Track Trainer (CT Trainer) software application.

About the Cycling Track Trainer

Cycling Track Trainer (CT Trainer) is used to create trainings and competitions on cycling tracks using a transponder tracking system. Transponder loops can be assembled to individual tracks. These tracks can be used in training units to measure times and speeds of athletes and teams. Results can be exported or reviewed directly within the application.

The application consists of two individual components: CT Trainer Listener (transponder server component) and CT Trainer (client component).

As the CT Trainer client application is web-based, it can be used on any web-enabled devices.

2 CT TRAINER LISTENER

CT Trainer Listener is a background service which automatically synchronizes the times provided by the decoder boxes.

CT Trainer Listener runs exclusively on the control PC and can be operated only by the system administrator. The software component usually starts with the operating system. A shortcut to the executable file **CTTrainingManager.Listener.exe** can also be found on the desktop.

2.1 Software Requirements

To run CT Trainer Listener, the following additional software components must be installed on your system:

- Microsoft .NET framework 4.0

2.2 User Interface

The left side of CT Trainer Listener window shows a representation of each of the configured decoder boxes including its current connection states.

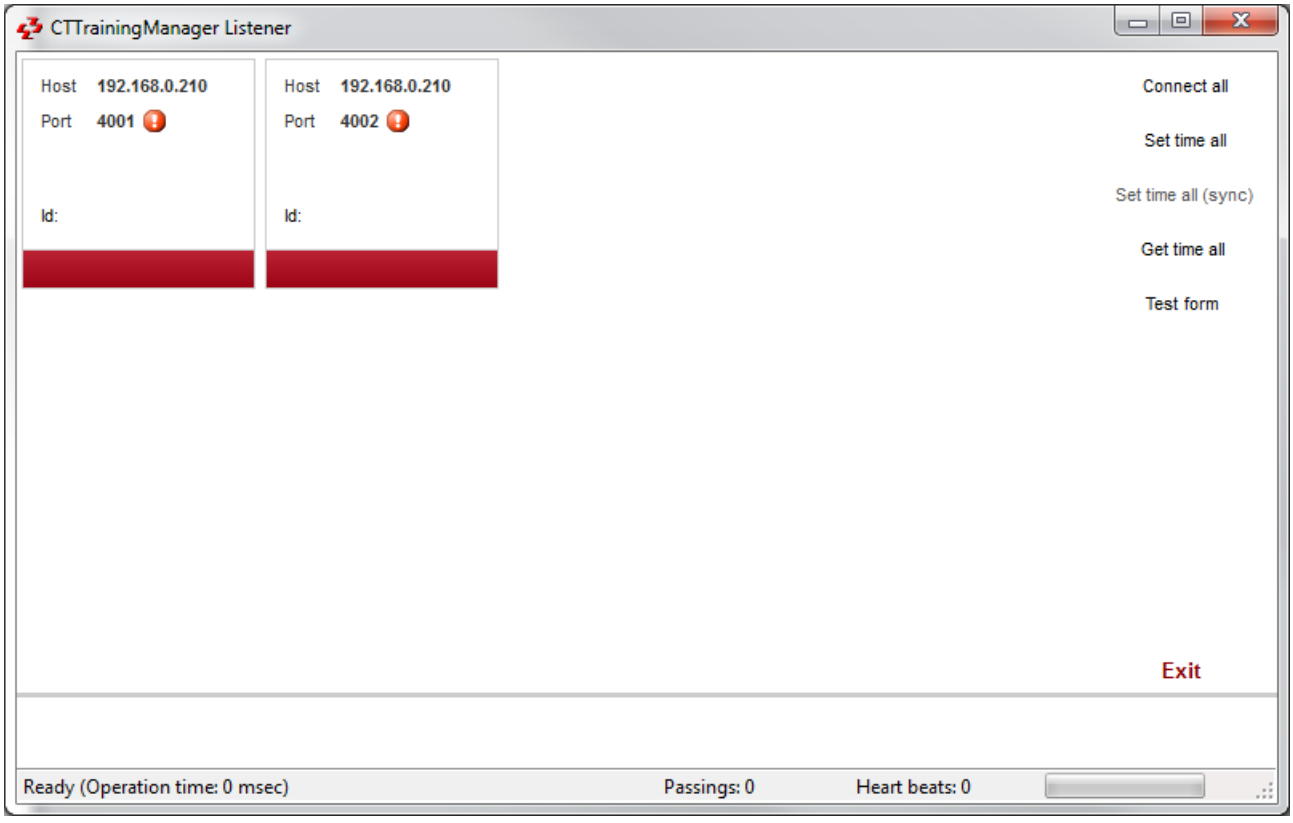


Figure 1 - CT Trainer Listener window

The typical connection states of the decoder boxes are described in the following table.

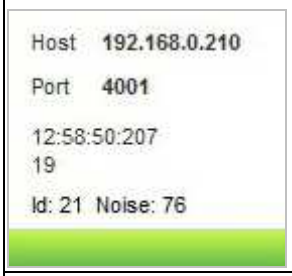
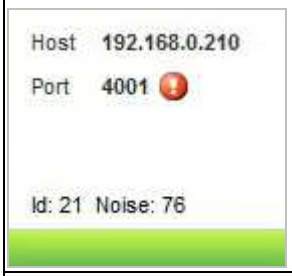
Indication	Description
	Standard-information with no errors. The third row shows the current time of the decoder box. It's recommended to synchronize this time once in a week. The green bar below the box indicates that the decoder box is connected to the control PC.
	The red exclamation mark indicates that an error has occurred during the transmission of a message from the decoder box to the control PC.
	The red bar below the box indicates that the decoder box is not connected to the control PC. Click [Connect all] to connect the decoder boxes.

Table 1 - Traffic information boxes

2.3 Synchronizing the Decoder Boxes

2.3.1 Automatic Synchronisation

The decoder boxes are synchronized automatically when CT Trainer Listener is started.

2.3.2 Manual Syncronisation

Besides the automatic synchronisation procedure, you might as well use the command buttons on the user interface to connect or synchronise the decoder boxes.

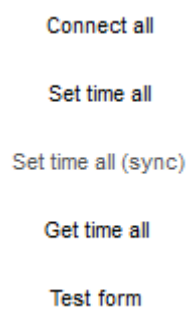


Figure 2 - Server control buttons

To synchronise the boxes manually, first click [Connect All] to connect the decoder boxes. You may have to click [Connect All] repeatedly to properly connect all decoder boxes.

Standard Synchronisation Method

When all of the decoder box connection status indicators are highlighted in green, click [Set time all] to synchronize the times using the standard sync protocol.

Alternative Synchronisation Method

If you want to use the alternative sync protocol provided by a connected device (Sync Timer), click [Set time all (sync)] instead. In this case, the connected decoder boxes will be synchronised at the next full minute.

3 CT TRAINER OVERVIEW

This chapter describes the basic usage of the web-based client application CT Trainer.

3.1 Software Requirements

To run CT Trainer, the following additional software components must be installed on your system:

- ASP .NET MVC 2
- ASP .NET MVC 3
- Microsoft .NET framework 3.5
- Microsoft SQL Server 2008 R2
- Microsoft SQL Management Studio
- Microsoft IIS (Internet Information Service, latest version)

3.2 Account Types

CT Trainer is a web-based application with an easy-to-use frontend controllable via your browser. As it features a tiered account system, your login name and password determine the set of functions you're able to use. There are currently three login types:

Account Type	Rights
Local Administrator	Register trainer logins, set up transponders/sensors, create tracks
Trainer	Manage athletes, create tracks and trainings
Competition Manager	Similar to "trainer", but exclusively to perform competitions

3.3 Login

After opening the CT Trainer address in your browser, enter your username and password in the corresponding text boxes and then click [Login].

Note: It's recommended to use Mozilla Firefox for an optimal display of the CT Trainer web application.

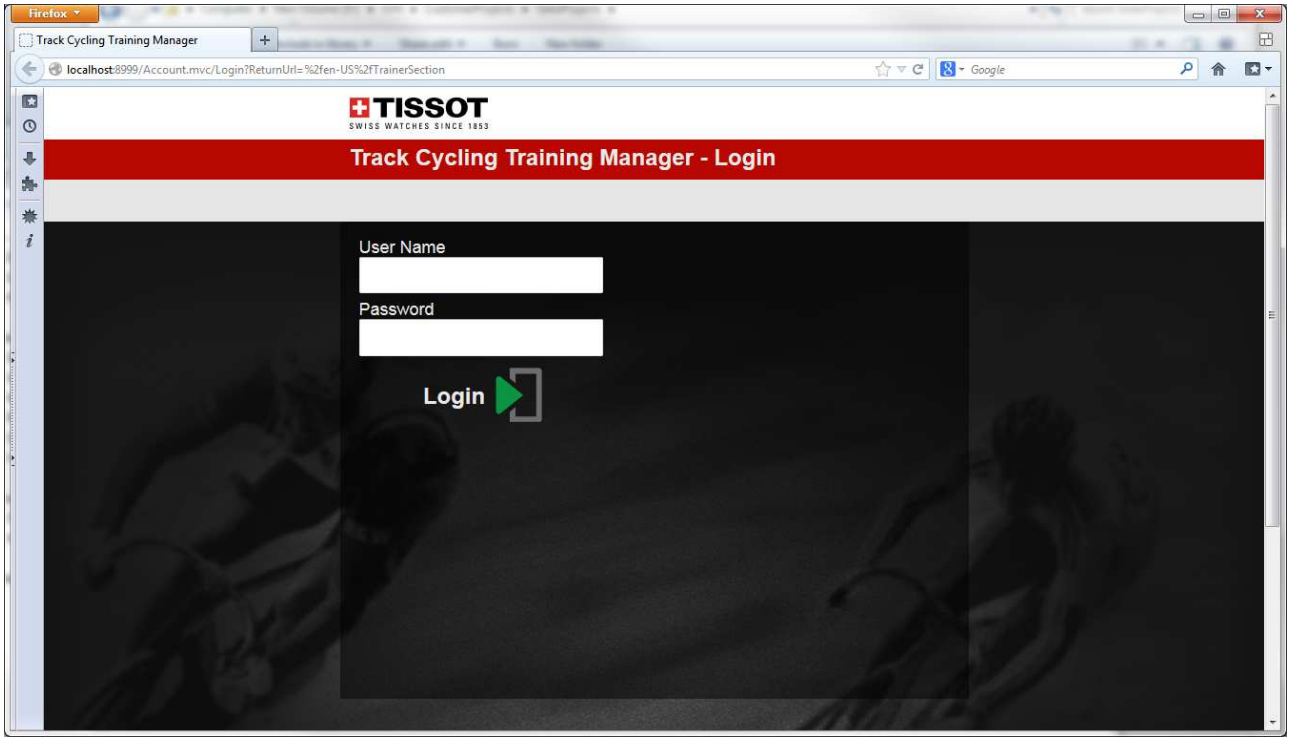


Figure 3 - CT Trainer login page

3.4 Basic Navigation

After logging in, you will be directed to the main page of CT Trainer. From there you can navigate to the individual categories and perform any of the tasks available for your account type.

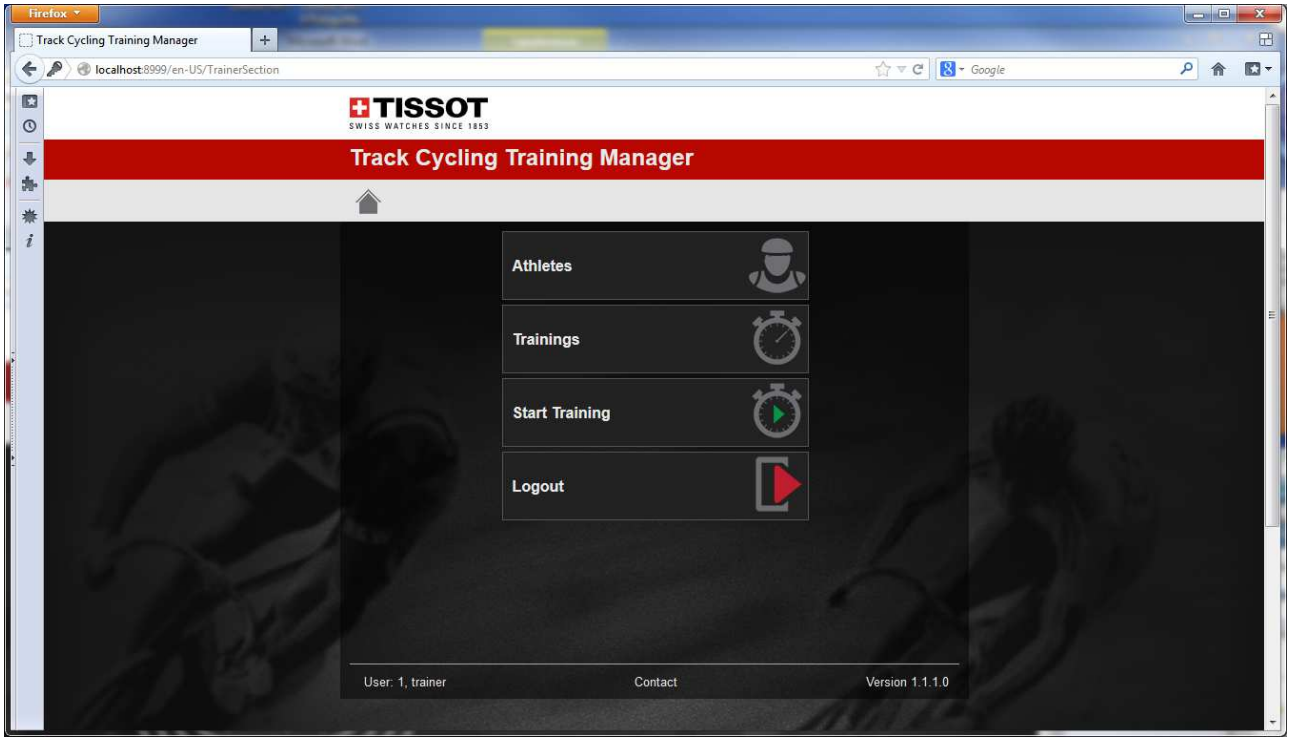


Figure 4 - CT Trainer main page

While navigating through the subordinated pages, your current location (structure level) is indicated in the upper toolbar. These indicator buttons are also clickable.

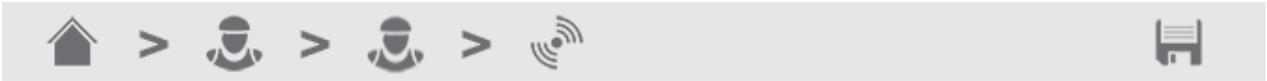


Figure 5 - CT Trainer toolbar

To go back one page, you can as well use the default browser navigation controls usually located in the browser's toolbar.

Note: Remember to safe your changes before leaving a page using the browser controls as else the changes will be lost.

3.5 Basic Command Buttons

Depending on the currently opened page and the task you are about to perform, there may be some symbol buttons visible on the right side of the toolbar. These buttons are provided to carry out basic commands such as creating a new entry on the current page or saving the current settings.

Figure 6 - Basic command buttons

4 CT TRAINER – TRAINER LOGIN

Logging in with a "trainer" account allows you to do the following:

- Create athletes and assigning them to teams and training units
- Assign transponders to athletes
- Assemble training units from available (premade) tracks
- Set up temporary tracks for using in training units
- Start and perform training units
- View live data and results

4.1 Athletes

On the main page, click [Athletes] to access the athlete management page.

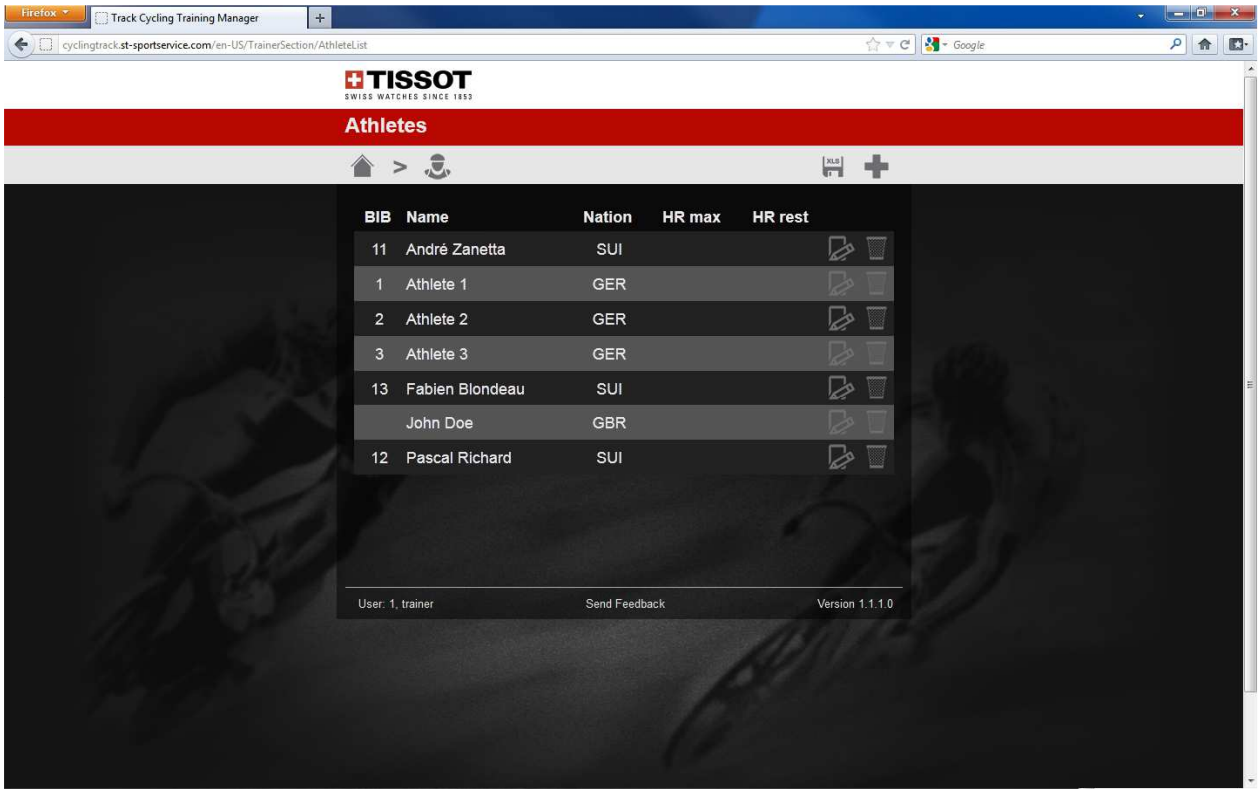


Figure 7 - Athlete management (Trainer view)

On the "Athletes" page, you can edit, add, export or remove athletes. Just use the corresponding symbol buttons located in the toolbar and to the right of the individual athlete entries (see following table).

Button	Description
	Adds a new athlete to the list of athletes
	Exports the currently list of athletes to an Microsoft Excel worksheet (.xls file)
	Accesses the "Athlete detail" page for editing athlete information
	Delete the athlete from the list of athletes

Table 2 - Command buttons on athlete page

4.1.1 Adding a new Athlete

Click [Add] to access the "Athlete Detail" dialog. In the dialog, fill in the text boxes with the athlete information (name is mandatory). Click [Save] on the toolbar to save the athlete information.

4.1.2 Further Athlete Information

You can edit further information, such as nation, team and transponder assignments. To access one of these functions click the corresponding button (see following table).

Button	Description
	Assign a nationality
	Assign a team
	Assign a heart rate monitor (not implemented)
	Assign the first transponder (see section below)
	Assign a second transponder if desired

Table 3 - Command buttons on athlete details page

4.1.3 Assigning a Transponder

When clicking one of the provided [Assign Transponder] symbol buttons, you'll be directed to a new subpage (see screenshot below).

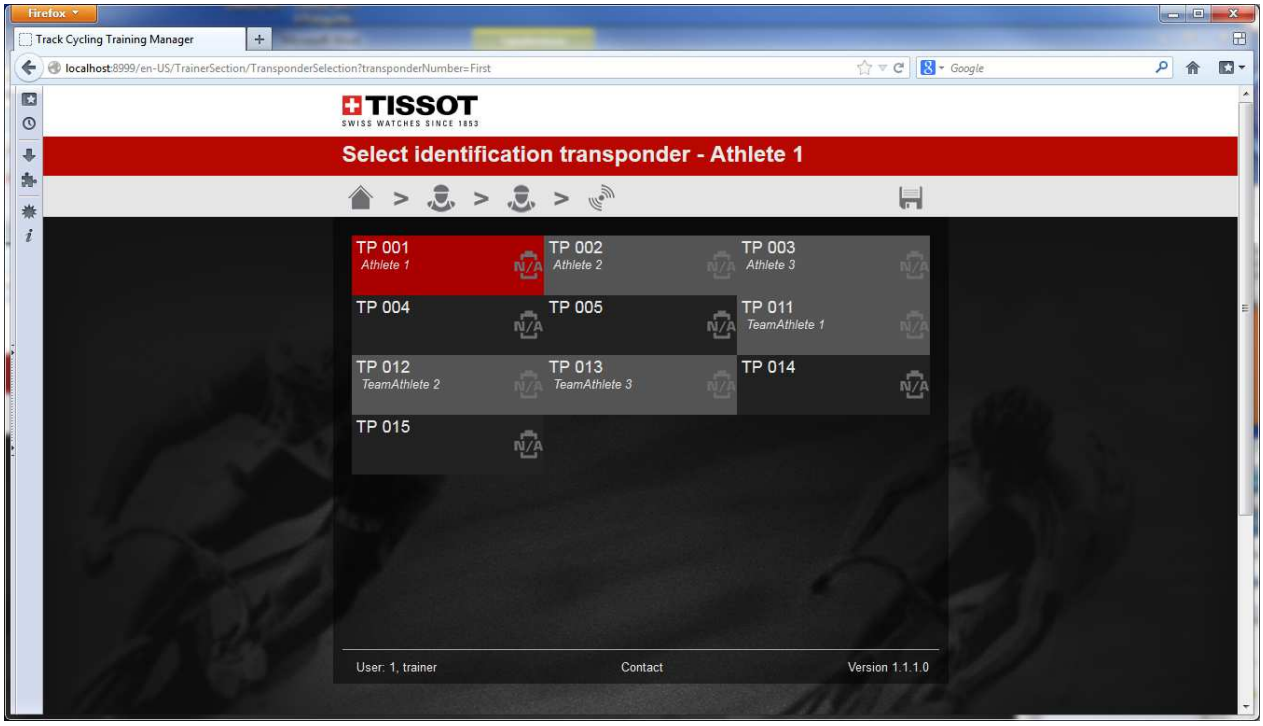


Figure 8 - Transponder selection page

To assign a transponder to the athlete, just select the desired transponder entry in the list and click the [Save] symbol button on the toolbar. You may also clear a transponder assignment by clicking the assigned transponder entry.

It is indicated whether a transponder is already assigned to another athlete by showing the name of that athlete. Furthermore, a transponder that has already been assigned to an athlete is highlighted with a brighter background.

4.1.4 Assign or Edit the Nationality

On the "Athlete detail" page, click the [Flag] symbol button to access a subpage where you can select the athlete's nationality from a list. If the athlete's nation is not indicated, you can create its entry by clicking the [Add] symbol button located in the toolbar.

Note: Do not forget to save after selecting a nation.

4.1.5 Select or Edit a Team

On the "Athlete detail" page, click the [Team] symbol button to access a subpage where you can select a team from the list. If the desired team is not indicated, you can create its entry by clicking the [Add] symbol button located in the toolbar.

Note: Do not forget to save after selecting a team.

4.1.6 Remove an Athlete

You can remove an athlete by clicking its corresponding symbol button [Remove] on the "Athlete detail" page.

4.2 Trainings

On the main page, click [Trainings] to access the athlete management page.

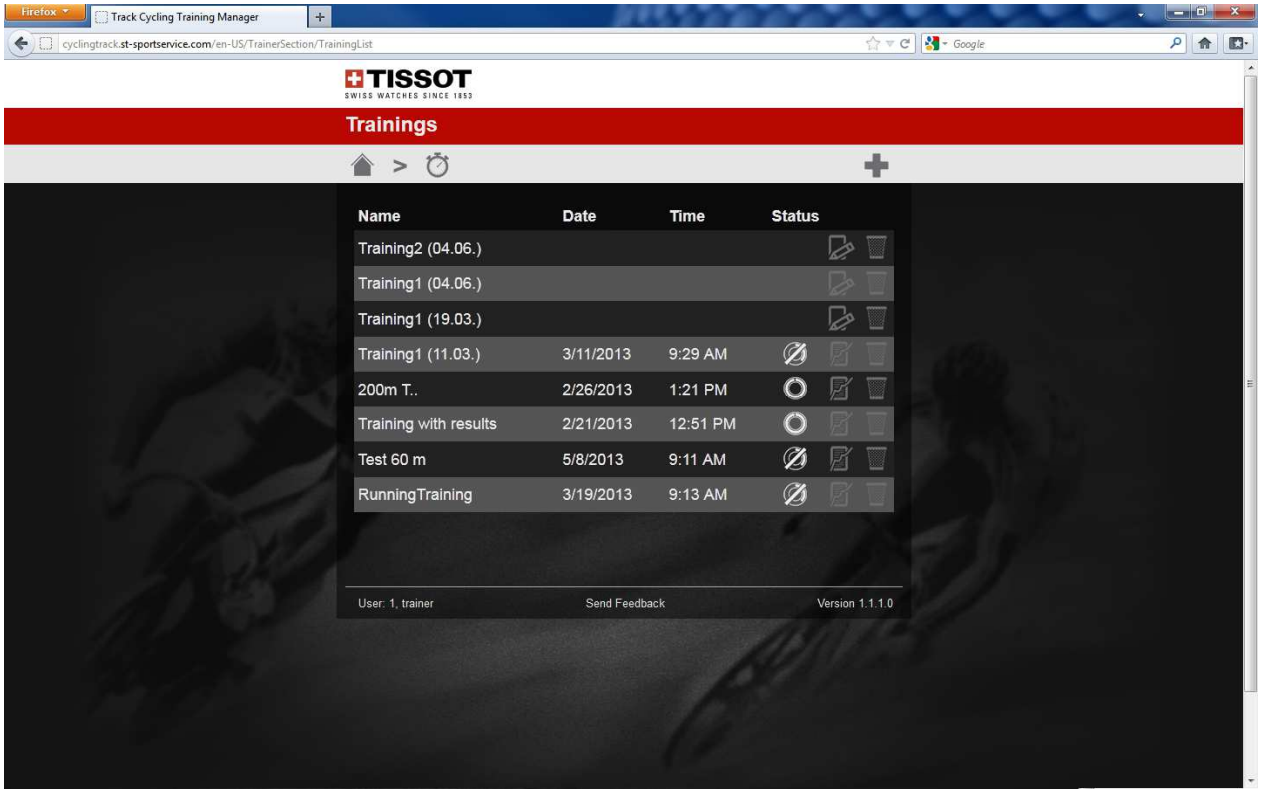


Figure 9 - Trainings management (Trainer)

On the "Trainings" page, you can add, edit or remove training units. Furthermore, you can review the results of finished training units. Just use the corresponding symbol buttons to perform basic tasks.

Button	Description
	Adds a new training
	Accesses the "Training detail" page for editing information
	Deletes the training unit from the list
	Opens the results page for a finished training

Table 4 - Command buttons on trainings page

Training Status Indicators

The status of each training unit in the list is indicated by a symbol. Following symbols are used:

Button	Description
	Training unit is currently running
	Training unit was canceled
	Training unit is finished (results can be viewed)

Table 5 - Training status indicator icons

4.2.1 Create a Training Unit

To create a new training, first click [Add]. This will access the "Training detail" page.

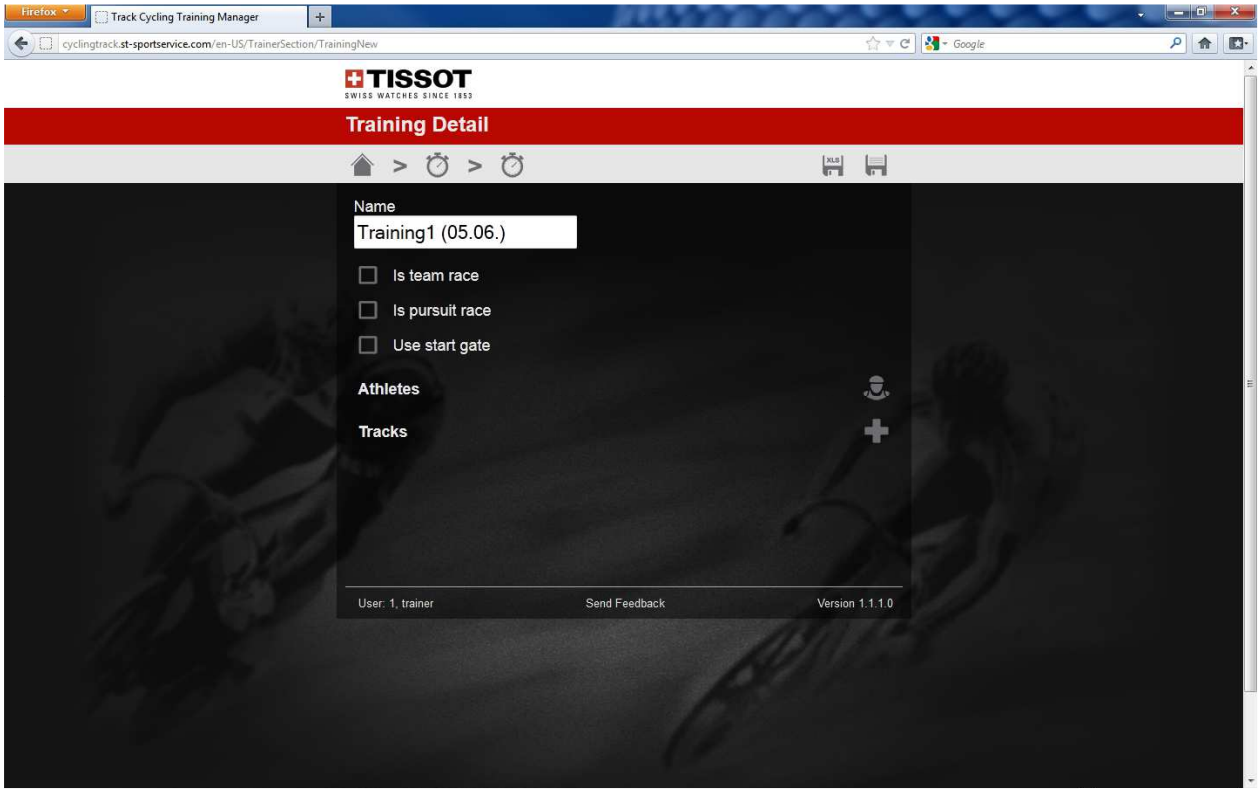


Figure 10 - Training Detail page

On the "Training detail" page, first enter a name for the training unit in the upper text box.

4.2.2 Basic Training Parameters

You can activate the following options for the training unit:

Option	Description
Is team race	Activate, if the training is planned as a team race
Is pursuit race	Activate, if the training is planned as a pursuit race
Use start gate	Activate, if a start gate will be used in the training

Table 6 – Training race options

4.2.3 Adding Athletes to a Training

Click the [Athlete] symbol button to access the "Select Athletes" subpage. Here you can either select single athletes from the list, or you can select groups of athletes as indicated. When finished, click [Save] to return to the "Training details" page.

4.2.4 Adding Tracks to a Training

Click the [Add] symbol button to access the "Select Track" subpage. Here you can select a number of tracks that you want to use in the training unit. You can also create a new track (see next section).

When finished selecting the tracks, click [Save] to save the settings and return to the "Training Detail" page.

4.2.5 Creating a Temporary Track

Note: Only Users with the account type "Local Administrator" can create new tracks that are permanently available for selection. Trainers can however create unnamed tracks for using in their training units as described below.

On the "Select Track" page, click the [Tracks] symbol button to access the "Create Track" page.

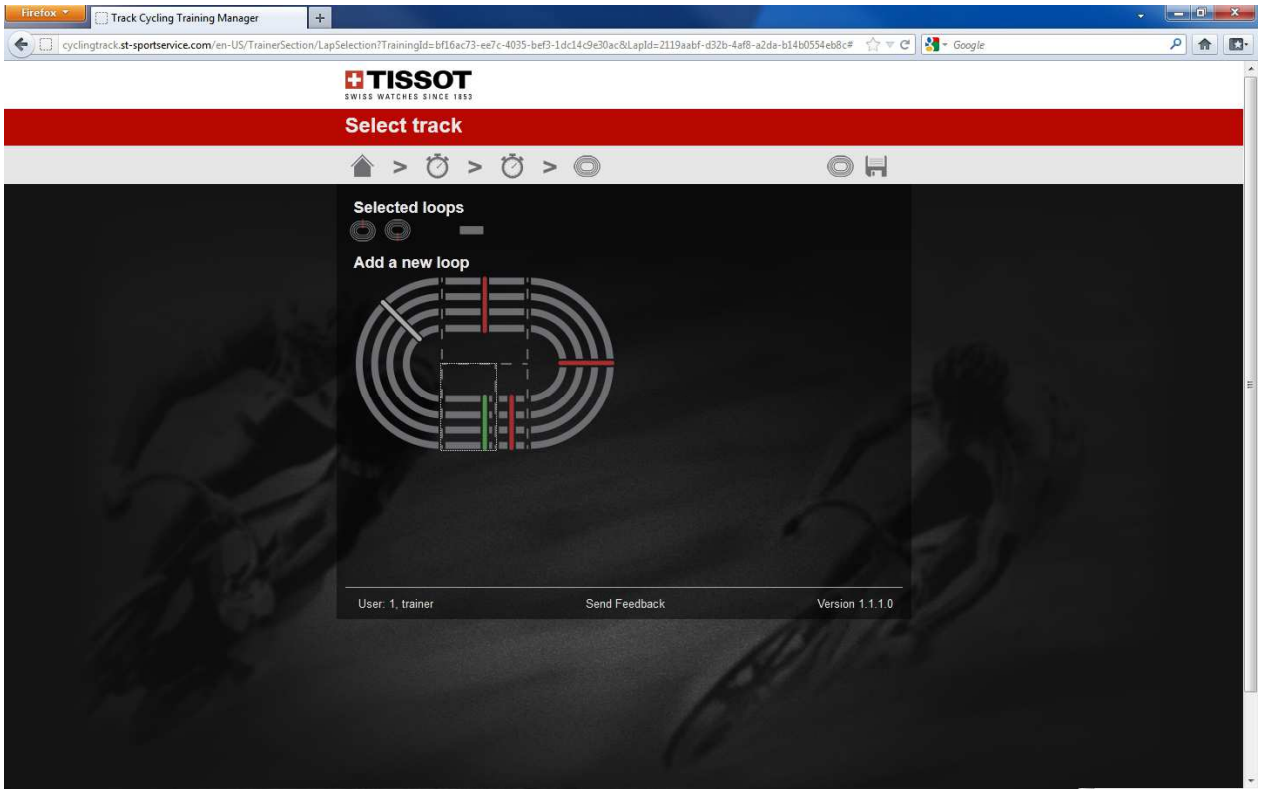


Figure 11 - Track creation (Trainer)

Adding Loops to the Track

To assemble the provided transponder loops to a track, click consecutively on the red highlighted transponders within the simplified scheme. The least selected transponder will thereby be highlighted in green.

Click [Save] when finished assembling the track. The last loop you select is the finish loop.

Removing Loops from the Track

To remove the last one or more loops from the track, click the [MINUS] symbol located just to the right of the "Selected loops" indicator.

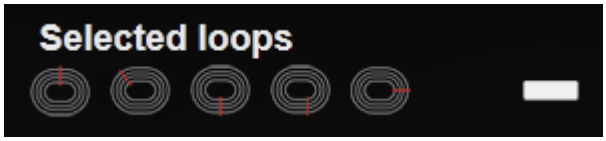


Figure 12 - Selected loops indicator

Track Creation Rules

- A track must consist of at least two loops (start and finish).
- A single training may not consist of two overlapping tracks.
- If overlapping of two tracks is necessary, choose different start loops.

Example:

Wrong:	Pursuit A - Pursuit B - Pursuit A	and	Pursuit A - Pursuit A
Right:	Pursuit A - Pursuit B - Pursuit A	and	Pursuit B - Pursuit A - Pursuit B

4.2.6 Edit or Delete a Track

You can edit or delete a track entry in the list using the corresponding symbol buttons.

4.3 Result Lists

4.3.1 Reviewing Result Lists

You can review the training results of any finished training unit by clicking [Result list] on the "Training Details" page.

To export the result data, click [Export] and follow the instructions given in the export dialog.

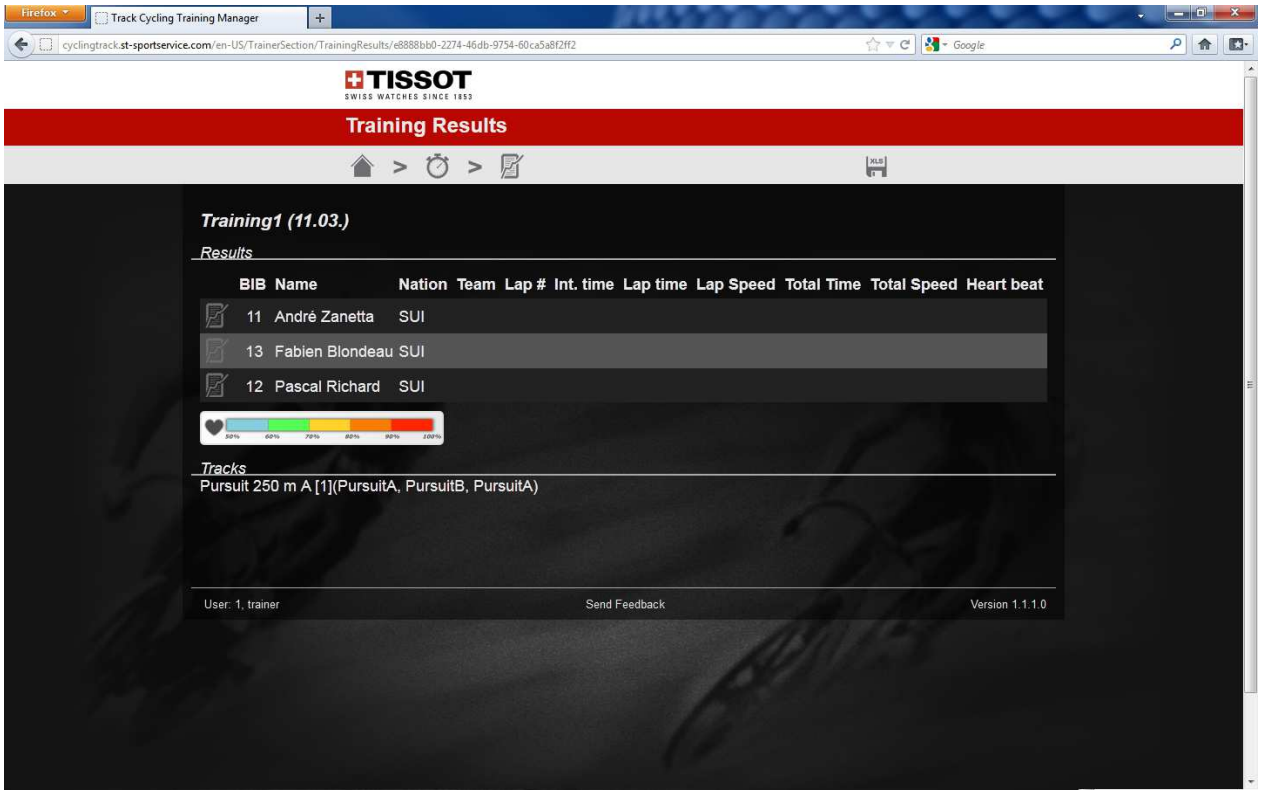


Figure 13 - Training results page

4.3.2 Athlete Result Details

To review the training details for a single athlete or team, click the [Result list] symbol button located on the left side of the corresponding result entry.

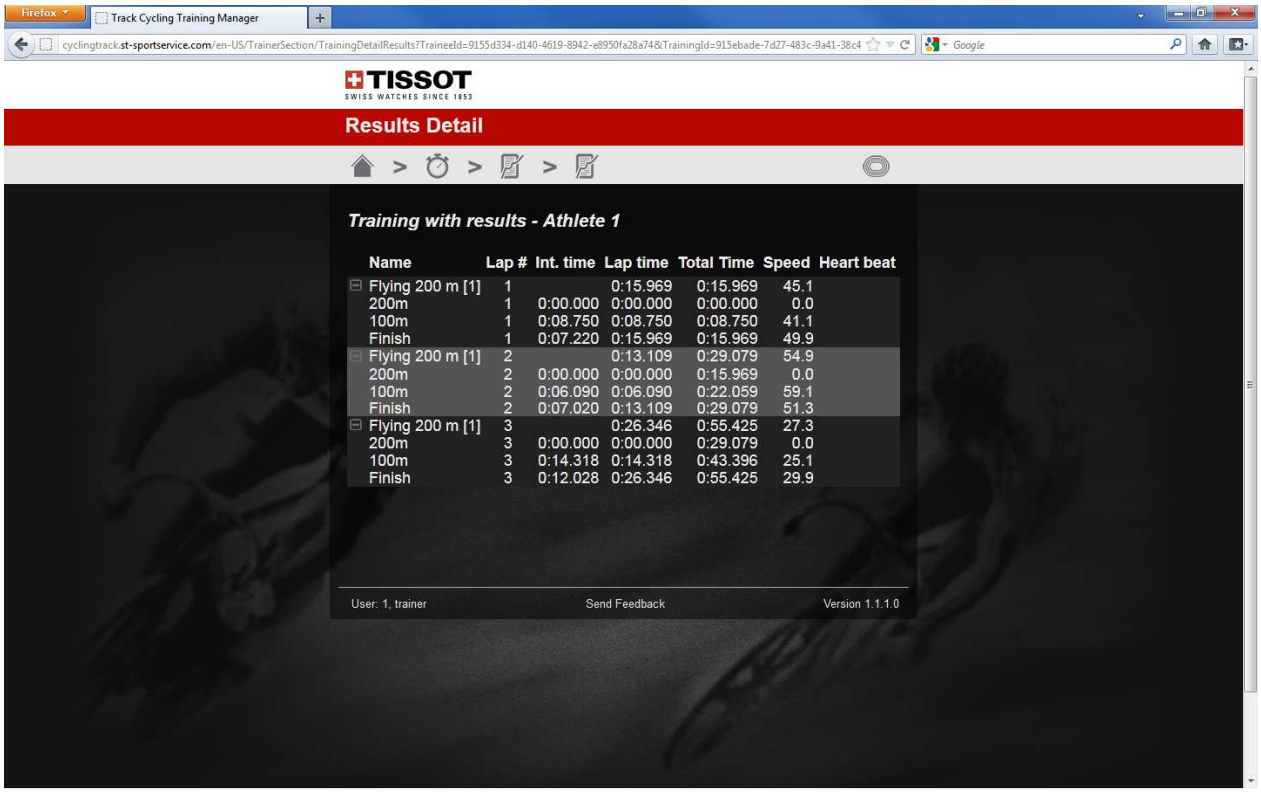


Figure 14 - Result details

The details view is mostly self-explanatory: the rows represent the transponder loops and the columns provide the individual values measured for a corresponding loop. The following table describes the values indicated in the columns on the "Results Detail" page.

Column/Value	Description
Lap #	Lap number in the current training
Int. Time	Intermediate time (between two transponders)
Lap time	Total time for the indicated lap
Total time	Total time for all laps (summed)

4.3.3 Further Timing Settings

For detailed information on transponder loops, click the [Tracks] symbol button on the toolbar. This will open the following subpage.

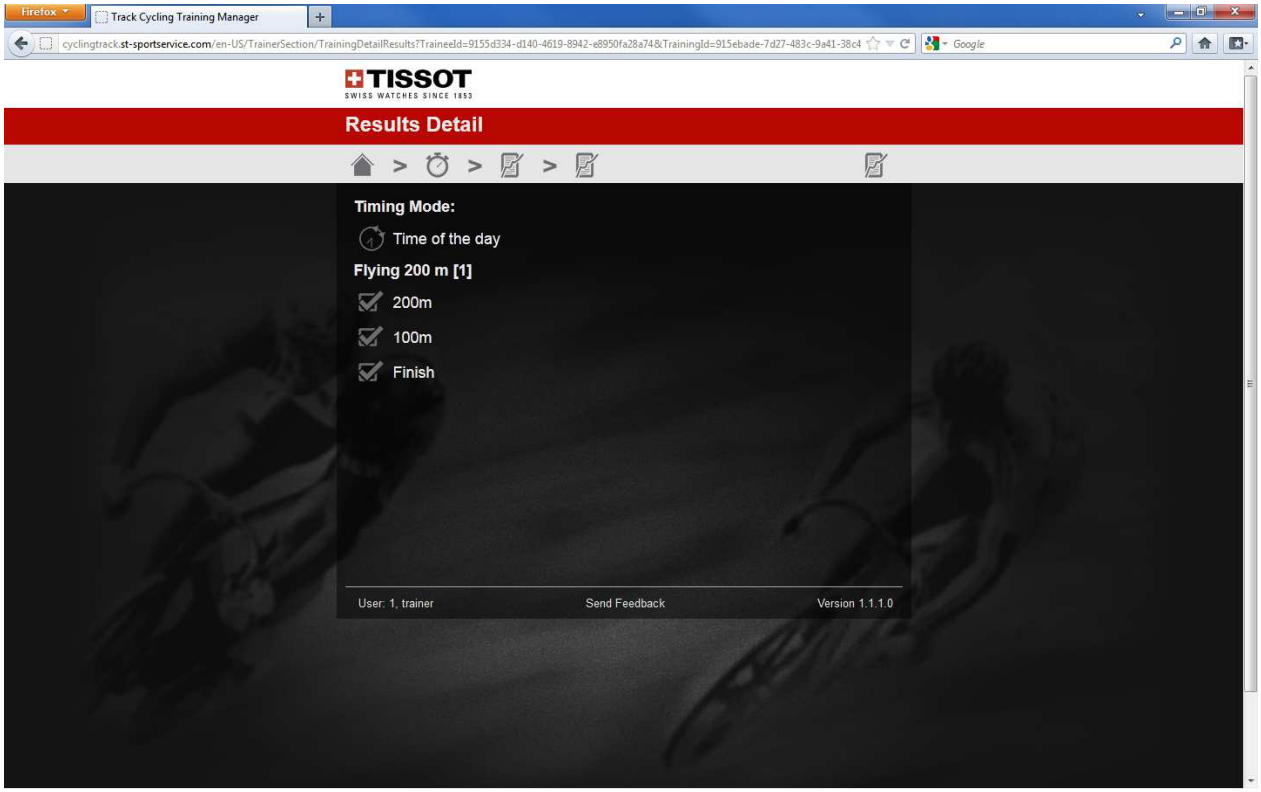


Figure 15 - Transponder loop selection

On this page, you can hide a number of loops from being indicated on the results list, by simply deactivating it. Furthermore, you can switch between two timing modes: 'Intermediate time' and 'Time of the day'.

Click the results [Results] symbol button again, to return to the detailed training results list.

4.4 Perform a Training

On the main page, click [Current Training] to access the training control page. In case no training unit is currently running, you are provided with a list of trainings that can be started.

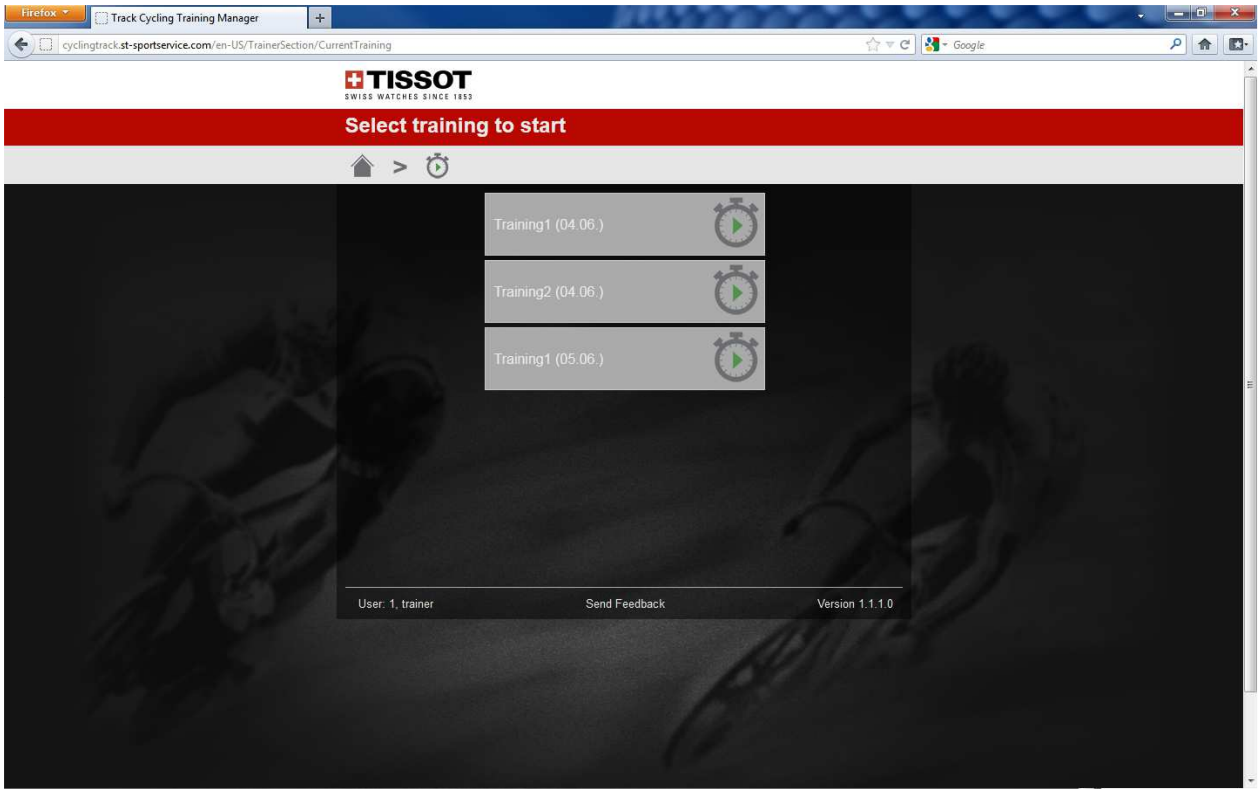


Figure 16 - Start a training (Trainer)

4.4.1 Begin a Training

To start a training unit, simply click its list entry. The training will start immediately and you will be directed to the "Current training" page.

4.4.2 During a Training

Live Results

While a training unit is running, click [Current Training] on the main page to see a live presentation of the training data

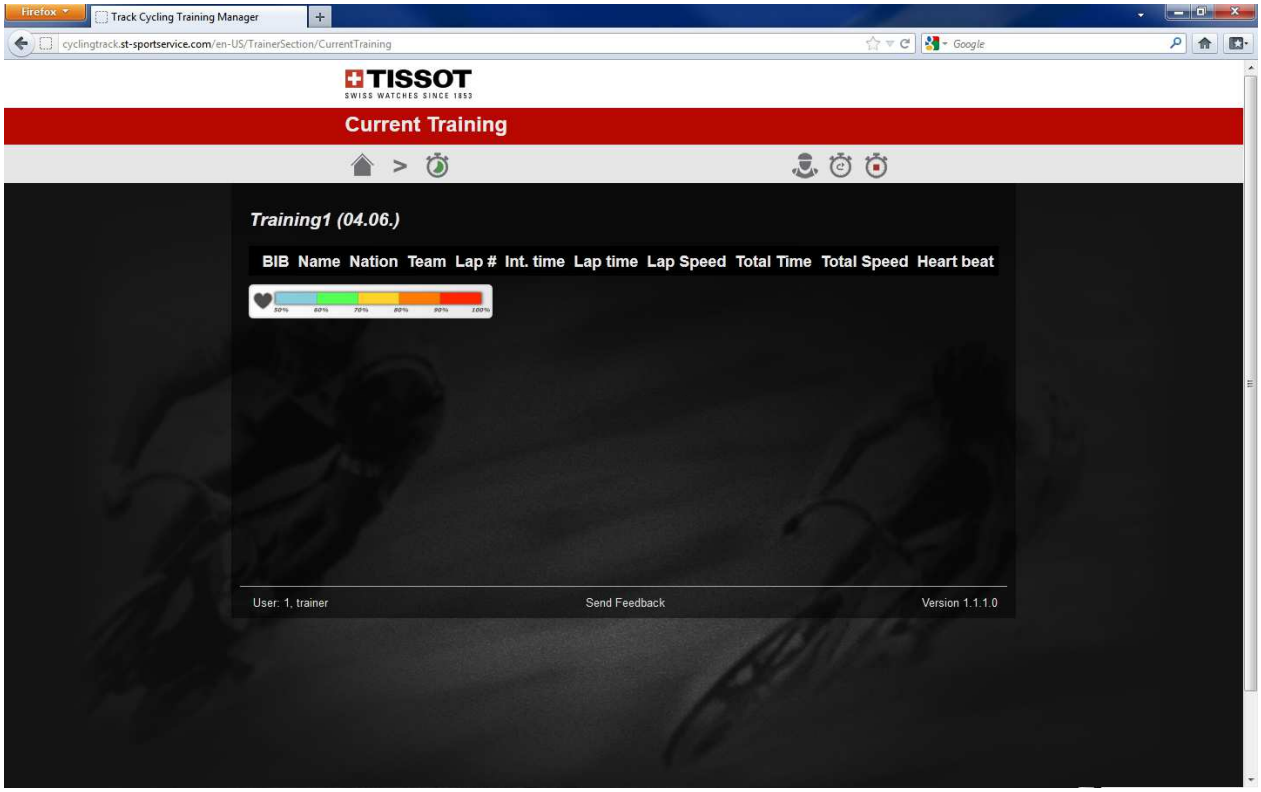


Figure 17 - Current training page

The information shown on the "Current Training" page matches the information that you will get on a results list (see section 4.3.1)

To only review the information for selected athletes, click the [Athlete] symbol button on the toolbar. Then select the athletes you want to review from the list. Close the filter list by clicking [Results] on the toolbar.

Stop or Reset a Training

To stop or reset the current training unit, use the two corresponding buttons located on the toolbar of the "Current Training" page.

Note: Trainings cannot run parallel.
Note: Once you have finished a training unit, you cannot start it again.

4.5 Logout

Click [Logout] on the main page to close your connection to CT Trainer.

5 CT TRAINER – LOCAL ADMINISTRATOR LOGIN

Logging in with a "local administrator" account allows you to do the following:

- Register trainers (for a trainer login)
- Create tracks for further use by the trainers
- Set up transponder
- Set up heart rate monitors (not yet implemented)

5.1 Register Trainers

On the main page, click [Trainers] to access the "Trainers" page where you can create logins (user accounts) for new trainers.

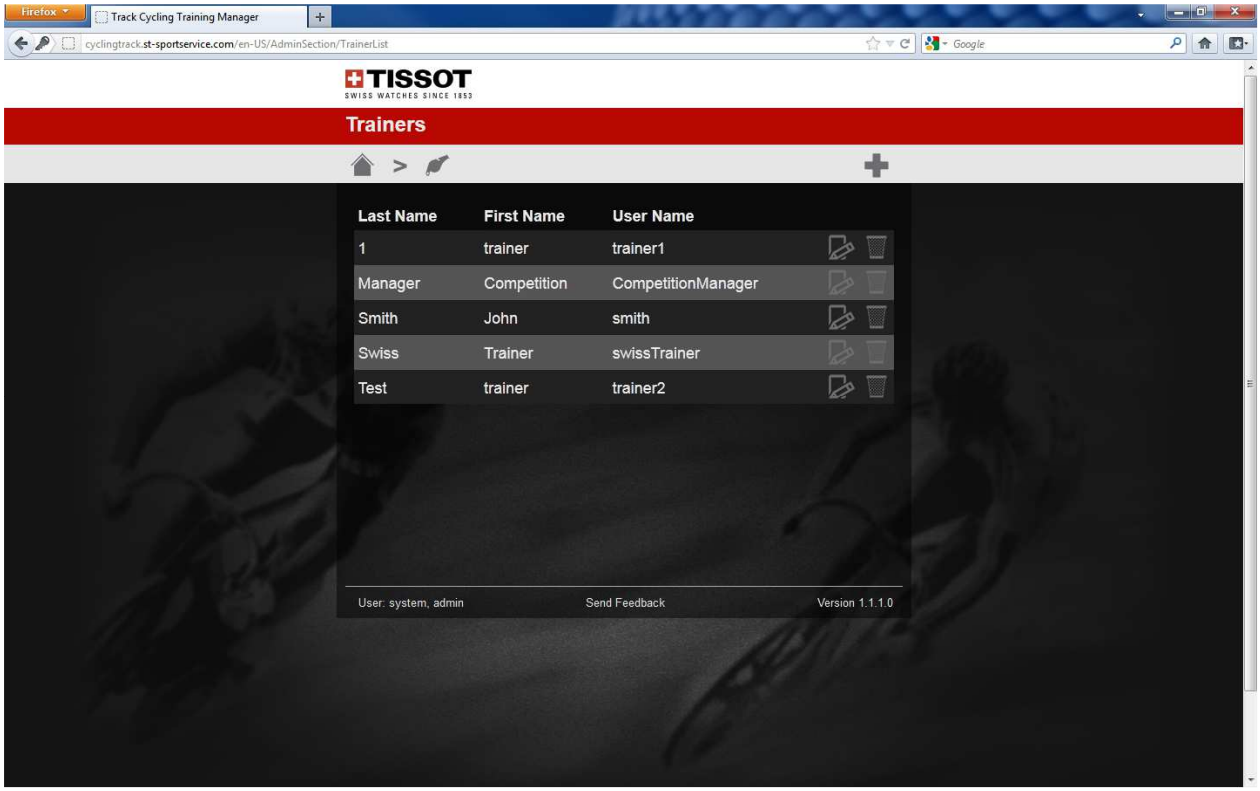


Figure 18 - Trainer account page

5.1.1 Adding a new Trainer

To create a new user login, proceed as follows:

1. Click the [Add] symbol button located on the toolbar of the "Trainers" page and then enter all necessary login information for the new trainer.
2. Click the [Transponder] symbol button located below the login information text boxes.

3. Select the transponders in the list that you want to provide to the trainer. You may also deselect transponders.
4. When finished, click the [Save] symbol button on the toolbar. You will then be redirected to the "Trainers" page.

5.1.2 Changing a Trainer Login

To review or edit a trainer's login information, click the [Edit] symbol on the corresponding list entry. This will direct you to the "Trainer Details" page.

Note: Remember to save your settings, when finished editing.

5.2 Registering Transponders in CT Trainer

To register new transponders in CT Trainer proceed as follows:

1. On the main page, click [Identification Transponders]. This will direct you to the "Identification Transponders" page.
2. Click the [Add] symbol button on the toolbar.
3. Enter a label name and the transponder ID code into the text boxes.
4. Click the [Save] symbol button on the toolbar. You will be directed to the "Identification Transponders" page and the new transponder will appear in the list.

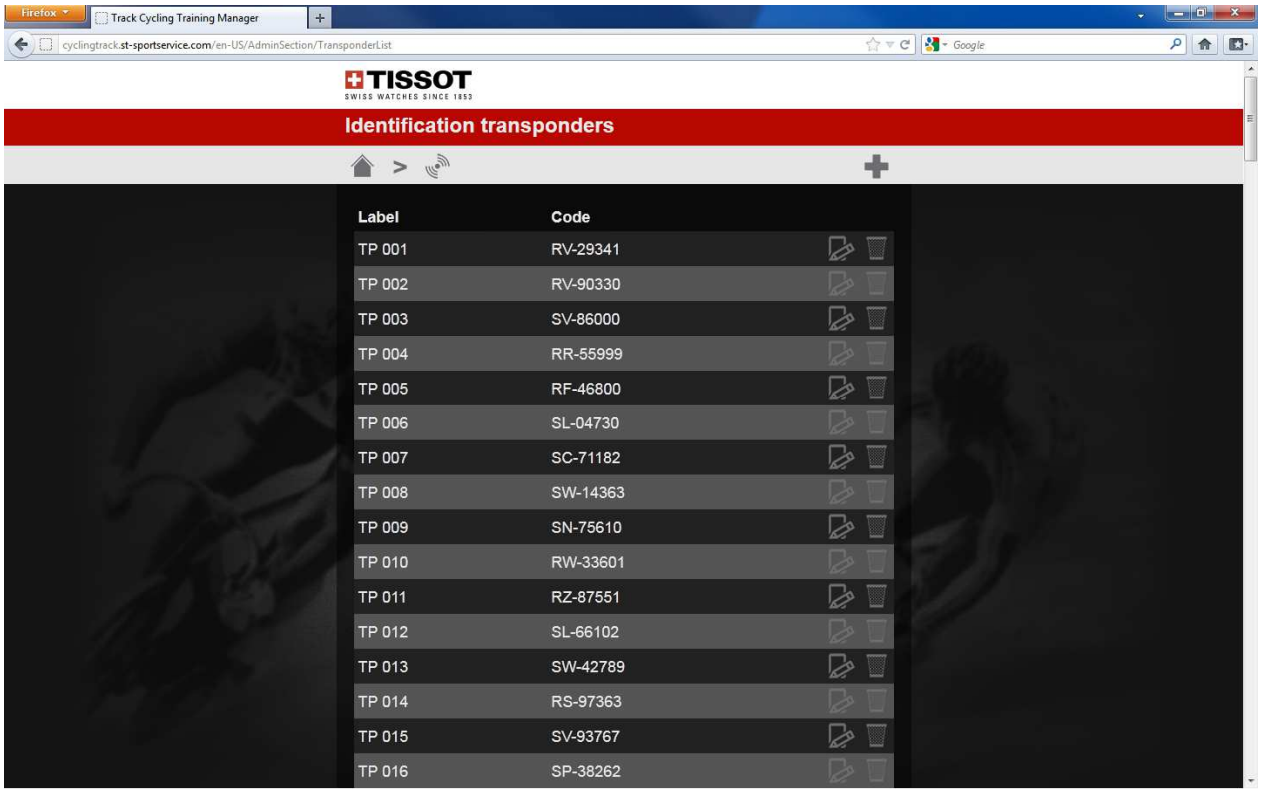


Figure 19 - Transponder list

Editing or Removing a Transponder

You can edit or remove a transponder entry in the list using the corresponding symbol buttons.

5.3 Create and Edit Tracks

As an administrator you can assemble training tracks that can be used by any trainers. These tracks are listed on the "Tracks setup" page. Click [Tracks setup] on the main page to get there.

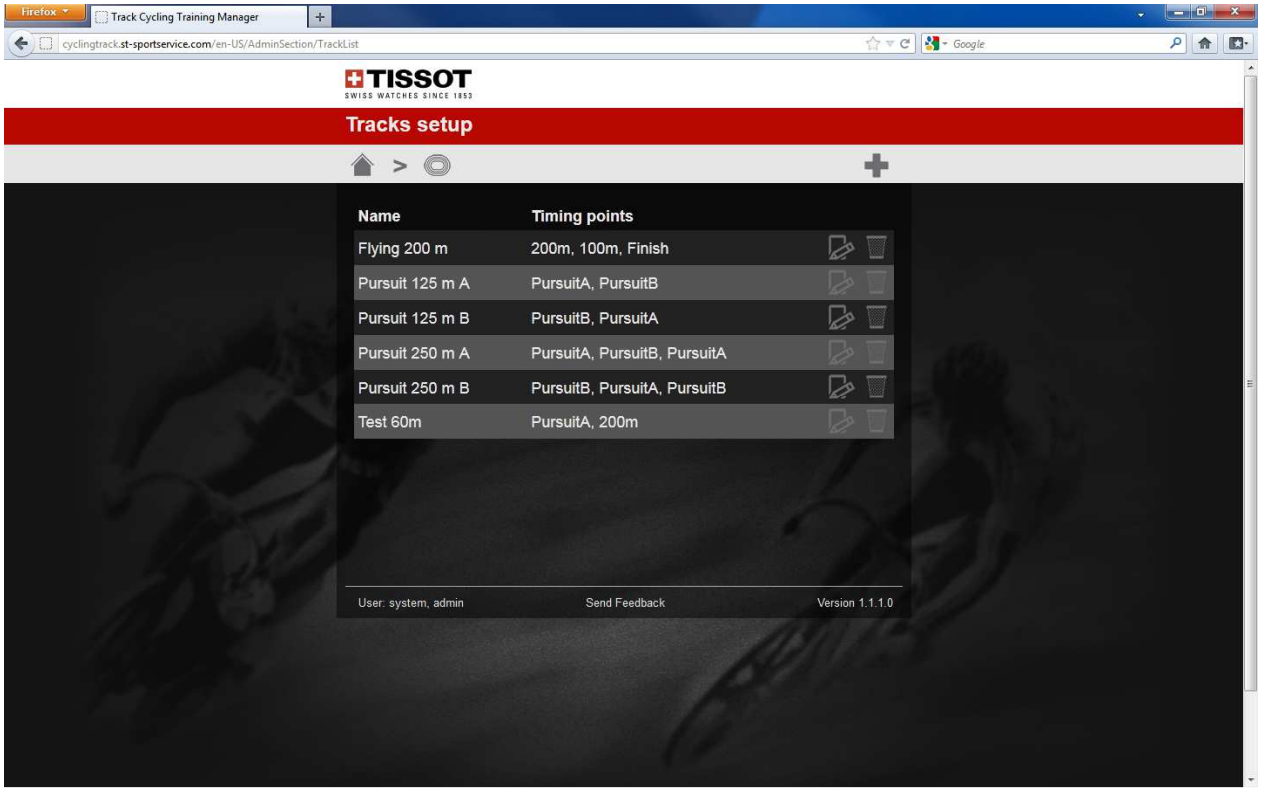


Figure 20 - Tracks setup page

5.3.1 Create a new Track

Click the [Add] symbol button located on the toolbar to access the "Track Detail" page where you can assemble the new track.

Adding Loops to the Track

To assemble the provided transponder loops to a track, click consecutively on the red highlighted transponders within the simplified scheme. The least selected transponder will thereby be highlighted in green.

Click [Save] when finished assembling the track. The last loop you select is the finish loop.

Removing Loops from the Track

To remove the last one or more loops from the track, click the [MINUS] symbol located just to the right of the "Selected loops" indicator.

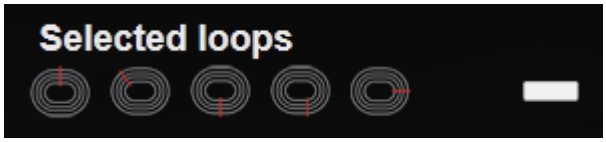


Figure 21 - Selected loops indicator

Track Creation Rules

- A track must consist of at least two loops (start and finish).
- A single training may not consist of two overlapping tracks.
- If overlapping of two tracks is necessary, choose different start loops.

Example:

Wrong:	Pursuit A - Pursuit B - Pursuit A	and	Pursuit A - Pursuit A
Right:	Pursuit A - Pursuit B - Pursuit A	and	Pursuit B - Pursuit A - Pursuit B

Close the creation dialog by clicking [Save]. This will return you to the "Tracks setup" page.

5.3.2 Edit or Delete a Track

You can edit or delete a track entry in the list using the corresponding symbol buttons.

5.4 Logout

Click [Logout] on the main page to close your connection to CT Trainer.

6 CT TRAINER – COMPETITION MANAGER

Logging in with a "competition manager" account type allows you to create and run competitions.

As the competition functions are similar to the trainer functions described in chapter "CT Trainer – Trainer Login", you can follow the information given in the said chapter.

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7.2 Version History

Version	Date	Modifications since last version
1.0	06.06.2013	Initial version
1.1	22.11.2013	Requirements added, minor changes

NOTES

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