Manual



SwimWatch



Version 3

www.swimwatch.nl

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All pictures and descriptions subject to change.

Some pictures show text in Dutch language, these will be replaced in future manuals.

1 Introduction

This chapter contains information on the manual and the software. It includes directions for installing the software and for removing the software.

1.1 About the manuals

This chapter contains information on the manual.

1.1.1 Conventions in the manuals

If the text is **bold**, it refers to a button or component of the program.

If the text is in *italics*, the item also be found in the index. The index can be found in the back of the Race Analyzer Manual.

Descriptions that are only applicable to a specific version, such as Lite, Standard and Pro, are labeled in the margin. The SwimWatcher Viewer is only available in one version, so if these labels are shown in this manual, they refer to other programs, such as the SwimWatch Race Analyzer. See below for examples.

This function is only available in the Lite version.

This function is only available in the Standard version.

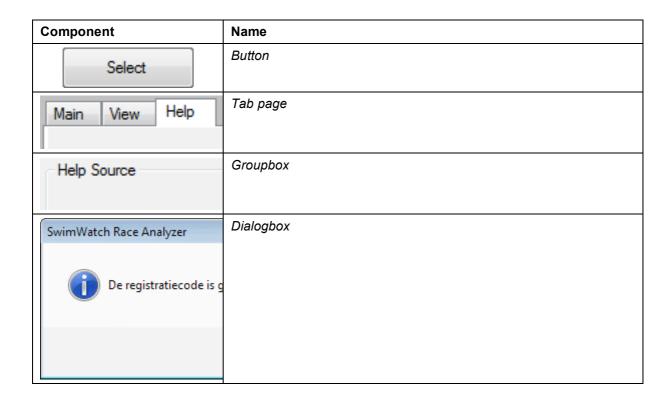
PRO This function is only available in the Pro version.

STDPRO This function is only available in the Standard and the Pro version.

1.1.2 Names of components

To fully understand the descriptions in the manuals, it is important to know the terms for the different controls.

Component	Name
Coach	Label
C:\SwimWatch\	Textbox
Import ▼	Combobox
▼ Repeat	Checkbox
Base	Radio button
—	Trackbar
	Scrollbar



1.1.3 Suggestions and remarks

All suggestions and remarks that can lead to improvements in the software or the manual are more than welcome. Send your e-mail to:

swimwatch@sportswatch.nl

Thank you!

1.2 About the software

SwimWatch Viewer is developed by NatriSoft and is part of the SwimWatch product line.

1.2.1 About SwimWatch software

Every coach wants to help athletes reach their full potential. In order to do that, the coach obviously needs knowledge and skills, but also data. SwimWatch offers software with which swimmers can be analysed during training and competition. These analyses offer the coach more insight into strengths and weaknesses, and with that knowledge, the coaches can make the trainings more effective.

The SwimWatch products are developed specifically for use during competitive swimming. Besides the SwimWatch product line, there is also a SportsWatch product line, consisting of programs that can be used in all types of sports.

1.2.2 About the SwimWatch Viewer

For making the analyses, SwimWatch offers multiple products, such as the SwimWatch Race Analyzer. The SwimWatch Viewer is developed for viewing the results. This product can be used to view the video and analyses. The SwimWatch Viewer can be downloaded for free via www.swimwatch.nl.

1.3 Installation

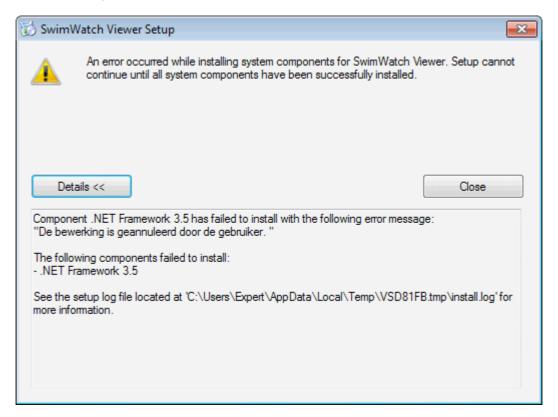
This paragraph contains directions for installing the software. Installing the entire package can be done in (a maximum of) three steps:

- 1. Installing .NET FrameWork = dotnetfx.exe
- 2. Installing SwimWatch Viewer = setup.exe
- 3. Installing video and analysis = analysis.zip / demo.zip

The software is designed for use with Windows XP, Windows Vista, and Windows 7. The software is not designed for Apple computers, but clients have reported it can work on Mac computers with an Intel processor, Windows installed on a disk partition (formatted NTFS) using the bootcamp method. The Parallel desktop method (the other way to get Windows on a Mac) does not support the firewire connection. Bootcamp can be downloaded from www.apple.com.

1.3.1 Installing .NET Framework

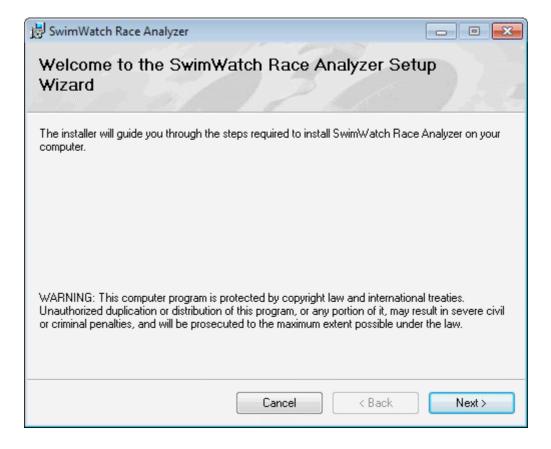
The main program is written in the programming language VB.NET (Visual Basic dot net). To be able to use the program, the installation of "Microsoft .Net Framework 3.5" is required. This component is also used by other software and therefore this component is already installed on many computers. If this is not the case, the setup program of the SwimWatch Viewer (see next paragraph) will prompt you to download this component.



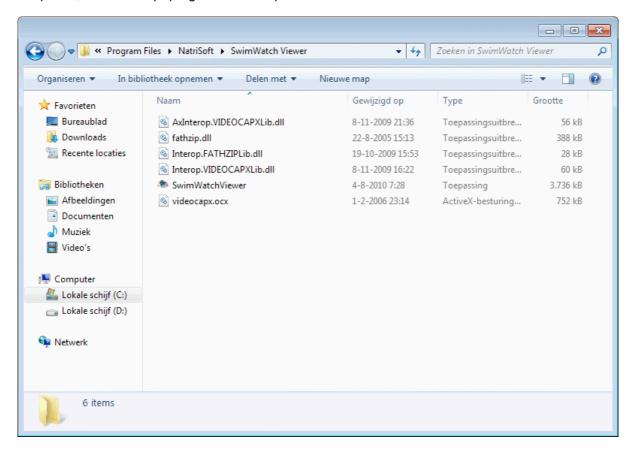
To install this component you need the file "dotnetfx35.exe". This file can be downloaded from the internet, from www.swimwatch.nl and lots of other websites. When installing from a CD this file can also be found on the CD. This component needs only to be installed once. Execute the file "dotnetfx35.exe" and follow the instructions on your screen.

1.3.2 Installing SwimWatch Viewer

The main program can be installed by executing "setup.exe", which can be found on the CD or can be downloaded from www.swimwatch.nl. Follow the instructions on your screen and the software will be installed.



New versions of the program can be downloaded from www.swimwatch.nl. When updating, you need only to copy the file "SwimWatchViewer.exe". Place this file in the program directory and the update is completed, a new "setup" program is not required.



1.3.3 Installation video and analysis

The last step necessary for a proper installation, is installing video and analyses, in order to view those with the SwimWatch Viewer software. There are three possible situations:

- 1. Video and analyses have been installed already, because of previous use of the SwimWatch Software
- 2. Video and analyses are available, but not yet installed
- 3. Neither video nor analyses are available, demo files can be installed

If video and analyses have already been installed because of previous use of the SwimWatch software, these can be found by the SwimWatch Viewer software, if they are installed in the base path 'C:\SwimWatch\'. If the files are located in another path, please change the base path in the options, or relocate the files to 'C:\SwimWatch\'.

Analyses of the SwimWatch Race Analyzer software are automatically stored in the subfolder 'C:\SwimWatch\Race\', video will be stored automatically in the subfolder 'C:\SwimWatch\Video'. Analyses and videos are stored seperately, because the videofile may show more than one athlete.

For other programs than the SwimWatch Race Analyzer, video files will be stored in the same subfolder as the analyses: files of the SwimWatch Start Analyzer software in the subfolder 'C:\SwimWatch\Start\', files of the SportsWatch Video software in the subfolder 'C:\SportsWatch\Video\', etc.

If video and analyses are available, but not yet installed, these should be relocated to 'C:\SwimWatch\'. This can be done manually, but it is also possible to use the **Import** mode. This mode will be explained in the corresponding chapter.

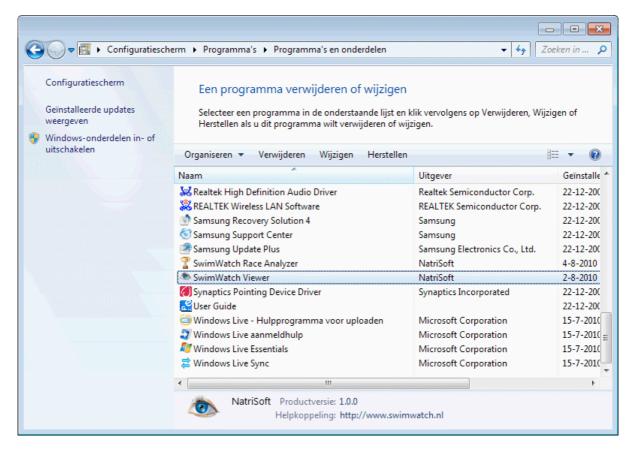
If no video or analyses are available, a number of demo races can be installed. On the website www.swimwatch.nl one or more files named "demo.zip" (or similar names) can be downloaded. Each zip file contains at least an analyses and a video file. Download one or more zip files and save them somewhere on your computer.



Activate the selection box **Start as DEMO** and a message will appear asking whether zip files containing Demo races have been downloaded. After confirmation is given, a dialog box will appear in which the demo file can be selected. Installing the files can take a minute.

1.4 Removing the software

The software can be removed through the Control panel. Unfortunately, the name of the section in the Control panel where software can be removed is different for each Windows version. After a list of installed programs is loaded in the list, select the program and click the button Remove.



After removing the software, check the program folder and delete files that were left behind. After that, you might want to delete the analyses and video files, these files can be found in the folder 'C:\SwimWatch\'. After that the computer is completely free of SwimWatch software.

1.5 Setting the language of the software

The program contains multiple languages and more languages may be added in new versions. The language can be changed in the startup screen. Start the software by double-clicking on the program icon on your desktop. In the top of the start screen you will find a combo box, with which you can change the language. The change is effective immediately. The language can also be set in **Options** mode, see the corresponding chapter.



1.6 Registering the software

Making software is a time consuming process. That's why software builders want users to pay for the software by registering the software. Users on the other hand, like to test software before they buy it. SwimWatch offers users that haven't registered yet the opportunity to test the software before the software needs to be registered and paid for.

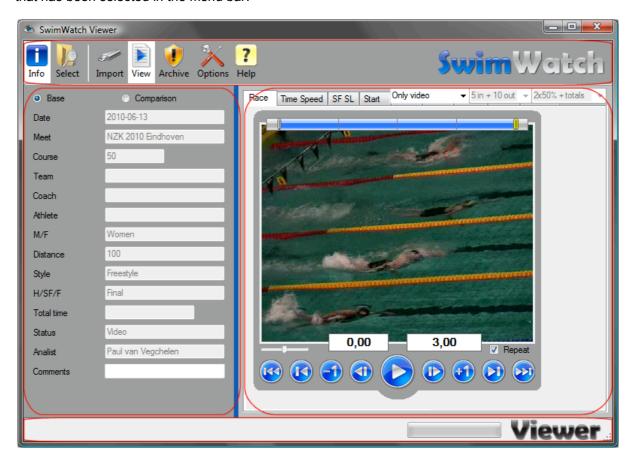
According to the philosophy of NatriSoft, programs that can be used for making analyses need to be bought. However, software used for viewing analyses must be free. Therefore, the SwimWatch Viewer software can be downloaded for free and does not need to be registered.

2 User interface

NatriSoft software has a very userfriendly interface and is developed for use with touch screens. In this chapter, the components of the screen will be explained, as well as the selection of the modes or one or multiple items.

2.1 Parts of the screen

The screens of practically all SwimWatch programs consist of four panels. The menu bar can be found at the top of the screen, the status bar at the bottom. In the middle, there are two panels with information. The left panel shows either **Info** or **Select**. The right panel shows the parts of the mode that has been selected in the menu bar.



2.2 Selecting modes

The menu bar can be found at the top and shows the buttons for the multiple modes. A mode can be selected by clicking on the corresponding button. The button of an active mode has a white background. If the background colour is a dark shade of grey, the mode is active in the background. That means that the activity in that mode has not been closed yet.

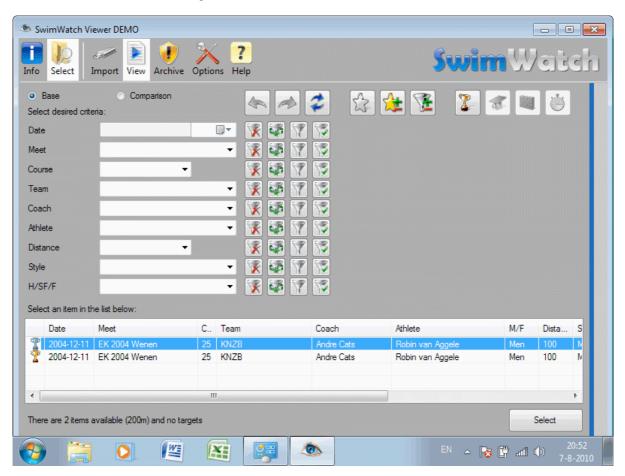


2.3 Selecting items

With the different programs of SwimWatch, an enormous amount of information can be collected. All this information will be shown in a list if the button for the mode **Select** has been selected. If the user wishes to do something with the data (for example show or distribute), first one or more items should be selected. The first item that will be selected is a *base*, a possible second item is a *comparison*.

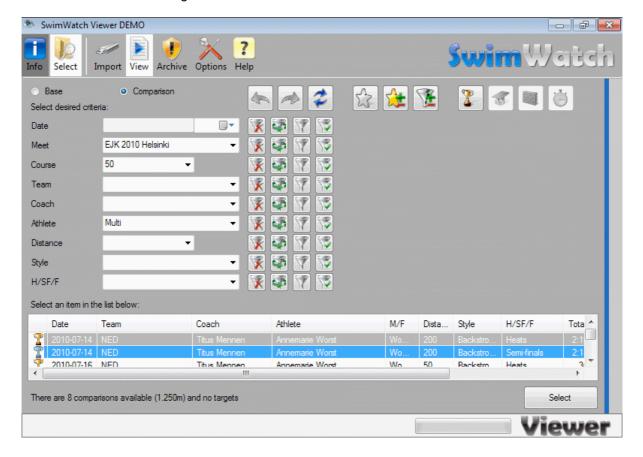
2.3.1 Selecting a base item

Select, if necessary, the **Base** radio button and select an item from the list. Then click the button below the list to open that item in the software. The text on the button below the list and the action after opening depend on the mode. For example in the **Show** mode, the video and analyses of the item will be shown after selecting it.



2.3.2 Selecting a comparison

After selecting a race, a comparison can be selected. If necessary, return to the list by activating **Select**. Notice that the item that had already been selected as base, now has a grey background colour. Now activate the **Comparison** radio button, select the item from the list, and click on the button below the list once again.



It is also possible to select multiple items at once. First select the item that serves as base. Then use the Ctrl key to select an item that will serve as a comparison. After clicking on the button below the list, both items will be selected in one go.



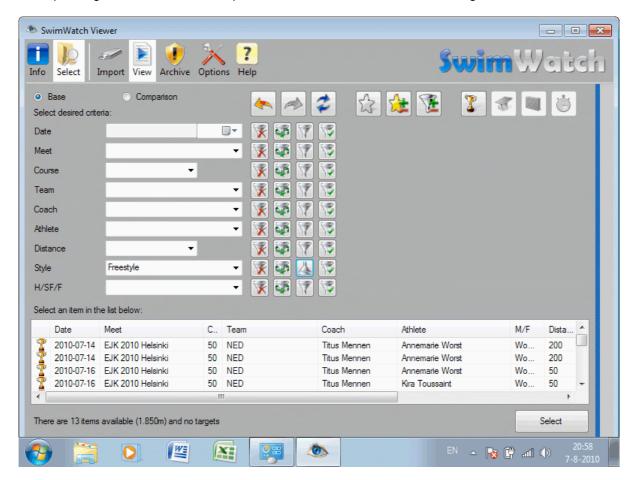
2.3.3 Using filters

The number of items is shown in the status bar. This number can run up to hundreds/thousands of items (there is no maximum). To be able to select items easily, a set of filters is available. When filters are set, the list will only show items that meet those criteria.



Every filter consists of a label, a combo box, and a number of buttons. The label shows the property related to the filter. In the combo box, text can be selected or typed, after which only the items with the same property as the text in the combo box will be displayed.

Next to each combo box, a button with an X is displayed. Each of these buttons clears the corresponding combo box. The next picture shows the use of filters with a large archive.



The second button is **Last**, with this button, the previous text can be placed again.

STDPRO

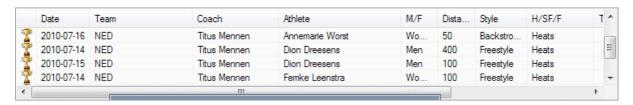
The third button is **Inverse**, with this button it is possible to select all items that do not match the criterion. So after a specific athlete has been selected, and this button is clicked, all items will be shown, except those of this athlete.

PRO

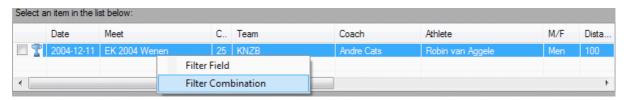
The fourth button is **Multi**, with this button, a combination of names can be selected. Click on this button to open a small window with all items from the combo box.



Each of these items can be turned on and off with a checkbox. With this function, for example certain items from three athletes can be shown.



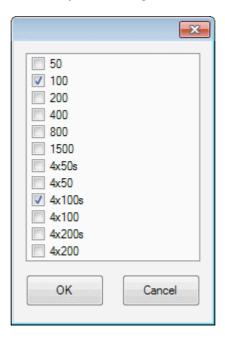
It is also possible to set the filters using the context menu of the list. Just click on an item in the list with the right mouse button and choose one of the two filter items in the context menu. The first item in the context menu activates a single filter, the second item activates a combination of filters.



2.3.4 Relays

Items made with the SwimWatch Race Analyzer are analyses of competitions. During the competitions, relay races can be analysed as well. The software distinguishes relay races swum by a start swimmer (e.g. "4x100s") and relay races swum by other swimmers ("4x100"). The reason for this is that these two types of relay races have different block times and therefore different 15 meter splits.

Even though only one item can be selected in the combo box Distance, it is possible to use the **Multi** button to show individual distances and relay races alongside each other.



2.4 Refreshing the list



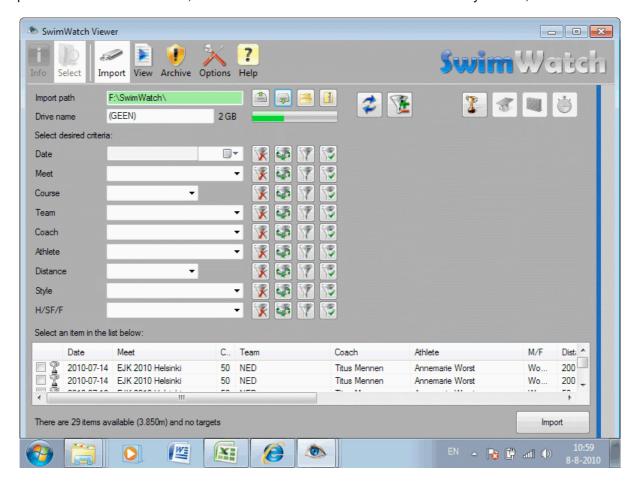
The list with items can be refreshed by clicking on the button with the two blue arrows, or using function key **F5**.

2.5 Selecting paths

Paths can be selected in different modes. Often, a textbox with three buttons is shown. The third button can be used to choose a path, by using a dialog box.

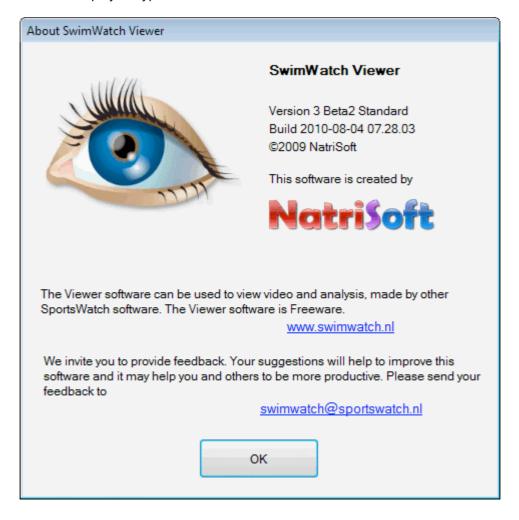


By using one of the two other buttons, a same path on another disc can be selected quickly. If the path 'C:\SwimWatch\' is selected, and the second button is pressed, the search for the next disc with the path '\SwimWatch\' is started, from A to Z. The first button works the other way around, from Z to A.



2.6 The About box

If the logo in the right upper corner (in the menu bar) is selected, a dialog box opens with more information on the software. It is possible to visit the SwimWatch website or send an e-mail to SwimWatch via the displayed hyperlinks.

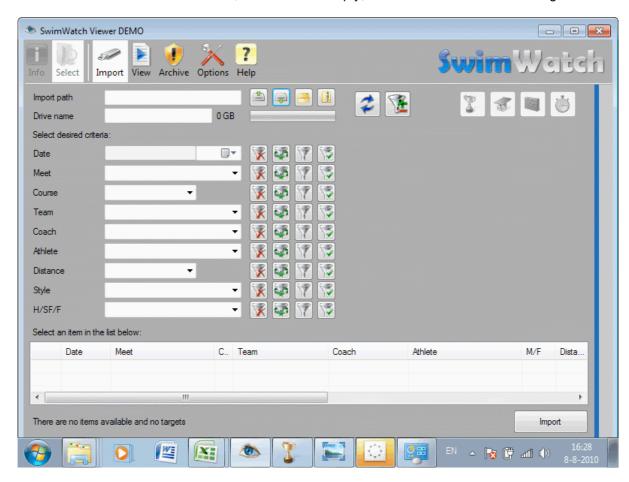


3 Import mode

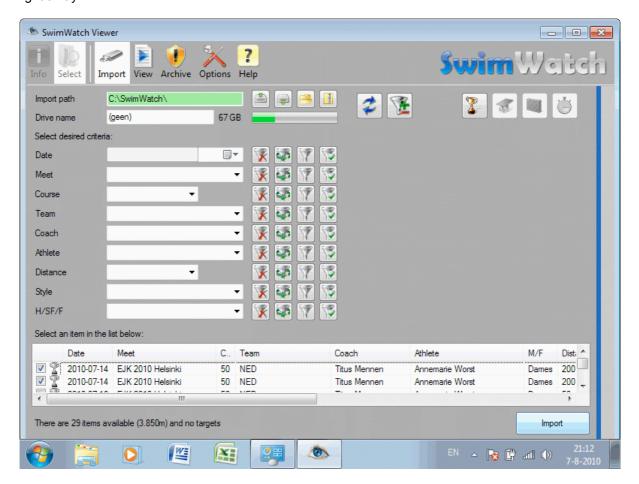
Import mode allows for easy copying of analyses and video from USB sticks or external drives. It is also possible to copy files using Windows Explorer, but by using filters and checkboxes, a very specific selection of races can be copied.

3.1 Showing items from an external drive

If the **Import** mode is selected, and an external drive is connected, a list of items is shown on the left. If no external hard drive is connected, the list will be empty, as can be seen in the next image.



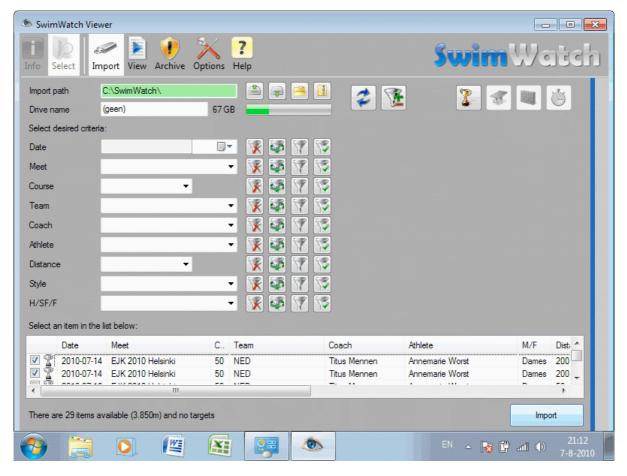
If an external drive is connected, the correct path needs to be set. This can be done by clicking the mouse on the third button behind the textbox showing the path. In the dialog box that appears, the right drive can be selected. By selecting for example drive 'F:', the 'F:\SwimWatch\'path will be selected automatically. Notice that the text field turns green, and that the items on the disc are read right away.



Below the text field with the path, the name of the drive is visible as well, including the free space on the drive.

3.2 Copying files

When the lists show the races of the external drive, the next objective is to determine which files need to be copied. First, filters can be used to limit the number of items in the list. After that, it is possible to select specific items by activating the corresponding checkboxes. To start copying files, click on **Import**. If no checkboxes are activated, all items from the list will be copied.



If the external drive contains both not-compressed video (AVI) and compressed video (WMV), the **Import** function will import the best quality video (AVI).

3.3 Opening ZIP files

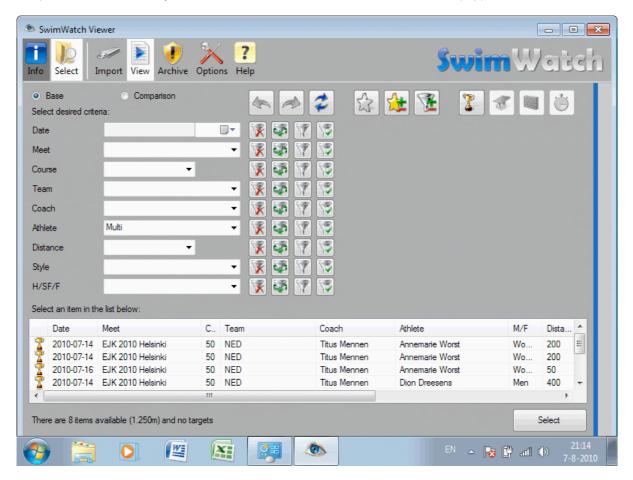
Analyses made by analists can be sent to coaches via e-mail in ZIP files. Coaches can unpack these zip files by using the fourth button behind the textbox showing the path. After clicking, a dialog box appears in which the ZIP file can be selected. After that, the list will be filled with items from the ZIP file. Next, the copying procedure can be continued as described before.



No ZIP files can be made in the SwimWatch Viewer. Analysts can make ZIP files in other programs, such as the SwimWatch race Analyzer (in **Distribute** mode).

4 View mode

In **View** mode, coaches and swimmers can play videos of races and view analyses. New races can be compared to other races from the archive, to reveal strengths and weaknesses. Analyses can be compared with other analyses of the same swimmer, or with races of other (top)swimmers.



4.1 Selecting items

Before video and analyses can be shown, one or more items should be selected in the **Select** mode. Further information on selecting the items can be found in chapter 2 of this manual.

4.2 Showing properties

After selecting one or more items, the data is shown at the right side of the screen. Left, the characteristics can be shown or hidden by clicking on the **Info** button in the upper left of the menu bar. Depending on which radio button is activated in the top (**Base** or **Comparison**), characteristics shown are of the base or the comparison.



4.3 Video player

After selecting one or more items, the video is shown in the middle of the screen. If the item has been filmed with two or more cameras, the video of the camera closest to the start will be shown. If no video is available from the selected item, the video frame will remain black.



The tab page **Info** shows two radio buttons: **Race** and **Comparison**. Depending on which of the two radio buttons is selected, the video or the comparison of the race is shown. If the user switches from Race to Comparison (or vice versa) from a specific time in the race, the corresponding frame in other video will be shown. This makes it easy to compare a specific turn in two races.

4.3.1 Parts of the video panel

A bit further down below the panel, a time bar is shown. This shows the position in the entire race. Clicking in the time bar with the left mouse button will move the yellow marker to that position, and that part of the race will be shown. The two grey markers show the first and last shown image. These are normally set to the start and finish. The part of the video just before the start or after the finish can be played by clicking in a square left or right of the bottom time bar.

If the analysis made with the SwimWatch Race Analyzer is shown, two textboxes will appear below the video panel. The first box shows the lap time (time within the finished lap), the second box shows the splittime (total time within the race). In other analyses, only the text field with the splittime is shown.

4.3.2 Playing video

A series of buttons and keys can be used to play the video, see below.

Button image	Corresponding key	Description
	Home	To start
	PageUp	1 lap back
1	← / Ctrl + ← *)	1 second back
	Ctrl + ← / ← *)	1 frame back
	Space	Play / pause
	$Ctrl + \to / \to \ ^*)$	1 frame forward
•	→ / Ctrl + → *)	1 second forward
	PageDown	1 lap forward
	End	To Finish

^{*)} Use the **Options** mode to select if Arrow keys + Ctrl should move 1 frame or 1 second.

The speed of the video player can be set with the horizontal slider. The middle position is the standard speed, left is $\frac{1}{4}x$ and $\frac{1}{2}x$ normal speed and right is $\frac{2}{4}x$ and $\frac{1}{2}x$ normal speed.

When the table labels show sections and the user clicks on one of the labels, the video will jump to the corresponding frame. This only works when the label shows a section (e.g. '50m')!

4.3.3 Setting a loop for playing

Below the video panel, on the right, there is a selection box **Repeat**. If this selection box is activated, the video player will play the clip repeatedly. The starting and ending points can be set. The easiest way to do this, is to move the two grey markers in the time bar. These markers are normally set to the start and the finish.



It is also possible to set a loop using section labels, if they show measuring points. Click on one measuring point with the left mouse button and then click on another measuring point (below the first) with the right mouse button.

4.3.4 Drawing and moving lines on top of the video

Drawing the line over the video frame is very easy: click on a certain pixel with the left mouse button, hold it, move the mouse to another pixel, and release the mouse button. After drawing the line, it can be moved by dragging one of the blocks at the end of the line. The line disappears if another frame is chosen.



In the SwimWatch Viewer, it is not yet possible to draw multiple lines. It is possible to save video frames with lines, see following paragraph.

4.3.5 Saving a frame of the video as a JPG file

The program offers a way to save individual frames as JPG pictures. Simply pause the video, click with the right mouse button on the video panel to open the context menu and select the option **Save JPG**. A dialog box will appear, select a path and enter a filename for the file and confirm the dialog box.

When a line is drawn on the video, this line is saved in the JPG file.

4.4 Tables

Below the menu bar, tab pages are visible, and each of these tab pages shows an aspect of the analysis. Select different tab pages and check the tables. If the tables are too long to show at once, use the scrollbar at the right side to show the totals of the tables.



The tables are showing multiple columns with data. The first column shows data of the base, the second column shows data of the comparison. If a comparison is selected, the second column shows the data of the comparison, and the third column shows the differences between the base and the comparison.



Above the tables, a number of combo boxes, depending on the type of analysis, are available. By using the first combo box, it is possible to select a certain view. The default view is **Video and tables**. By clicking on one of the radio buttons, the view can be changed to one of the other views, for example **Only video** (can result in a bigger video panel) or the view **Graphs and tables**.

4.4.1 Race Analyzer data

In the final manual, an explanation will be given on the calculation of the different tables shown alongside the analyses made with the SwimWatch Race Analyzer.

4.5 Graphs

In the current version of the SwimWatch Viewer, no graphs can be shown. The final version will offer this possibility.

4.6 Adding comments

Analists and coaches can add comments to analyses. For this purpose, a text area is added below the properties on the tab page **Info**. Comments can be added on several tab pages, for example on the tab page **View**. Use the key combination **Ctrl+S** to store the analysis with the new comments.



5 Archive mode

In the **Archive** mode, it is possible to manage the archive. It is possible to delete items or to make a back-up on an external drive. The current beta version does not offer this possibility. Of course, items can be deleted or copied manually, using the Windows Explorer.



Analyses of the SwimWatch Race Analyzer software are automatically stored in the subfolder 'C:\SwimWatch\Race\', video of this program will be stored automatically in the subfolder 'C:\SwimWatch\Video'. Analyses and videos are stored seperately, because the videofile may show more than one athlete.

For other programs than the SwimWatch Race Analyzer, video files will be stored in the same subfolder as the analyses: files of the SwimWatch Start Analyzer software in the subfolder 'C:\SwimWatch\Start\', files of the SportsWatch Video software in the subfolder 'C:\SportsWatch\Video\', etc.

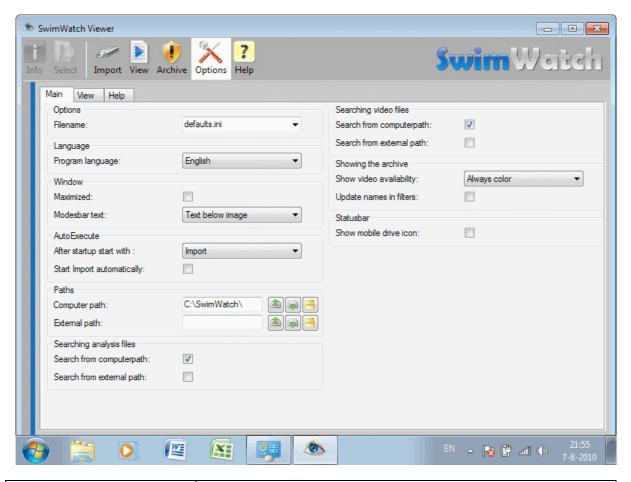
6 Options mode

In the **Options** mode, it is possible to adjust all types of settings that are applicable to multiple modes. The options are divided into multiple tabs. In the following paragraphs, the options per tab are shown.

6.1 Options section Main

Like other SwimWatch programs, this program contains many options. The program may be used by multiple users, whom may require different settings for different situations. Therefore, the program offers the possibility to store multiple settings.

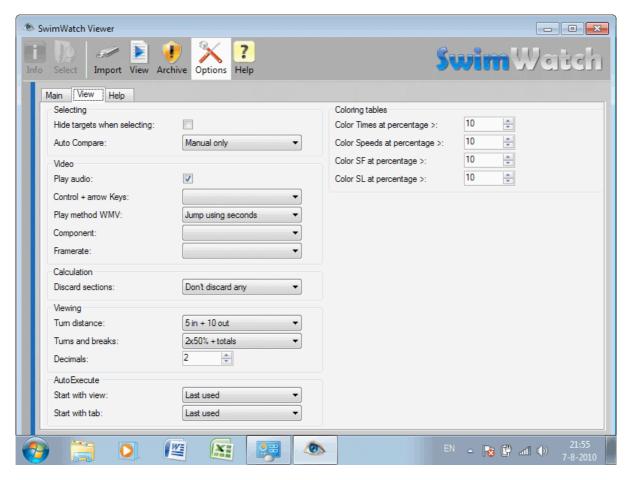
The first option in the **Main** mode shows the name of the file in which the current settings are stored. The default name of this file is 'options.ini'. It is possible to enter another name, for example 'marcel.ini' or 'amsterdam.ini'. Then, the settings will be stored in a new file. If multiple files are created, the combo box can load another set.



Option name	Description
Filename	The filename of the file that holds the current options, see above
Program language	Select the desired language for the program
Maximized	Whether the window should start in maximum size
Modesbar text	If and where the modesbar should show text (Image only, Text after image, Text below image)
After startup start with	Select a mode to which the program will switch immediately after start-up
Start Import automatically	Check to start Import automatically

Option name	Description
Computer path	The base path for the internal drive
External path	The base path for the external drive
Search computer path	Check to search in the computer path
Search from external path	Check to search in the external path
Show video availability	Select in which case the item list should show a coloured pictogram (Always gray, Gray for archive items, Check video availability, Always color)
Update names in filters	Check in order to decrease the number of names in the filter, if one of the other filters is adjusted
Show mobile drive icon	Check to show mobile drive icon that indicates whether the drive is busy

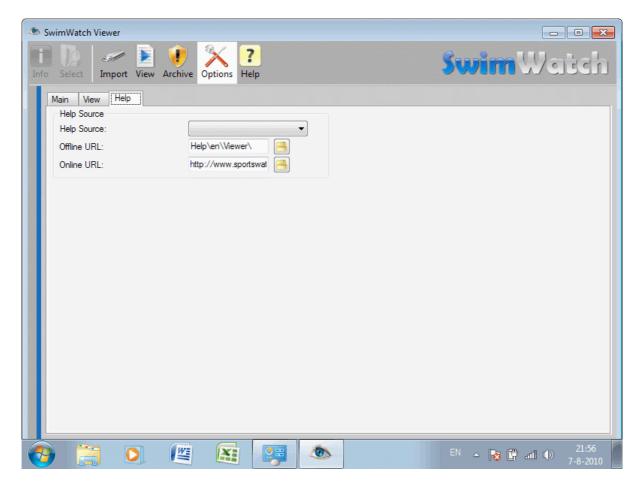
6.2 Options on tab View



Option name	Description
Hide targets when selecting	Check to hide targets when selecting
Auto Compare	Choose method for selecting a comparison (Manual only, Best, Previous, Personal Best, Personal Previous)
Play audio	Check to play audio
Control + arrow Keys	Choose action for Control + arrow Keys (Ctrl for jumping frames, Ctrl for jumping seconds)
Play method WMV	Choose method for playing WMV files (Jump using frames, Jump using seconds)
Framerate	Choose the framerate (Auto = let the video component determine the framerate, Fixed 25 fps, Fixed 30 fps, Fixed 50 fps, Fixed 60 fps, Fixed 100 fps)
Discard sections	Set which sections need to be discarded when calculating totals (Don't discard any, First section, First and last section, First lap, First and last lap)
Turn distance	Choose the turn distance for analyses made with the Race Analyzer (5 in + 5 out, 5 in + 10 out, 5 in + 15 out)
Turns and breaks	Choose the turns and breaks for analyses made with the Race Analyzer (Just totals, 2x50% + totals, 4x25% + totals, All and totals)
Decimals	Set the number of decimals shown in the tables
Start with view	Choose the view to be shown first if an item is selected

Option name	Description
Start with tab	Choose the tab page to be shown first if an item is selected
Color Times at percentage >	Color the background of the cell if the difference in percentage compared to the previous time is >
Color Speeds at percentage >	Color the background of the cell if the difference in percentage compared to the previous speed is >
Color SF at percentage >	Color the background of the cell if the difference in percentage compared to the previous SF is >
Color SL at percentage >	Color the background of the cell if the difference in percentage compared to the previous SL is >

6.3 Options tab page Help



Option name	Description
Help Source	Choose the source for the Help function (Offline, Online)
Offline URL	Set the offline URL
Online URL	Set the online URL

7 Help mode

In the **Help** mode, it is possible to view this manual. In the current version, this function is not yet available. In the final version, a selection between offline help and online help can be made.