ORBITS5
Manual

Disclaimer

This publication is to be used for Orbits5. This publication has been written with great care. However, the manufacturer cannot be held responsible, either for any errors occurring in the publication or for their consequences. Information in this document is subject to change without notice.

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Welcome

Thank you for choosing Orbits5 as your timing and scoring solution! This manual is intended to familiarize you with the Orbits software and to help you handle different race situations.

About this document

This document explains the basics in using Orbits5 to perform timing and scoring using single or multiple detection points. This document can be used as a reference manual in your day-to-day operations at the racetrack.

X2 only

Orbits5 can only be used in conjunction with a MYLAPS X2 Pro or Club server with firmware version 3.0 or higher.

Who are we?

MYLAPS Sports Timing specializes in the development of timing and scoring solutions for different kinds of racing sports. The software is developed for use in combination with MYLAPS timing hardware.

MYLAPS Sports Timing is staffed by the same group of engineers who have developed programs like Timegear, ChronX, PractiX and Orbits, the software supplied with MYLAPS timing and scoring systems. MYLAPS software is distributed by MYLAPS offices in the Netherlands, the USA, Japan, Australia and Malaysia.

1

Basic Concepts

This chapter describes the basic concepts of timing and scoring. These concepts are essential for everyone involved in timing and scoring.

MYLAPS SPORTS TIMING

Orbits5 versions

Orbits 5 is available in three versions: Basic, Standard and Advanced. The overview below describes which functions are available in which versions.

Version / Feature	Basic	Standard	Advanced
Max no. Timelines	1	5	15
Remote Consoles	1	4	10
Event Setup page	√	√	√
Registration page	√	√	√
Timing page	√	√	√
Distribution page	√	√	√
Track simulator	√	√	√
Orbits remote	√	√	√
Speedhive Feed	√	√	√
Onboard Feed	√	√	√
TrackSensor information	√	√	√
Processing page	X	√	√
Championship page	X	√	√
Announcer Page	X	√	√
Printing features	X	√	√
A to B tracks	X	√	√
Team points merge	X	√	√
Live Points	X	√	√
Live Merges	X	√	√
Tie Breaker merged results	X	√	√
Tie Breaker Championship	X	√	√
Starting grid 2nd best lap tm	X	√	√
Oval Features	X	√	√
Driver ID	X	√	√
Main transponder selection	X	√	√
Configurable warning levels	X	√	√
Timeline sequencer window	X	√	√
Results Monitor	X	X	√
Diagnostics console	X	X	√
Export competitors to X2 server	X	X	√
Dynamic timeline selection	X	X	√
Timing page in Orbits remote	X	X	√
Section times during all flags	X	X	√
Run information window	X	X	√
Track Manager	X	X	√
XML Export	X	X	*
Multi Loop Feed	X	X	*
Al Kamel Camera Integration	X	X	*

* Contact MYLAPS for this option

Master/Slave functionality

To prevent that more than one Orbits changes settings in the X2 server at the same time, Orbits uses a master/slave mechanism.

The first Orbits that connects to an X2 server, and has enough rights on the server, will become the Master Orbits. **This Orbits will be able to connect to Unlinked Decoders, set the sport setting and time zone** (see Time zone). Any other Orbits will become a Slave and doesn't have these rights.

When the Orbits Master disconnects from the X2 server another Orbits with enough rights on the X2 server will automatically become the master.

If Orbits is the master can be seen on the Setup page in the System messages window:

16:34:40.6   This Orbits is the master

To alert you about the changes Orbits could be making in the X2 server, a warning message will be shown when Orbits connects to an X2 pro server or a X2 server which has more than 5 loops configured.
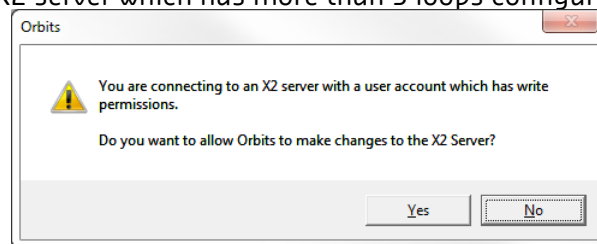
This message is shown before Orbits becomes the 'master' so if you choose to not make changes to the X2 server, Orbits will become a 'slave'. If there's no need to make changes to the X2 server and connect as a slave automatically, use an X2 user account with read-only rights. The warning message will not be shown then.

System overview

MYLAPS timing systems are designed to time and score different kinds of racing events. A transponder is mounted on, by example, a car or motorcycle. The signal sent by a transponder is picked up by a detection loop installed in the track surface. The detection loop is connected to MYLAPS decoder. The decoder timestamps the received transponder signals and sends this data to a connected computer.

The figure below shows the basic overview of a MYLAPS system, and the following is a brief description for each of the system's components.

A:Loop
B:Connection Box
C:Computer
D:Decoder
E:Loop End Box
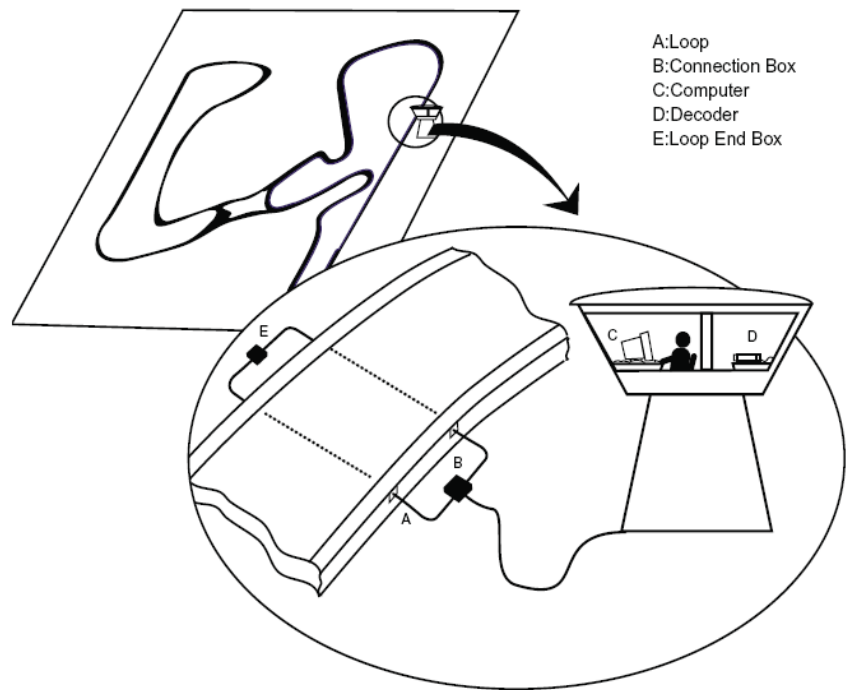
Transponder	MYLAPS transponders enable you to give each competitor a unique identification. The transponder is fixed to the vehicle with a transponder holder that is secured with bolts, screws, rivets or zip ties. When passing over the detection loop in the track, the transponder sends its signal to the loop.
Detection loop	The detection loop is embedded into the track surface and picks up each transponder passing. The unique signal of the transponder is picked up by the loop and transferred to the MYLAPS decoder. Several transponders can be picked up at exactly the same time. This ensures no transponders will be missed, even if 7 or 8 vehicles pass the loop at exactly the same time.
Decoder	The MYLAPS X2 decoder is connected to the detection loop via a coax cable and receives the transponder passing data from the detection loop. It reads the unique transponder signal and gives the transponder an exact passing time. When received, it sends the passing information to the MYLAPS X2 Server to which the computer running the Orbits5 program is connected to.
X2 Link	X2 Link wirelessly communicates with vehicles on the track over radio frequency. Data flows both ways: the X2 Transponder installed in the vehicle sends official race data to the system. The system immediately converts this data into official race data such as lap time and position and more. This data is then sent back to the vehicle through radio frequency, and the onboard display in the vehicle will display all sorts of vital race information – such as position in the race, gap between vehicles in front and behind and number of laps.
X2 RaceLink	Via the X2 RaceLink add-on, racers will be able to receive 2-way communication into their vehicles. RaceLink works with MYLAPS X2 Transponders. Live race data can be displayed on a supported onboard display.
X2 BaseLink	The X2 BaseLink sends out radio frequency signals, which are picked up by the X2 RaceLink mounted on each vehicle. The BaseLink is installed at the start/finish line, on a position with a maximum line of sight, for instance on top of a finish arch. This will ensure an optimized wireless connection with the RaceLink installed on the vehicles. The BaseLink connects to the X2 Server, which also powers the BaseLink.
Timelines	The start/finish line plays a major role in timing a race. In a multi loop environment there are more lines on the track where competitors are timed.

Throughout this manual we will refer to these physical lines by the term: **Timelines**.
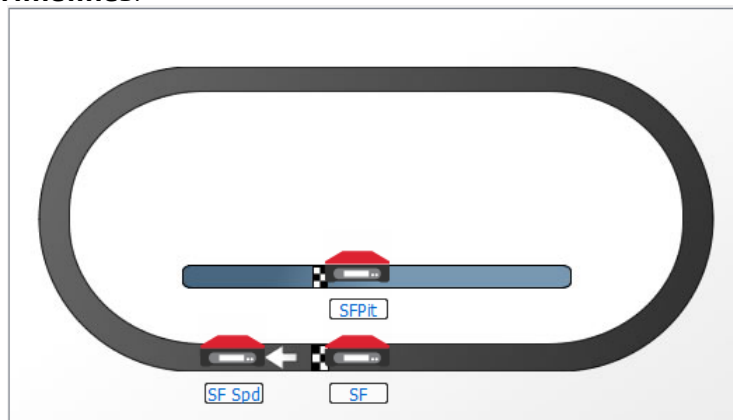
The picture above shows an example track with 3 timelines.
- Start/Finish
- Start/Finish Pits
- Start/Finish speed trap

Section

Let's define a section "Start/Finish Speed" which will be from timeline Start/Finish to timeline Start/Finish Speed in the track layout in above picture. The description of this section will be 'Start/Finish Speed' and the short description will be 'SF Spd'. The entry decoder of this section is decoder Start/Finish (Start/Finish speed trap).

Entry timeline – The timeline, a car will cross when entering this section.
Exit timeline – The timeline, a car will cross when exiting this section.

Track Sensor

A TrackSensor can be used to check the quality of the loop and the temperature of the track. A TrackSensor sends this information once every minute. When a TrackSensor is used Orbits automatically collects the information of that TrackSensor. The information is then displayed on the Setup page in the TrackSensor screen.

Passings	System messages	Track sensors					
#	ID	TOD	Strength	Temperature	UTC Time	Date	Time
302964	PCTP-05163	13:44:55.255	121	23,0 ºC	11:44:55.255	2014-10-17	Star
302965	PCCW-95864	13:44:55.964	123	25,9 ºC	11:44:55.964	2014-10-17	Star
302966	PCTP-05163	13:45:35.402	122	23,0 ºC	11:45:35.402	2014-10-17	Star
302967	PCCW-95864	13:45:37.341	123	25,8 ºC	11:45:37.341	2014-10-17	Star
302968	PCTP-05163	13:46:15.589	121	23,2 ºC	11:46:15.589	2014-10-17	Star
302969	PCCW-95864	13:46:18.717	120	25,7 ºC	11:46:18.717	2014-10-17	Star
302970	PCTP-05163	13:46:55.787	121	23,2 ºC	11:46:55.787	2014-10-17	Star
302971	PCCW-95864	13:47:00.110	122	25,6 ºC	11:47:00.110	2014-10-17	Star
302972	PCTP-05163	13:47:35.995	121	23,2 ºC	11:47:35.995	2014-10-17	Star
302973	PCCW-95864	13:47:41.494	124	25,5 ºC	11:47:41.494	2014-10-17	Star
302974	PCTP-05163	13:48:16.200	120	23,3 ºC	11:48:16.200	2014-10-17	Star
302975	PCCW-95864	13:48:22.874	122	25,3 ºC	11:48:22.874	2014-10-17	Star
302976	PCTP-05163	13:48:56.406	120	23,3 ºC	11:48:56.406	2014-10-17	Star
302977	PCCW-95864	13:49:04.241	122	25,3 ºC	11:49:04.241	2014-10-17	Star
302978	PCTP-05163	13:49:36.622	121	23,4 ºC	11:49:36.622	2014-10-17	Star
302979	PCCW-95864	13:49:45.593	123	25,2 ºC	11:49:45.593	2014-10-17	Star

If the TrackSensor is installed at a loop that is linked to an Orbits timeline, the information will also be displayed beneath the noise graph of the timeline.

SF	192.168.9.252	
Start/Finish		
Loop		Noise Level: 9
	PCCW-95864	123	25,9 ºC
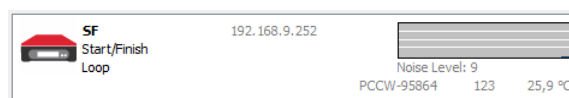
The track temperature can be displayed in the Announcer Page and Result Monitor. It can also be send with the Speedhive Feed to the Speedhive Website. Make sure the TrackSensor is linked to the Orbits Start/Finish timeline for this to work.

The unit of the temperature can be changed via the menu Tools -> Options -> Display settings.

2 Hardware Performance testing

Once the system has been installed, it should be tested to make sure that it is functioning correctly. We also recommend repeating the same procedure at the start of each race event. This chapter describes the tests to perform to ensure your timing system is functioning properly.

Testing the loop

Step 1 > Connect the detection loop(s) to a decoder and computer running Orbits. Check the background noise, which is updated every 5 seconds in the Timing tab of Orbits. The background noise level should be between 0 and 40. A higher value may indicate interference by other electrical equipment in the area or a bad loop installation (broken wiring, bad soldering connection, oxidized connections, etc.). Try switching off any suspected equipment or removing nearby objects and check for improvements. Especially at night, short-wave radios may cause a slightly increased background noise.

Step 2 > If no signal is received and the detection loop installation seems to be correct, the coax to the connection box or BNC connector may be faulty. Both can be easily checked. Take a multi meter and set it to measure resistance. Connect or hold one probe to the center pin of the coax cable and connect or hold the other probe to the shielding of the BNC connector. This measurement should read about 100 kOhm. When this value is measured it still does not give any assurance that the connection box itself is OK, however tells that the connection to the connection box is OK.

Step 3 > If a detection loop has been correctly installed, a transponder should be picked up at the same distance from the detection loop at all positions along the detection loop. To test this, stand at one end of the detection loop about 8m (25ft) away and hold a transponder approximately 60cm (2ft) off the ground. Walk slowly towards the detection loop. You will hear a beep in the headphones attached to the decoder when the transponder is detected. Mark the spot where the transponder was detected. Repeat the process for the middle and other end of the detection loop and do the same coming from the other direction. The detection distance from the loop should be approximately the same for all positions.

Step 4 > Check the signal strengths of the transponders as they are picked up by the system during a reality test. A good loop will yield consistent transponder signal strengths of at least 100 with a hit rate of at least 20. The hit rate may vary depending on the speed of the transponder passings (slower passings will yield higher hit counts) but the signal strength should be consistent (<10 points variation) for the same car.

Signal, noise and hits

The parameters signal strength; background noise and number of hits describes the overall performance of transponders and decoders.

During the crossing of transponders the signal is repeatedly received by the decoder. The number of repeated contacts is the number of hits. On each hit the transponder number and status is received by the decoder. Since the number of hits may vary a lot depending on the speed when passing the detection loop, a typical value cannot be given. However normally values of 20 and higher are seen.

The average background noise is sent by the decoder every 5 seconds. The background noise indicates the amount of interference received in the MYLAPS frequency range. Since mobile communications do not interfere with the MYLAPS system, a person standing near the detection loop, using a mobile phone will not result in an increase of background noise. Typical values are in the range of 0 to 40.

If the noise level is higher, the received transponder signal strength should be 60 above the noise level to ensure a perfect functioning of the system.

The transponder signal strength normally is quite constant between passings of the same transponder. For all MYLAPS systems the received transponder signal strength always should have a minimum of 100.

In Orbits Standard and Advanced you can adjust the strength and hit levels at which Orbits indicates that the value is low or too low. These levels can be adjusted via Tools -> Options -> Warning levels.

4 Getting started

This chapter guides you through the installation process of Orbits.

System requirements   The minimum hardware specifications to run the Orbits program are:
- 1 GHz 32-bit (x86) or 64-bit (x64) processor
- 1024 MB Memory
- Approximately 200 MB of hard disk space
- A free USB port
- Network adapter
- **Operating systems:**
  - Windows 10
  - Windows 11

Administrator   You need to have administrator rights in order to install and run the program.

Installation   The Orbits program is supplied on a USB key. To install the Orbits program:
- Put the USB key into a USB port on your PC
- Run the setup executable from the USB key
- Follow the instructions of the installation program

Shortcuts to Orbits are added under the Start menu and on your desktop.

Activate the program   When you start Orbits for the first time, you will see the Activation wizard that will help you to activate and personalize your copy of Orbits. To perform the activation, an Internet-connection is required.

You can activate Orbits in two ways:
- **Activate online >** This will perform the activation on the computer Orbits is installed on. This way of activating is recommended.
- **Activate with help of another computer >** Use this option only, when it is not possible to connect the main computer – the one you installed Orbits on - to the Internet.

Activate online
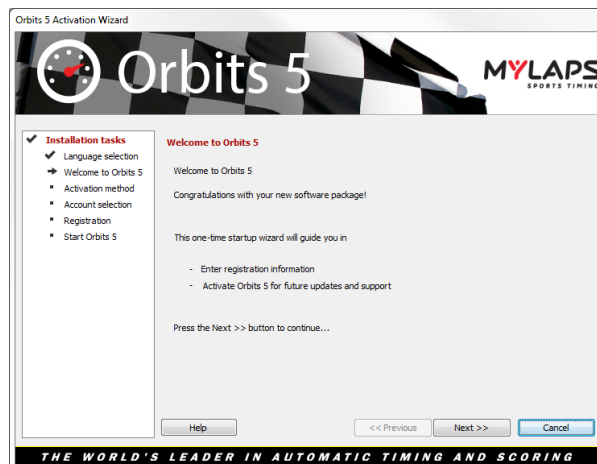
To activate online, enter your unique serial number and click 'Next'. The serial number can be found on the back of the Orbits manual.

In the page that follows, you have to enter login-information from an existing MYLAPS account. This can be one of the following accounts:
- Account for the MYLAPS support website
- Organization account with MYLAPS Results website that you have used for uploading results to the internet.

If you don't have either of these accounts, you can also create a new account here. On the next screen, you can enter your registration information for Orbits.

Important: The organization name you enter, cannot be changed afterwards, and will be visible on the bottom of your print-outs.

Once you have entered the registration information, the wizard is complete. You can start Orbits by clicking the 'Finish' button.

Activate with another computer
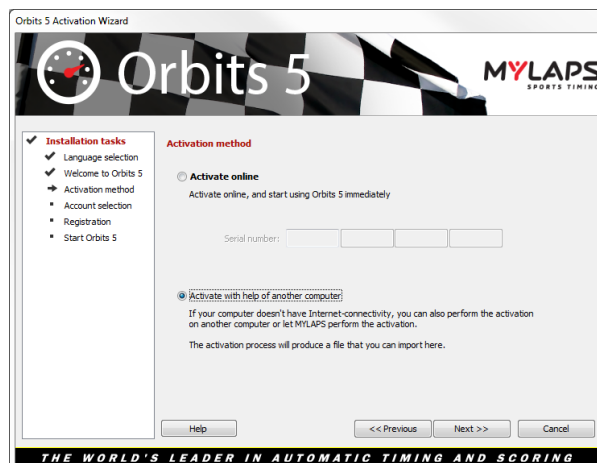
To activate with another computer, choose 'Activate with help of another computer' in the 2nd step of the wizard and click 'Next'. The wizard will provide you with a computer code that you will need

during the activation process. Write down that computer code, and visit http://activate.amb-it.com/ on a computer with Internet connectivity.

On the website enter your serial number and the generated computer code. The file that contains your license information can be saved on a USB storage device or a floppy disk. The website will provide a small license file. With that file, return to the computer with Orbits, and import the generated file into the wizard by clicking the 'Browse' button.

Import license file:		Browse
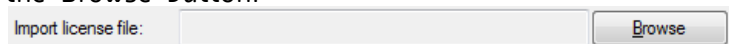
If the file is OK, the 'Next' button will be enabled. Click it to complete the activation process. Orbits is now fully registered and will be started as soon as you press the finish button

Firewalls

You may experience problems if you have a firewall in place that does not allow Orbits5 to pass through.

Open the following ports in your firewall:
- Port 443 TCP – to communicate with the X2 server
- Port 51738 TCP – to communicate with an Orbits Remote
- Port 80 TCP -- HTTP protocol (For uploading results to MYLAPS.com)

Language setup

The program supports multiple languages. The choice of language can be changed before, or after the race. The language can be changed by selecting **Help – Change Language**, followed by selecting the required language from the drop-down list. If your language is not listed, please contact MYLAPS for the availability.

Select Language

Select Language
Please select a language for this program

English

OK   Cancel
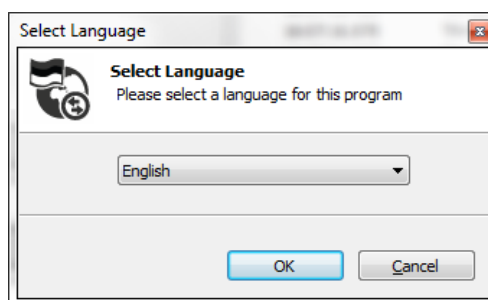
Check for updates

To check if a new version of Orbits is available select **Help – Check for updates** from the menu.
A dialog will appear indicating that there's a new version or that you are running the latest version.

Help

To open this manual from within Orbits, select **Help – Orbits Manual** from the menu or pressing 'F1' in the program.

5 Overview

This chapter deals with the configuration and setup of Orbits.

Starting Orbits

The Orbits program can be started by double-clicking the Orbits shortcut icons on the Windows desktop or via the Windows Start button. Orbits can be found under Programs –> MYLAPS Sports Timing -> Orbits 5.

The Orbits software consists of two programs, the Orbits interface and the Orbits server. The Orbits server is running in the background and is started automatically when you start the Orbits program.

Orbits Server

The Orbits Server is a separate program running in the background. It handles the communication with the MYLAPS decoder, stores the passings and calculates the results. When the Orbits server is running, the following icon will appear on the Windows taskbar at the bottom right part of your screen. This server should always be running when you use Orbits.

Note: The visible parts of the program, the Orbits user interface, are separate from the Orbits Server. This means that if the Orbits interface is accidentally shut down, the server is still running and decoder records will continue to be stored and processed. After restarting Orbits, the race can be continued without loss of data. The server is started automatically when the Orbits program is started. When the Orbits program is shut down, the Orbits server will keep running. Shutting down the server is only possible by clicking the right mouse button on the server icon and selecting **Exit Orbits Server**.

Orbits Console

The Interface consists of five sections:
- **Setup >** In this section you can schedule race events and perform the system setup, monitor the system status and connect to your decoder(s).
- **Registration >** In this section you can manage your time schedule and enter competitor data. Orbits uses a database to store all known competitors.
- **Timing >** The timing section gives access to functions that are relevant during different stages of a timed run, e.g. functions related to runs, competitors in a run and passing data.
- **Distribution >** This distribution section includes the functionality to distribute the results on a Display or Monitor.
- **Processing >** This section includes the functionality to organize run results and is used after a run has finished. The processing section hosts different functions like printing results, creating starting grids, assigning points to a run and merging results.
- **Championship >** This championship section includes the functionality to organize and manage the championship standings.

Remote console

It is possible to make a remote connection to an Orbits Server that is running on a different computer. The remote connection is created to allow you to perform remote race administration including registration/results processing.

The Orbits Remote Console offers the following features:
- Registration page
- Timing page (available in Advanced)
- Processing page
Championship page
Further options for the Remote console are:
- A Remote Simulation Console
- Announcer Page to display the results of the current run on a Remote PC
- Result Monitor to display the results of the current run on a Remote PC in a personalized way
- A Diagnostics Console
- Local App Feed

Installation
The installation for the remote Orbits computer can be found on the Orbits USB key

Remote console configuration

Setting up a connection between Orbits (Main, with timekeeping page) and Orbits Remote can be done as follows:


```
Orbits main server PC 3,        Orbits Remote PC 1,
IP 192.168.1.25          ◄───   IP 192.168.1.27

                         ▲
                         │      Orbits Remote PC 2,
                         └────  IP 192.168.1.26
```
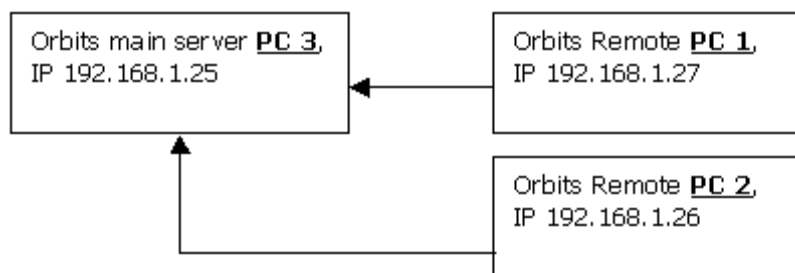
Setup of 1 Orbits main program and 2x Orbits Remote programs

To setup a connection between the Orbits main and Orbits Remote program, the Orbits main program needs to be started first.

Note: be aware that a connection between an Orbits main and Orbits Remote computer requires the same version of the Orbits program on both computers!

Network connections

If two or more computers are connected with each other via a switch, please make sure they are operating within the same network range. You start up first Orbits Main (**PC3**) and then start up Orbits Remote on the 2nd computer (e.g. **PC2**). Then double click on the name of the computer or select the computer by clicking and press connect in the 'Orbits Remote Connection'-dialog (see example).
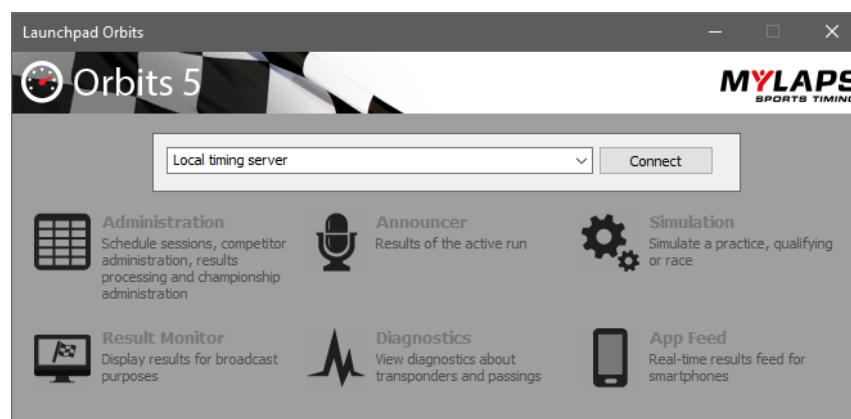
Check if there is an Orbits pc in the network to connect to with your Orbits Remote computer. If the computer name or IP address doesn't appear automatically, click on "Server not in list" and enter the IP address of the Orbits main pc (e.g. IP address of **PC3**, 192.168.1.25) in the textbox that appears.

Although it is only possible to connect to one Orbits main computer with an Orbits Remote program, you might have two computers, which are running the Orbits main program (see below example).
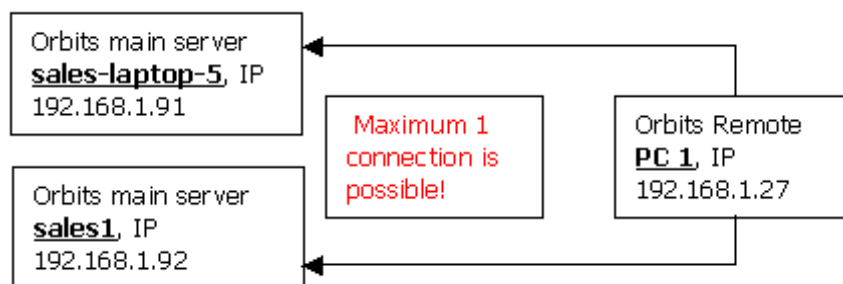
Setup of 2 Orbits main programs and 1 Orbits Remote program

If these two computers are connected within a network together with an Orbits Remote computer, the Remote computer will scan both Orbits main computers (see Orbits Remote program example). In this way you are able to choose which Orbits main program you want to connect to.

Diagnostics

The diagnostics can only be started from the Orbits Remote Launch Pad

Diagnostics
View diagnostics about
transponders and passings

In the diagnostics console you can find detailed passing information from a particular run. The diagnostics console will show passings on **all** timelines. It's also possible to analyze transponders based on their strength, strength/noise or hits.

Note: The passings and flags are shown in the sequence that they were received by Orbits. This is not always the same as the sequence on the timing page because on the timing page the passings are sorted on passing time.

Managing data

Orbits automatically saves all data. If you want to make a backup of your data, use the Restore & Backup data wizard.

The Restore & Backup menu can be found under File.
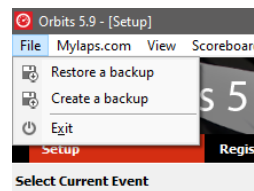
Unicode

Orbits5 is fully Unicode compatible. This means that characters from different character sets (like Japanese and Western European) can be used alongside each other.

So it is possible to use names containing Japanese characters in the same run as European names.

Backups

Due to the transition to Unicode, backups of Orbits 4 have to be converted.

When a backup of Orbits 4 is restored, the wizard will automatically ask for the system encoding that was used at the time the backup was made.
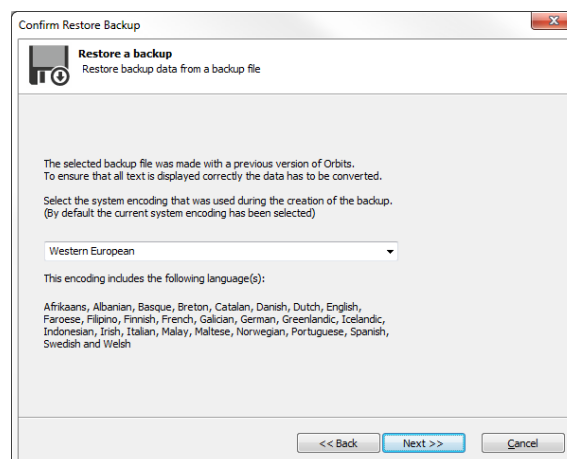
To help you choose the correct encoding, the languages that typically use the selected encoding are listed.

After restoring the backup please check the data for inconsistent names. If these are found, the selected encoding was probably wrong and you should try restoring the backup again using another encoding.

NOTE: Because the 'Orbits 4' sport type 'Karting' has been divided into 'Competition Karting' and 'Rental Karting' and 'Other' has been divided into 'Other off-road' and 'Other on-road', the sport type of Orbits 4 events using these sport types have to be converted. While restoring an Orbits 4 backup 'Karting' will be converted to 'Competition Karting' and 'Other' will be converted to 'Other off-road'.

With the 'edit event details' task om the Setup page you can change the sport type.

After the sessions

When making a back-up of your computer, it is also a good idea to make a back-up of the data after each event or day of the event. Orbits will give a warning when you close the program to back up your data.

General settings

The Orbits General Settings options apply to all new subsequent events and runs. The General Settings can be found under Tools -> Options and are divided up into different tabs:

- General
- X2 settings
- Timing
- Run Defaults
- Display Settings
- Starting Grid
- Oval Defaults
- Transponder settings
- Camera integration
- Warning levels

General

For each competitor in the competitor database, there are eight additional data fields that can be used for data specified by the user. In this tab you can name the headers of these data fields. Additional data fields 1, 3, 5 and 7 are drop-down boxes that store previously entered values, it is recommended that you use these for information that can be the same for multiple competitors *(e.g. nationality)*.

This is also the place where you can enable the automatic export of competitor information to the X2 server. Only competitors in the running run will be exported.

X2 Settings

Here you can enable to export competitors from the active run to the X2 Server and enable to send a passing trigger. A passing trigger is a CAN message for a transponder containing the passing time.

Timing

Specific timing settings like, if pit start/finish passings will count for best lap time, how DNF should be treated at the end of a run

and if section times are counted during a red flag can be found here.
In Orbits Advanced you can enable if the Timing page is available in Orbits remote here.

Run defaults
The run settings in this part will become the default values for all successive runs. The settings can of course be changed for each individual run.

Display Settings
The used temperature unit can be selected here.

Starting grid
In this part you can select the preferred layout of a starting grid.

Oval Defaults
When a yellow, yellow not counting or red flag situation occurs during a race, the program automatically generates the lineup if the oval features are enabled in the general settings. Depending on the lineup method and the lineup scheme, the program automatically generates the lineup.

Lineup Method
   Back to Last Completed Lap > The program will go back to the last completed lap. Therefore, all the passings in the current lead lap will be marked as deleted. The program will generate the lineup immediately.
   Race up to the Yellow > The program allows the leader to complete his lap. The program will make the lineup after the leader completes the current lap.

Lineup Scheme
   Current Track Order > The program will use the current track order at the yellow or red flag situation for the lineup scheme.
   Race up to the Yellow > The program will use the current race results at the yellow or red flag situation for the lineup scheme.

Sandbagging
This feature will allow you to apply the 'sandbagging rule' on the qualify time. The time specified will be deducted from the qualify time when creating a starting grid.

Transponder settings (available in Standard and Advanced)
   Automatic > Use the first detected transponder of a competitor. The second detected transponder of the competitor will be assigned as a backup passing. This was previously the default behavior.
   Manual > Only use the selected main transponder of a competitor. This can be done in the Competitor Settings. Only the passings of the main transponder are processed and stored in Orbits. When switching the main transponder to another one, the previous passings up to that point are not affected.
   Driver ID > One specific transponder number per driver. This was previously known as Endurance features.

Note: In Orbits Basic this setting defaults to Automatic mode.

Camera integration (plug-in required)

The hostname of the (Al Kamel) camera system can be configured here. If the hostname is set, an additional menu item will be shown when right clicking on a passing on the **Timing page**: "Show Al Kamel passing photo".

Warning levels (available in Standard and Advanced)

Here you can configure the levels at which Orbits will warn for low passing strength and/or hits in the passing list on the Timing page.

#	No.	Name	Laps	Lead	Lap Tm	Spd	Elapsed Tm	Passing Tm	Hits	Stren...		Transponder
72	214	Suzan Fry	7	7	46.6732	58,5	2:10:29.2213	16:49:11.9...	13	120		1003
73	12	Joce Petterson	1	7	46.3357	58,9	2:10:29.7953	16:49:12.5...	15	124		1010
74	23	John Doe	6	7	46.9918	58,1	2:10:30.1702	16:49:12.9...	55	129		1008
75	89	Richard Siz	6	7	47.6490	57,3	2:10:30.9834	16:49:13.7...	42	122		1009
76	33	Elza Bidem	6	7	49.7991	54,8	2:10:32.5987	16:49:15.3...	67	126		1005
77	44	Carlos Suarez	6	7	50.2066	54,4	2:10:32.8808	16:49:15.6...	10	128		1004
78	123	Paul First	7	7	50.5684	54,0	2:10:32.9910	16:49:15.7...	68	124		1002
79	77	Alexander Rize	6	7	50.2326	54,3	2:10:33.1912	16:49:15.9...	65	126		1006
80	111	Reeze VanHouten	7	7	51.6739	52,8	2:10:33.9717	16:49:16.7...	57	120		1001
81	777	Guy Wonza	7	7	42.2586	64,6	2:11:10.2679	16:49:53.0...	46	125		1007

6 Event Setup

This chapter describes how a race event can be prepared and how you need to configure your timing system setup.

Overview

Open the event setup page of the program by clicking on the **Setup page** at the top of the program or the View menu.
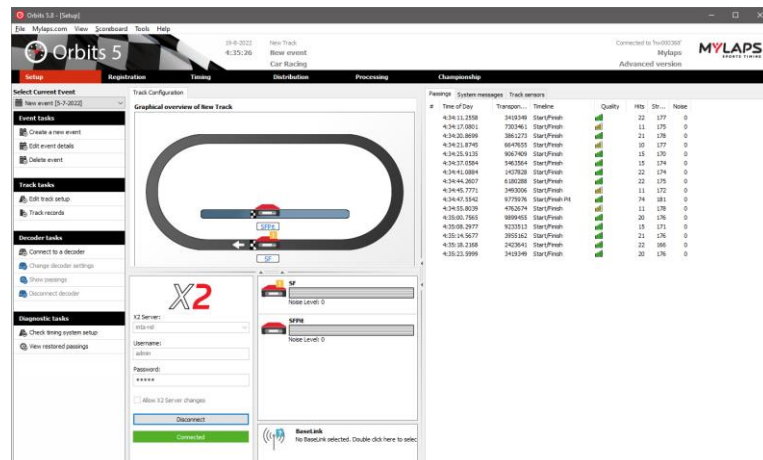
Event management

Orbits program stores the race result per event. This means that prior to each event you hold, a new event must be created in Orbits. Since an event is run at a track, you also need to specify your timing system setup. The current selected event is displayed at the top left of the screen.
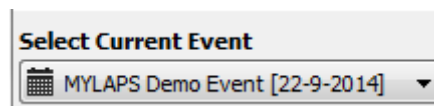
Create an event

You can create a new event from the Event Setup page. Click on **Create a new event** to start the 'New Event wizard'. Now the wizard will guide you through this process.
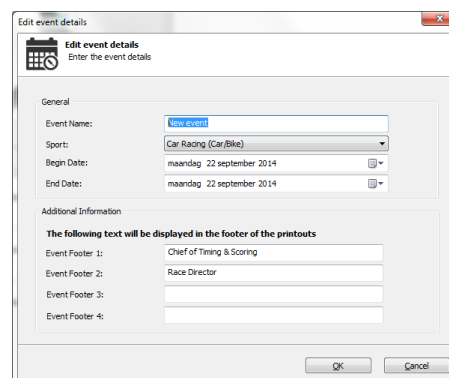
Event settings

You can specify the following info on the first page of the wizard.

- **Event Name:**
  The name of the event.
- **Sport:**
  The type of sport for this event. This information will also be displayed on MYLAPS.com when you upload the Event.
- **Begin Date and End Date:**
  The start and the end date of the event.
- **Event Footer 1, 2, 3, 4**
  The text that should be displayed on the footer of the printouts

Sport selection

The X2 server firmware includes sport segmentation into 10 sports: Car racing, Bike racing, Competition karting, Rental karting, Motocross, Stock car racing, Ice skating, Inline skating, Cycling and Running.
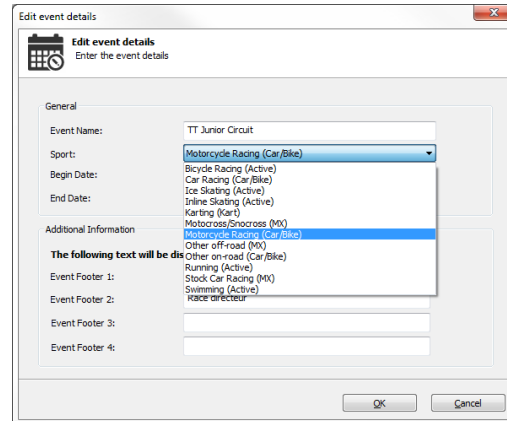
Orbits will set the X2 server to the chosen sport type every time a run becomes running. Because the sport setting in Orbits is important, the selected sport will be shown in the Orbits header.
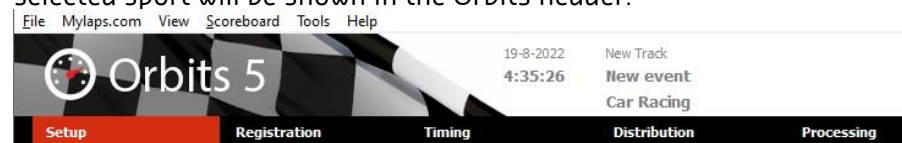
Sport segmentation also means that transponders that are incompatible with the selected sport type will **not** generate passings.

To notify you of these transponders the 'Incompatible Transponders' dialog has been added. This dialog will pop-up whenever an incompatible transponder has been detected during a running run.
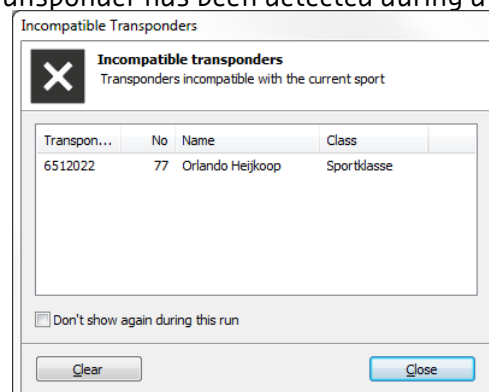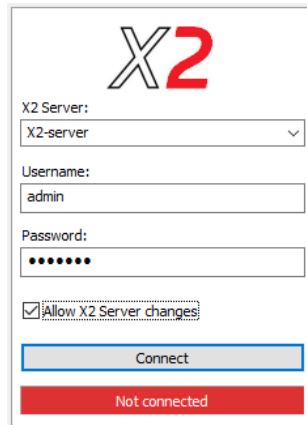
To disable the dialog from popping up again during the running run, check 'Don't show again during this run'. To be able to open the dialog manually, an extra task item has been added on the Timing page:

Show incompatible transponders
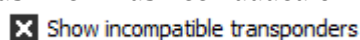
Connection Screen
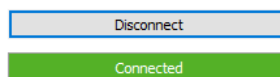
On the Setup page under the graphical overview of the track layout you will see the dialog to fill in your username and password and choose to which X2 server you want to connect. Here you can also decide if you want Orbits to push changes to the X2 Server you're connecting to. By checking 'Allow X2 Server changes' you will enable

Orbits to change the selected sport type and time zone in the X2 server, so they match the settings that Orbits uses. For reliable timing this is recommended.

If a connection has been made the connection button and the status text field will change.

Decoder Connection Wizard
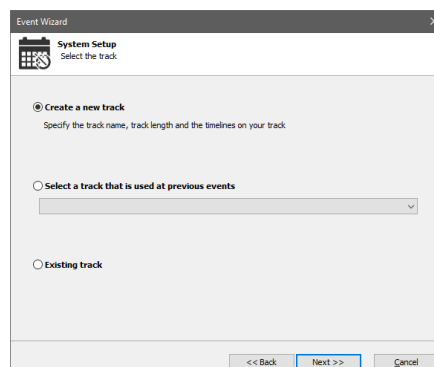
Orbits will show the X2 decoders that the X2 server is connected to.

If a timeline has been linked to a decoder then passings will be processed from that decoder. Any missed passings from that decoder will be resend and can be restored.

System Setup
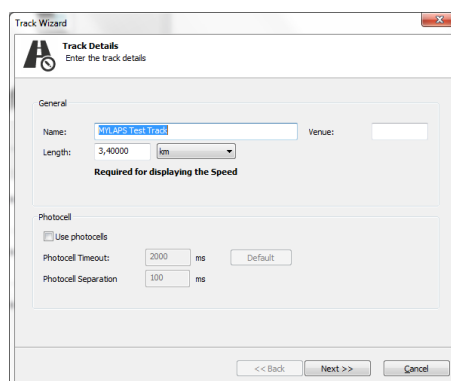
The wizard will ask which timing system setup/trackyou are using. You have the following options:
- Create a new track, by using predefined templates
- Select a track that was used at a previous event
- Select an existing track, previously created with the 'manage tracks' option (available in Advanced)

Track Wizard - Details

Name
The name of the new track.

Length
The length of the track is used to calculate the speed shown on the qualifying and race results. Depending on unit of the track length specified (km or miles), the speed (during the race and in the results) will be shown in km/h or mph.

Driving direction
Select the driving direction of your track.

Use photocells
Select this option when you want to use photocells as backup time keeping system. Connect the photocells to the start/finish decoder. More information about photocells can be found in Appendix A of this manual.

Photocell timeout
When photocells are connected to the decoder, Obits uses the photocell inputs as a back-up source for timing. If a competitor with a transponder is passing the finish line, Orbits will receive both photocell time and transponder time from the decoder, and assign them to the same passing. If a competitor without a transponder passes the finish line, Orbits only receives a photocell time and will ask you to identify the competitor number. The photocell timeout is used to set the time Obits will wait for a transponder input after receiving a photocell input. The value is default set to 2000msec. The lower this value, the sooner Obits will generate an alarm if a competitor without a transponder is detected by the photocell.

Photocell separation
The separation is used by Orbits to determine whether a photocell time can be assigned to a transponder passing time. The photocell time is based on the front of the vehicle, while the transponder time is based on the placement of the transponder, because of this there could be a difference in time between the two. The photocell separation is the maximum time between these two values. The smaller the photocell separation, the more accurate Orbits will be able to detect competitors without a transponder. If the separation is set too small, a competitor with a transponder, passing the finish line, will also generate a photocell time, for which Orbits will ask you to identify the competitor number.

**Track Wizard -
Configuration**

Next step is to select your track configuration. Depending on the number of timelines on your track you can select your configuration from the list. The following configurations are installed by default.

The track layout shows the timelines on the track. Each timeline has a unique name in this configuration. Depending on your version, Basic, Standard or Advanced Orbits has several built-in configurations available.
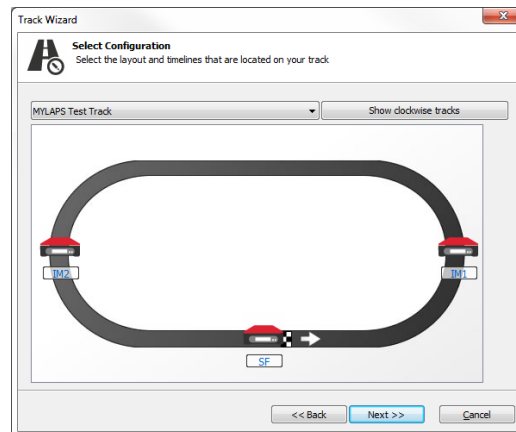
1 Timeline

Orbits offers the following configurations with 1 timeline.
Start/Finish
- Start/Finish (Lap counter)

2 Timelines

Orbits offers the following configurations with 2 timelines.

A to B
- Start on location A
- Finish on location B

Start/Finish, Intermediate 1
- Start/Finish (Lap counter)
- Intermediate 1

This configuration will create section 1 and section 2 times.

Start/Finish, Pits (No Lap counter)
- Start/Finish (Lap counter)
- Pits (Pit counter, will not count for lap)

Start/Finish, Start/Finish Pits
- Start/Finish (Lap counter)
- Start/Finish Pits (Lap counter)

Start/Finish, Start/Finish Speed (Speed trap before start/ finish)
- Start/Finish (Lap counter)
- Start/Finish Speed

This configuration will create a start/finish speed section.

Start/Finish, Start/Finish Speed (Speed trap after start/ finish)
- Start/Finish (Lap counter)
- Start/Finish Speed

This configuration will create a start/finish speed section

3 Timelines

Orbits offers the following configurations with 3 timelines.

Start/Finish, Intermediate 1, Intermediate 2
- Start/Finish (Lap counter)
- Intermediate 1
- Intermediate 2

This configuration will create section 1, section 2 and section 3 times.

Start/Finish, Start/Finish Pits, Intermediate 1
- Start/Finish (Lap counter)
- Start/Finish Pits (Lap counter)
- Intermediate 1

This configuration will create section 1 and section 2 times.

Start/Finish, Start/Finish Pits, Pit Out
- Start/Finish (Lap counter)
- Start/Finish Pits (Lap counter)
- Pit Out

This configuration will create section Pit Time

Start/Finish, Start/Finish Pits, Start/Finish Speed (Speed trap after start/finish)
- Start/Finish (Lap counter)
- Start/Finish Pits (Lap counter)
- Start/Finish Speed

This configuration will create a start/finish speed section.

Start/Finish, Start/Finish Pits, Start/Finish Speed (Speed trap before start/finish)
- Start/Finish (Lap counter)
- Start/Finish Pits (Lap counter)
- Start/Finish Speed

This configuration will create a start/finish speed section.

4 Timelines

Start/Finish, Start/Finish Pits, Intermediate 1, Intermediate 2
- Start/Finish (Lap counter)
- Start/Finish Pits (Lap counter)
- Intermediate 1
- Intermediate 2

This configuration will create section 1, section 2 and section 3 times.

5 Timelines

Start/Finish, Start/Finish Pits, Pit Out, Intermediate 1, Intermediate 2
- Start/Finish (Lap counter)
- Start/Finish Pits (Lap counter)
- Pit Out
- Intermediate 1
- Intermediate 2

This configuration will create section 1, section 2, section 3 and Pit times.

Track Wizard - Sections

Next step is to fill in the section names and length. Depending on your selected configuration the program will ask you to fill in the section names and section length.

Name
The description of a logical section.

Short Name
The short description of this logical section will be used in the result screens. It can be 6 characters long

Length
Length of the section. This number must be very accurate, as it will be used in speed calculations. This number will either be in kilometers or miles depending on the used length unit (kilometers or miles).
Note: For a speed trap it is required to fill in the track length.

Manage tracks (Advanced)

In Orbits Advanced you can manage and create custom tracks by clicking on the 'Manage tracks' task item.

The System Setup manager will be opened, where you can add, edit and delete custom tracks.
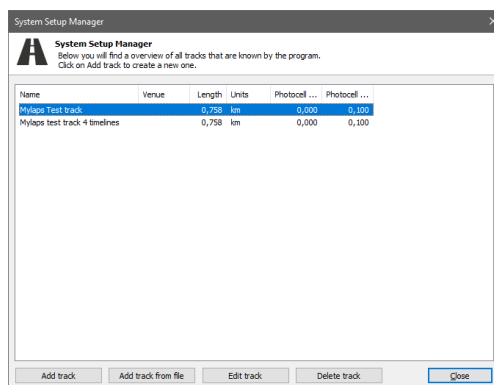
Add track
The track wizard will be started and guide you in creating the basis for your custom track.

Add track from file
Select a track layout XML file with a predefined track layout.

Edit track
Modify an already created track.

Delete track
Remove a track from the track list.

Advanced track setup

Select a track from the list and click 'Edit track'.
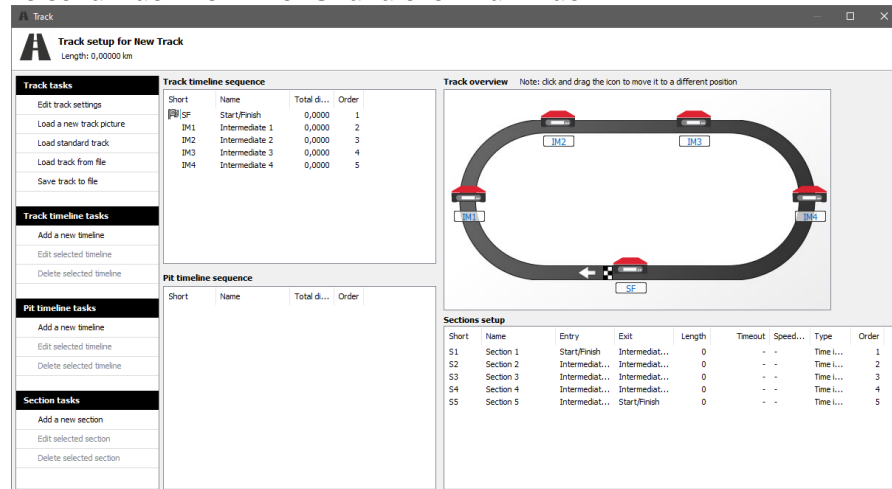
In this window you can drag and drop (pit) timelines to easily change the order of the timelines. The decoder icons in the track overview can also be dragged and dropped so the overview looks more like your actual layout.

Note:
- Tracks that are in use by an active run, cannot be modified.
- Tracks which are already used for a run and thus have results based on them, can be changed but with some limitations. When editing such a track, some fields and buttons will be disabled.

Track tasks

Edit track settings
Change the general settings for this track, like name, length and photocell usage.

Load a new track picture
Set a background picture for the current track.

Load standard track
Starts the track wizard, so you can use one of the predefined track layouts or a layout that was used in a previous event. This can then serve as a basis for your new custom track.

Load track from file
Load one of the predefined or a custom XML track layout, to serve as a starting point for your custom track.

Save track to file
Save the created track layout to an XML track layout file.

Track timeline tasks

This will allow you to add, edit or delete timelines on the track.

At *type* you can specify if the timeline is a track lap counter (S/F) or just a normal track timeline.

The *first after pit out* setting is used to correctly display missed track timelines in the timeline sequencer when a competitor drives through the pit.

Pit timeline tasks   This will allow you to add, edit or delete timelines in the pit.

At *type* you can specify if the timeline is: a pit lap counter (pit S/F), pit in, pit out or a normal pit timeline.

Section tasks   Adding, editing and deleting sections can be done here.

In the dialog you have to specify the entry and exit timeline and also the type of the section. Is the section created to display time, speed or both. You need to enter the length to be able to display the speed in

the section.

Timeout refers to the maximum amount of time a competitor can be in the section, before the competitor is considered to be retired in that section. This retirement will be shown in the results screen with a 'STOP' in the current section of that competitor.

If this section counts for the best lap, it should be set here. When this section is in the pits *pit time section* should be set to 'Yes', otherwise the section is considered to be on the track.

Decoders After you have created your event and configured your timing system setup, you can select your X2 decoders.

Decoder connection wizard To be able to receive passings you will have to link Orbits timelines to loops of the X2 server. This can be done using the Decoder Connection Wizard, which will start when you double click a timeline.

In the Decoder Connection Wizard you can choose between 3 options:
1. *Best guess*
   Based on the selected timeline Orbits will suggest the X2 loops that fit the best.
2. *Available loops*
   All available X2 loops are listed here.
3. *Unlinked decoders*
   Decoders that are not yet linked to an X2 loop are listed here
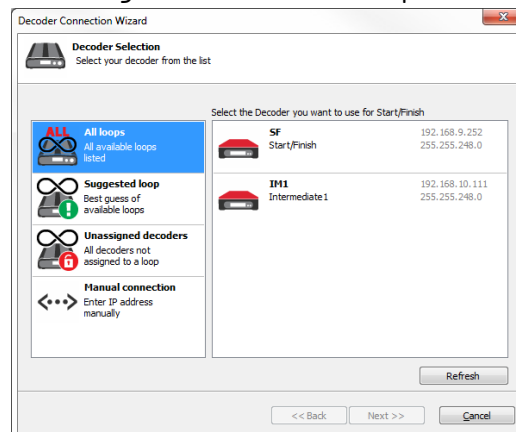
When selecting an unlinked decoder Orbits will automatically create a loop in the X2 server and connect the decoder to this loop. The Unlinked decoders option will only be available when this Orbits is the master Orbits (see the 'master/slave functionality' chapter).

Deleting a loop It's also possible to delete loops from the X2 server. To do this right click on a loop in the "All loops" overview and press 'Delete loop'. The decoder connected to that loop will become an unlinked decoder.

Decoder settings The decoder settings can be viewed by selecting the menu Show settings
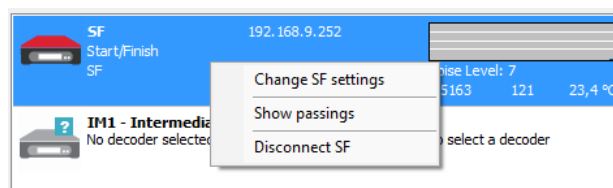
Timeline Tab
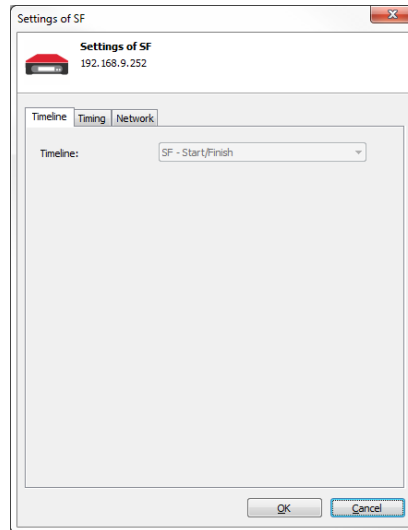
The name of the timeline is displayed here.

Timing Tab
Photocell inputs and External Start can be set in this dialog:
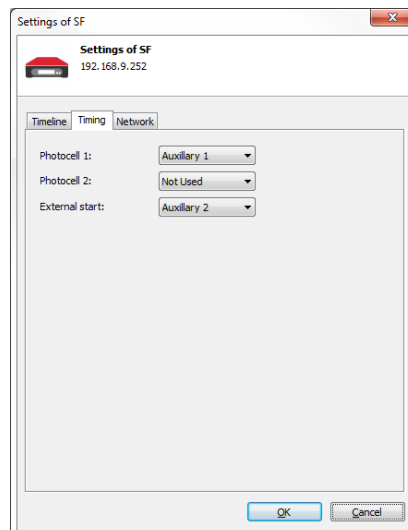
Each input must have a unique Setting!!

Network Tab:
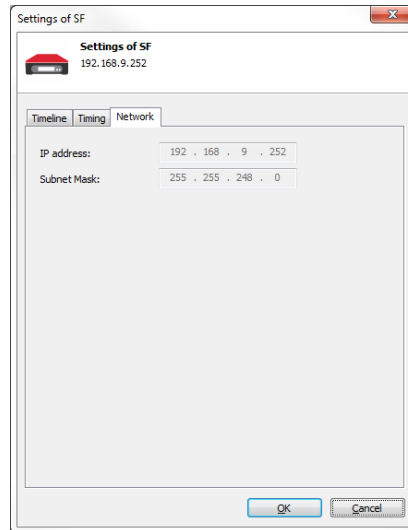
Network settings for a MYLAPS X2 Decoder cannot be changed in this Dialog: Settings can be changed via the X2 Utility or X2 Manager.

BaseLink Connection wizard

To be able to facilitate in X2 Link you will have to link Orbits to a BaseLink on the X2 server. This can be done using the BaseLink Connection Wizard, which will start when you double click on BaseLink.
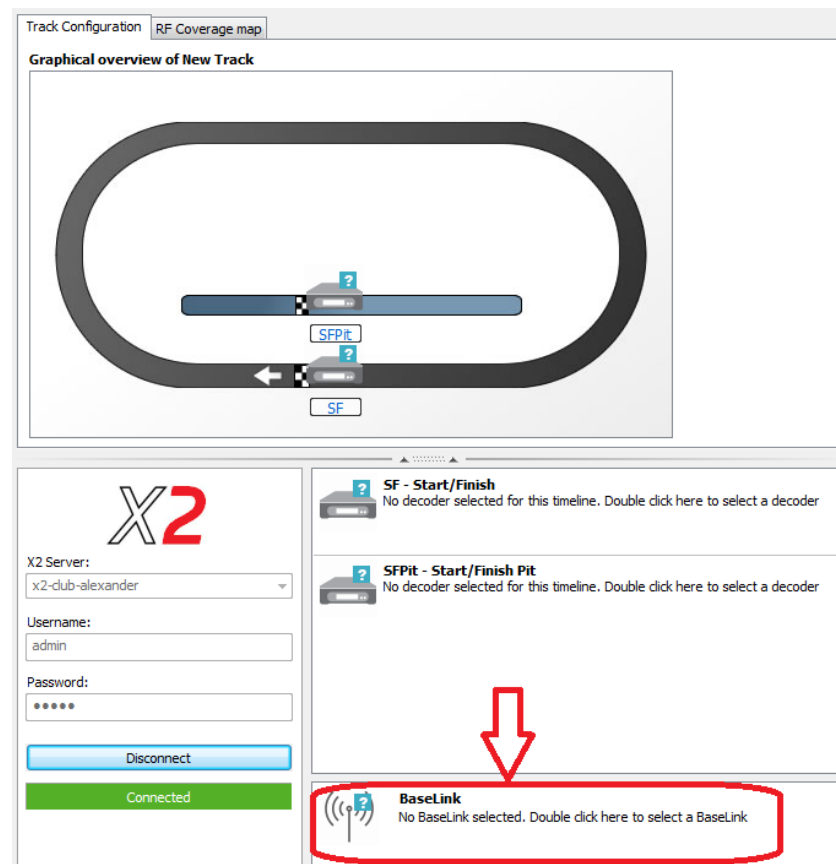
In the BaseLink Connection Wizard you can choose between 3 options:

1. *Configured*
    All Baselinks that are available on the X2 server will show in this window
2. *Not configured*
    All available BaseLinks are listed here.
3. *Manual connection*
    Here you can give the IP address of a BaseLink when it is not showing in the above options:

Disconnect a BaseLink

To disconnect the BaseLink do a right mouse click on the BaseLink on the Setup page and click disconnect BaseLink.

Delete a BaseLink

It's also possible to delete a BaseLink from the X2 server. To do this right click on a BaseLink in the BaseLink overview and press 'Delete BaseLink'. The BaseLink will become unassigned.

BaseLink Settings

The BaseLink settings can be opened by double clicking on the BaseLink on the Setup page.

Network Tab:

Here you can see the IP address for the connected BaseLink. Network settings for a BaseLink cannot be changed in this Dialog: Settings can be changed via the X2 Utility or X2 Manager.

Details tab:

The mode of the BaseLink can be set here. There are 3 modes available:
1. Idle – BaseLink will not be sending data
2. Broadcast – The BaseLink will send X2 Link data
3. Diagnostics - TBD

Connection issues

IP address has a warning icon?

If the IP Address is not in the same network range as the computer a warning icon will appear. This means that you need to change the IP Address of the decoder. You can do this by right clicking on the decoder and select change decoder settings. You can now connect to your decoder by selecting it from the list and hit the Next button.

My decoder is not in the list?

If your decoder is not listed first check if it is powered on and that all connectors are firmly in place. If it still does not connect it is possible that the decoder has an old firmware version. Manually connect to the decoder by selecting the network option and hitting the **next** button. You can now enter your IP Address, hit the **Next** button to connect. If it connects it means that the decoder firmware needs to be updated. It is possible to do timing in compatibility mode, but some new features will not be supported.

Check timing system setup

If all decoders seem to work properly, it is time to check the system setup and generate passings on each decoder. Therefore you can start the Timing System Setup Check. This can be started by selecting Check timing system setup under the Diagnostics task menu.

The wizard will guide you through some simple steps to check your timing system setup. With this test you can verify that all decoder(s) are connected and configured properly.
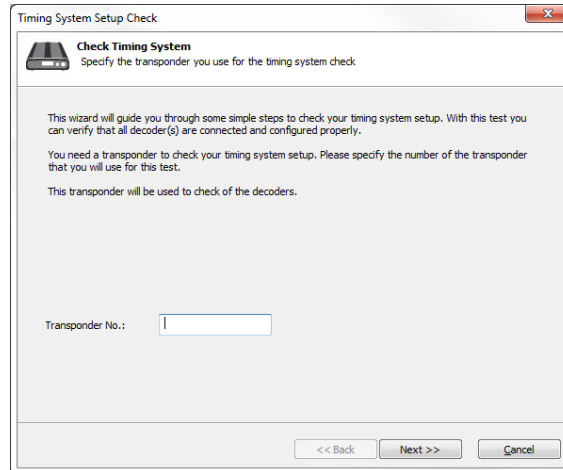
You need a transponder to check your timing system setup. Please specify the number of the transponder that you will use for this test. This transponder will be used to check of the decoders. With this you can check if all decoders are working and if the timelines are configured properly.

Synchronization

Each decoder, BaseLink and X2 server has its own clock. These clocks are used for time stamping the passings. The clocks of the X2 server and the decoders need to be synchronized to one main clock. This synchronization is done by the X2 Server. The sync source can be GPS, NTP or Standalone and can be configured by the X2 Manager or the X2 Utility.

Time zone

If your system is synchronized, the current system time zone settings control how Orbits converts between synchronized time to local time. Orbits will use the computer system time zone, so the X2 Server time zone and the computer system time zone must be the same in order for flags and manual passings to be in the right time.

To ensure that Orbits and the X2 server have the same time, Orbits tries to set the time zone settings of the X2 server (see Master/Slave functionality).

If Orbits is connected as a slave and the time zone of the system and the X2 server are not the same, a warning message will be shown to inform you.
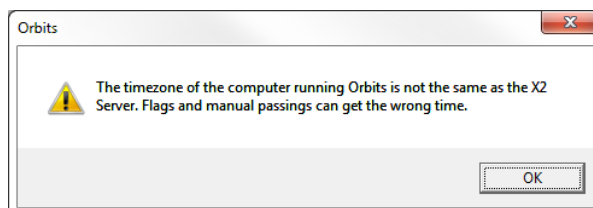
Note: If you change your system time zone, you need to restart Orbits before these settings take effect. Orbits will give a warning message when you change the system time zone.

GPS Status

Red icon means that a GPS module is attached to the decoder, but that the module is not synchronized to GPS yet.

Yellow icon means that the decoder clock has been synchronized with GPS, but the GPS module doesn't receive records at this time (lost GPS connection).

Green icon means that the decoder clock is synchronized with GPS.

The number of satellites found is a good indication of the GPS signal quality. You can see the number of satellites in the decoder details screen.

Warnings and errors

Decoder is synchronized by GPS, but the signal is lost.
Make sure that the GPS module which is attached to the decoder has a clear view of the sky. If the decoder is positioned in between a lot of metal objects, try moving it around a little. Sometimes you have to find a 'sweet spot'. The number of satellites found is a good indication of the signal quality. You can see the number of satellites in the decoder details screen.

Decoder is not synchronized to a controller or by GPS
No GPS device is attached to the decoder or it is not recognized as such. The decoder is now relying on its internal clock to retain timing accuracy. Even though this clock is very accurate, a GPS connection is preferred. You can check the connector of the GPS device. It may be loose or dirty, try another GPS device on the same decoder, the device or the wire may be broken.

No GPS device attached to the decoder
No GPS device is attached to the decoder or it is not recognized as such. The decoder is now relying on its internal clock to retain timing accuracy. Even though this clock is very accurate, a GPS connection is preferred.
- Check the connector of the GPS device. It may be loose or dirty.
- Try another GPS device on the same decoder, the device or the wire may be broken.

Decoder is synchronized to a different controller
The decoder is synchronized by a different controller. When you don't use GPS, make sure that all decoders are synchronized by the same controller.
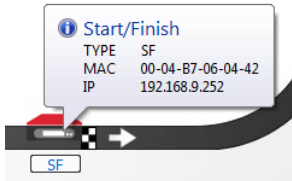
Timing system status

On the system setup page you can see the status of your system setup.
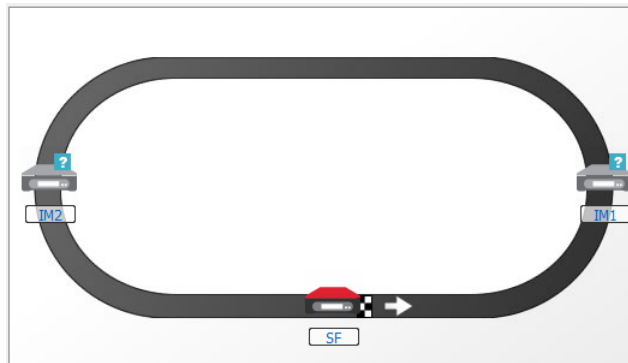
The image displays your current system status.

	There is an active connection with the decoder.
	A question marks means that no decoder is selected for that timeline. Double click on the timeline to select a decoder.
	A red dot means that the connection to the decoder is lost. Right click on the decoder to reconnect.
	If you move the mouse pointer above the timeline you get an info tip with detailed information.

Timeline status

In the timeline status screen you can see the status of each timeline and find detailed information about a decoder if connected.
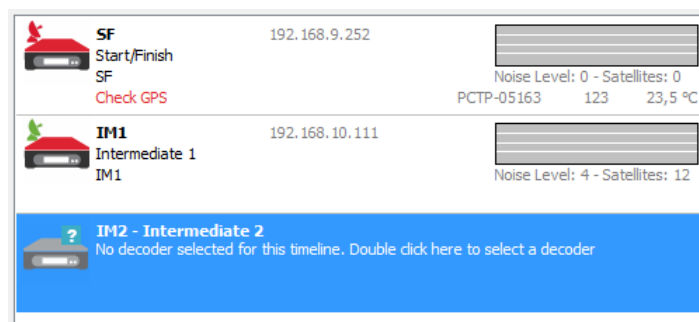
The left part of the screen displays the status of the timeline.

Show passings

To analyze the transponders on a timeline you can select the passings tab

Hits
The number of hits of the last passing

Strength
The strength of the last passing for that transponder.

Noise
The noise during the last passing.

Noise

The background noise in combination with the signal strength is the most important indicator of the performance of the hardware system. If a decoder is connected to the computer, the background noise will be indicated in the timeline status screen, which can be found on the Event Setup page.

The average background noise is sent to the computer by the decoder every five seconds. The normal value for the background noise is between 0 and 30. An increased value of the background noise may indicate interference. If the background noise is higher, the received transponder signal strength should be 60 units above the background noise to ensure a reliable detection of the transponder.

A high background noise level may be indicated for a longer period of time than the actual duration of high noise levels. If no 5 second time interval passes without any transponder passings occurring, the background noise measurement is taken. Therefore the higher (and at that moment incorrect value) is shown again. Any electrical switch in the area, or (usually at night) short-wave radio stations can cause peaks in the background noise. Electronic equipment or a bad hardware system installation may also cause an increased background noise. Please refer to your MYLAPS Hardware Manual for further information.

Track records

Orbits support an automatic registration of track records per class. All existing track records can be entered into Orbits by using the 'Track Records Editor'. The editor can be shown by selecting the Track records task found on the taskbar on the left side of the system setup page.

The Track Records Editor gives you an overview of all existing track records. Track records that are not present in the Orbits system can be added manually by selecting the New task on the left. If a new track record is set *during* a race, the dialog below will be shown:
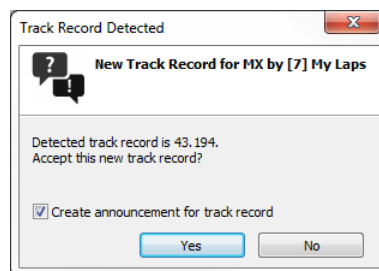
This allows the timekeeper to accept or deny a new track record. If the new track record is accepted, it will replace the current track record. If there is no track record defined for a class, the new track record dialog will never appear for that class.

Note: If the lap time is below the minimum lap time, the lap will not count for a track record.

7

Registration

This chapter describes how you can enter your time schedule and competitors and which tasks need to completed to begin timing your event.

Overview

Open the registration page of the program by pressing the **Registration** button at the top of the program.
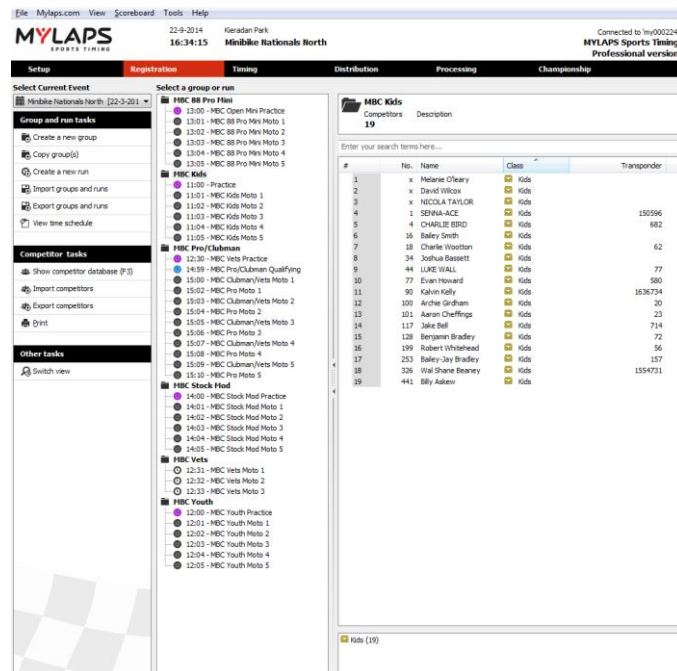
The screen is divided into two main sections:
- The Groups and Runs screen
- The Detailed screen

Competitor Database

All competitors are stored in one competitor database. This database, which is organized by class, can be used for every race event. The competitor database can be shown by clicking on the **Show competitor database** option on the taskbar on the left from the registration screen or by hitting the 'F3' function key.

To create a new competitor, right click in the competitor screen and select **New Competitor**.

You can search the database for specific competitors using the **Search** bar. To show all competitors again, click the **Show All** button.

Competitor classes

In the competitor database, the competitors are stored in classes. A competitor can belong to only one class. If a competitor competes in more than one class, he has to be entered separately for each class.

When a class is selected (on the left) in the class list, only the competitors in that class are shown. When multiple classes are selected, the competitors in the selected classes are shown. When you press **Show All**, all competitors in the database are shown. A class is created automatically when it is entered for a new or existing competitor. You can also create a class by right mouse clicking on the list of classes and selecting **Make a new class**.

To make identification easy, competitors that are in the same class are marked with the same class image.

Image 1		Image 6	
Image 2		Image 7	
Image 3		Image 8	
Image 4			
Image 5			
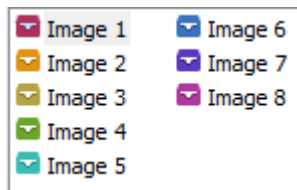
Competitor Settings   The following information can be entered for a competitor:

No
Orbits accepts 4-digit alphanumeric car/bike numbers.

Class
In the Class drop down box, all classes from the Competitor Database are listed. If a class was selected on selecting **Add Competitor**, this class will be pre-selected. You can either select an existing class or fill out a new one.

Transponder/2nd Transponder
It is only necessary to fill out the transponder number(s) if the competitor has his/her own personal transponder(s). The 2nd transponder field can be used in case a car is equipped with a new transponder during a session.

Car/Bike Reg.
The car/bike registration number is a unique number for a car/bike (e.g. chassis number). If you do not know this number you can let Orbits generate a unique number for you by selecting **Auto generate**.

Note: The combination of car/bike registration number and driver registration number is unique for each competitor. It is used by Orbits as a key, and **cannot** be modified. Therefore it is important to enter this information accurately.

Label
Orbits creates TLA's (Three Letter Abbreviation) for all competitors in a run. A TLA is by default the first three letters of the last name. If it is not unique in the run then the first letter of the first name and the first two letters of the last name are used. The label can also be entered in the Competitor Details Dialog.

Note: the label is created by Orbits every time a run is selected and is exported to the X2 server but it is not saved to disk.

First Name/Last Name
The first and last name fields must be filled out carefully to make the sorting on name work correctly. If you want 'Mc Donalds' to be sorted on 'Donalds', please place 'Mc' in the first name field. In the results on screen and on printouts, the full name will be printed as a combined string, with first name and last name after each other. If you want the program to first display the last name and then the first name, please enter the last name in the First Name field and vice versa.

Driver Reg.
The driver registration number is a unique number for a driver (e.g. license number). If you do not know this number you can let Orbits generate a unique number for you by selecting **Auto generate.**
Note: The combination of car/bike registration number and driver registration number is unique for each competitor. It is used by Orbits as a key, and cannot be modified. Therefore it is important to enter this information accurately.

Additional data fields
In the additional data fields you can enter any necessary additional data on the competitor. Headings for all additional data fields can be named in the General Settings (Tools-> Options -> General from the main menu). For three of the additional data fields the value can either be entered by hand or selected from a drop-down box, which contains all previous entries.

Option Add Competitor to database
When selected, the competitor details will be updated in the Competitor Database

Option Add Competitor to runs in group
When selected, the competitor details will be updated in all runs of the group that has not already been raced.

To enter another competitor, select the **Next** button. Once all competitors are entered select the **OK** button.

Managing competitors

By clicking the right mouse button on a competitor in the Competitor database a pop-up menu will appear for adding, editing or deleting competitors. Shortcut keys are indicated on the right side of the options pop-up menu.

Adding new competitors:
To add a new competitor, click right mouse button anywhere on the competitor database and choose **Add competitor**.

Editing existing competitors:
If you want to edit a competitor, highlight the corresponding row in the competitor database, click the right mouse button and choose **Edit**. To select more than one competitor, press and hold **Shift** or **Ctrl** while highlighting them.

If you have selected multiple competitors to edit, the bottom part of the **Modify Competitor** screen will show how many competitors you have to go (e.g. '**To do: 5**').

Deleting competitors:

To delete one or more competitors, highlight them, click the right mouse button and select **Delete**. You will be asked to confirm that you want to delete the selected competitors**.**

Note: this question will only be asked once, even if you have selected multiple competitors for deletion.

Import competitors

Orbits can import competitors from:
- The competitor database
- A run or group
- A non-Unicode text file
- A Unicode encoded text file
- The X2 server competitor object
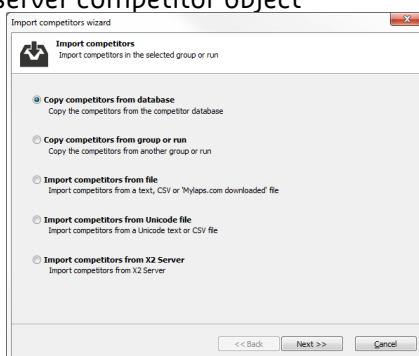
Export competitors

Competitors can also be exported to the X2 server. This is done automatically with the competitors in the running run if the option is set at the X2 settings of the Options.
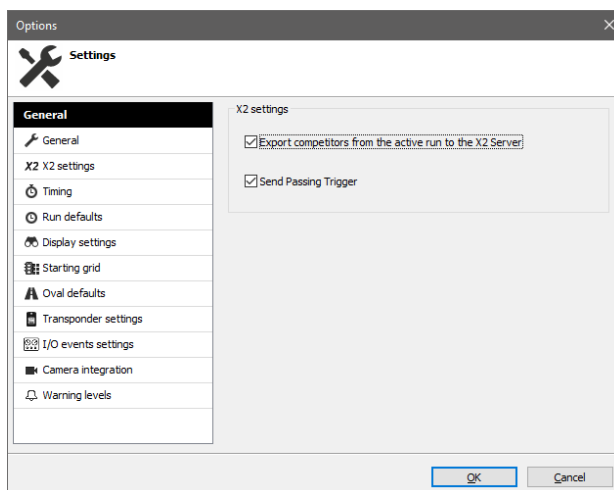
Club transponders

The Club Transponder Table is designed to facilitate race series that own their own pool of rental transponders and assign them to a new competitor before each event. Instead of typing the full transponder number in the competitor information, a 1-3 digit number can be used. The Club Transponder Table can be found under Tools –> Club Transponder Table. On the right side of the Club Transponder Table window, the full transponder numbers are shown; on the left the corresponding short reference numbers.

To enter a new club transponder, select the New task on the

taskbar on the left. A dialog will appear. Fill in the appropriate transponder and reference number. Editing or deleting a club transponder can also be done from the taskbar on the left.

In the Club Transponder dialog there is also the option to import transponder relations from and to the X2 server.
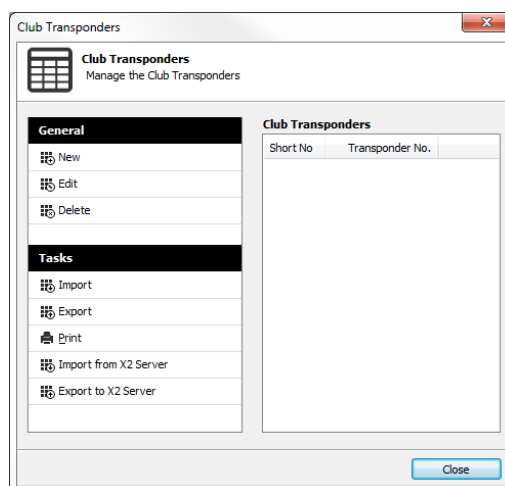
Groups

For each event Orbits has the possibility to define groups of competitors. This makes it easier to organize the competitors in the event. When you have an event where competitors from different classes race together, you can define a group for these competitors.

So groups can be used to organize competitors in an event. The registration screen shows competitors that have entered the current event, divided into groups. If you select a group in the left part of the screen, the right part of the screen will show the competitors in these groups. An event must always contain at least one group.
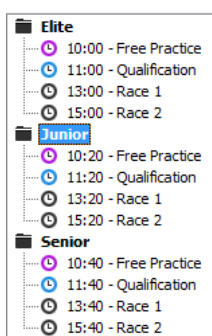
The groups and runs tree expands and contracts like the directory structure of a Windows computer.

Only competitors listed in a group can be timed during the current event. If you do not know which competitors have entered the event, but you do have all of them listed in your competitor's database, you can copy the complete database to one group. Also if you do not want to divide competitors into different groups, you still have to copy either all competitors or just those competitors entered for the current event into one group. When all competitors have been entered into groups, the event schedule for each group

can be created.

Create a group

You can create a new group by starting the group wizard. Start the wizard by clicking on Create a new group under the group tasks. Now the Group Wizard will start. You first need to enter the group name and group description After selecting this, you can enter the Time schedule for the group.

Each group prepared for an event can hold a series of runs. To add a new run to this group, you can click on the **Add Run** button. Then select the name, type and start time of the run. Click on the **Advanced** button to enter the detailed run settings.
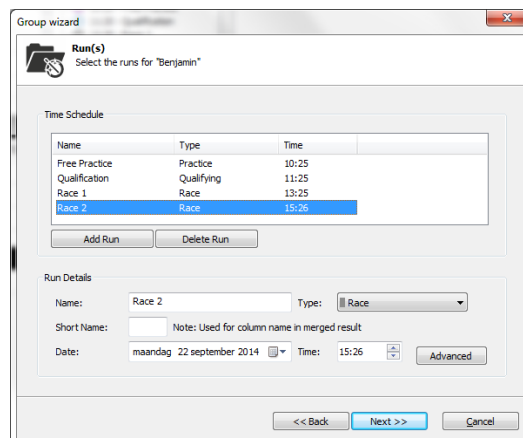
Create a new run

A new run can be created by right clicking on a group and select **New Run** from the menu. To edit or delete a run, right click on a run and select **Modify** or **Delete <Run>**

General Tab
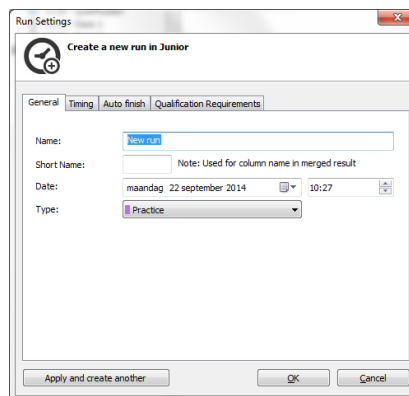
Name: The name of the timed session
Short Name: This name is used when a merge result is created
Date: The scheduled date of the session
Time: The scheduled time of the session

Type
Practice: The results are sorted on best lap time.
Single car qualifying: The results are sorted on best lap time.
Qualify: The results are sorted on best lap time.
Race: The results are sorted on laps and total time.

Apply and create another Button: Settings are saved and a new run for the same group will be created

Timing Tab
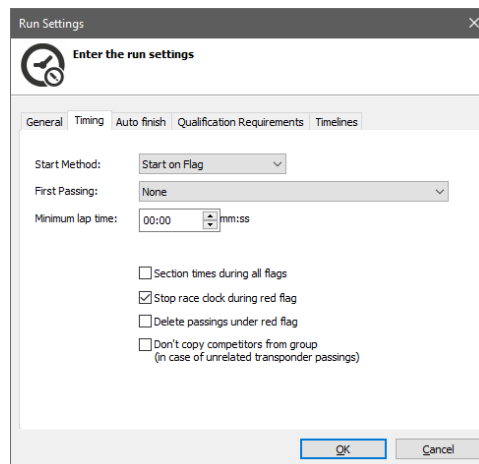
Start Method

This property indicates how the start of the race is defined. The possibilities are:

- **Start on First Passing >** the elapsed time is measured from the first passing after dropping the green or yellow flag.
- **Start on Flag** > the elapsed time is measured from the dropping of the green or yellow flag. A session can also be started using an external start pulse connected to the photocell 2 input of the AMB decoder. The external start pulse will result in a green flag to be inserted. Run has to be in warm-up mode in order to activate this function
- **Staggered Start** > each competitor has his own starting time, triggered by passing the start/finish line.

First Passing

Normally the first two passings will count as one lap (one passing for starting and one passing for completing the first lap). If this option is set to **Count as completed lap**, the first passing of the start/finish line of each vehicle will count as the first completed lap.

Whether or not to count the first passing is dependent on several factors such as the distance between the starting grid and the start/finish line (the detection loop).

Note: You should try to grid the competitors at least 5m/15ft from the detection loop to prevent premature detection.

Minimum lap time

Lap-times recorded below the specified minimum lap time will be automatically invalidated and are displayed in red in the passing screen. An invalidated passing will count as a lap, but will not be used for determining best lap time. The minimum lap time value can be changed at any time, also when timing a session.

Note: Passings with lap times that are faster than 2 seconds will be automatically deleted.

Section times during all flags (available in Advanced)

If this option is checked, section times will also be shown and distributed during the warmup and after the finish flag.

Stop race clock during red flag
Checking this option will pause the elapsed time during a red flag.

Delete passings under red flag
If checked, all passing that are registered under a red flag situation will be automatically marked as deleted.

Don't copy competitors from group
If a run is running and a transponder is registered without a corresponding competitor with this transponder in the current run, Orbits will search in the group this run belongs to for a competitor with this transponder. If a competitor is found, this competitor will be automatically copied to the run. When checking this option, Orbits will not copy the competitor to the run.

Auto Finish Tab
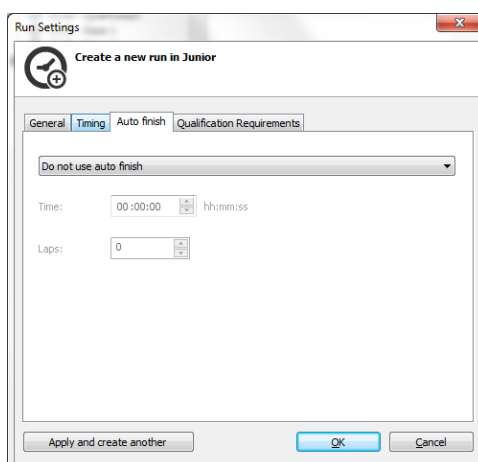
Auto Finish on Lap
When the first competitor reaches the number of laps specified in this field, Orbits inserts a finish flag and marks all subsequent passings as finished. Stopping the timing and scoring manually when all competitors have finished is still required. When this setting is left at 0, Orbits will not finish a session automatically.

Auto Finish on Time
When the race clock reaches the specified time entered in this field, Orbits will automatically insert a finish flag and mark all subsequent passings as finished.   Stopping the timing and scoring manually when all competitors have finished is still required.   When this setting is left at 00:00:00, Orbits will not finish a session automatically. Note: When a timeframe - measured in both laps and time - is specified, whichever criteria are reached first is used to finish the race.

Auto Finish on time and laps
After the race clock reaches the specified time and after the first competitor reaches the specified number of laps entered in these fields, Orbits will automatically insert a finish flag and mark all subsequent passings as finished. The race clock first has to reach the specified time before the specified number of laps is starting to count down.

Auto Finish on time or laps

When the race clock reaches the specified time or the specified number of laps entered in these fields, Orbits will automatically insert a finish flag and mark all subsequent passings as finished.

Individual Finish on laps

Every competitor finishes individually after the given amount of laps.

Individual Finish on time

Every competitor finishes individually after the given amount of time.

Qualification requirements Tab
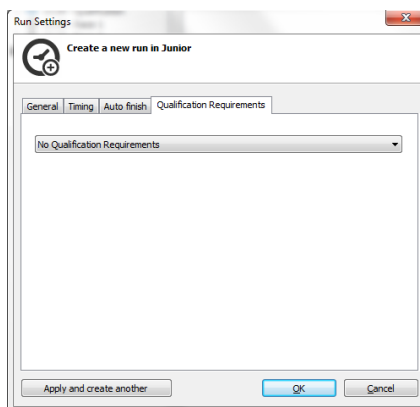
Qualification Requirements

This property indicates how competitors can qualify to appear on the race results. The possibilities are:

- **None >** All competitors appear on the race result.
- **Maximum Percentage of the best lap time >** When selected, you can specify a percentage of the best lap time of this run. To appear on the results, a competitor must achieve a lap time of no more than the specified percentage of the best lap time. This only applies to qualifying and practice results.
- **Maximum % of the avg. best lap time of the top X** > When selected, you can specify a percentage and the number of competitors from the top. To appear on the results, a competitor must achieve a lap time of no more than the specified percentage of the average best lap time of the specified top X competitors. This only applies to qualifying and practice results.
- **Minimum percentage of the leader total laps** > When selected you can specify a percentage. To appear on the results, a competitor must complete at least the specified percentage of laps of the leader. This only applies to printed results.
- **Maximum number of competitors** > When selected, you can specify a position. All competitors from the specified position down do not qualify. This applies to race, qualifying as well as practice results.

Timelines Tab
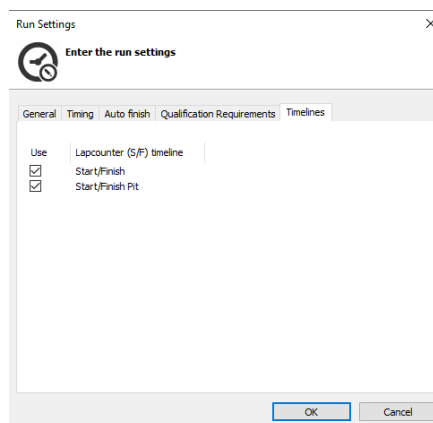
Timelines

This feature allows you to ignore passings of (lapcounter) timelines. The passings of the unused (not selected) timelines will be stored in Orbits but will not be used and shown in the run.

This can be useful in a scenario with a backup S/F loop where during a run the main Start/Finish loop malfunctions and you would like to switch to the backup S/F loop. Once switched Orbits will recalculate all results based on the chosen timelines in this window and the passings of the used timelines will be shown.

Adding competitors to groups

There are several ways to add competitors from the database to a group. One way is to drag the competitors from the competitor database. To add competitors from the competitor database (Hit 'F3' to show the competitor database) to the current group, highlight them, hold the mouse button down and drag them onto the Competitors in <group name> box on the bottom right part of the screen.

To add a new competitor you can also click the right mouse button on the Competitors in <group name> box and select New competitor. This way a new competitor can be added who is not in the competitor database yet.

Remove competitors

To remove competitors from the current group, highlight the corresponding competitor in the Competitors in <group name> box, click the right mouse button and select Delete. This will only remove the competitor from this group.

To edit competitor information for the duration of the event, highlight the corresponding competitor in the Competitors in <group name> box, click the right mouse button and select Edit.

Competitors may also be moved or copied from one group to another, by selecting them in the right part of the screen and dragging them to a group in the left part of the screen.

Tip: Start an event by creating a group called "Event entries" and drag all competitors that have entered the event to this group. Then you can drag the competitors from this group to the different race groups.

Modifying competitors

When you drag a competitor from the competitor database into a group, this competitor is now a copy of the original one. When you change a competitor in the group, these changes are not automatically updated in the competitor database; they only

affect the current group. This allows you to make temporary changes while a race is going on, e.g. when somebody is using a different transponder or a different car number during the event. The same applies to a competitor that you drag from a group into a run. You can also add competitors to a group without adding them to the database. When you want to update changes to a higher or lower level, you can specify this by checking the corresponding boxes in the competitor edit dialog while creating or modifying competitors.

Copy group(s) Group(s) from a previous event or the complete schedule including the competitors and merges can be copied in the current event using the Copy group(s) option in the task menu of Group and Run.
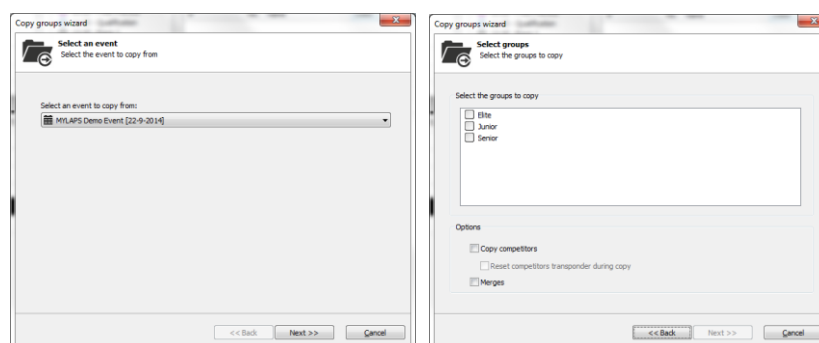
Import groups and runs Group and run information stored in xml file can be imported in Orbits. For details about the format, see Appendix B – File Formats.
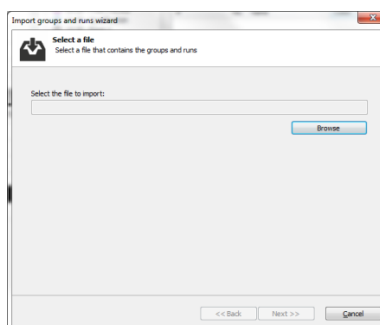
Export groups and runs Group and run information stored can be exported in an xml format
For details about the format, see Appendix B – File Formats.
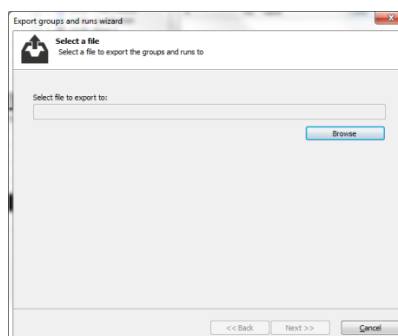
View time schedule The time schedule can be consulted, exported or Printed by selecting the View time schedule
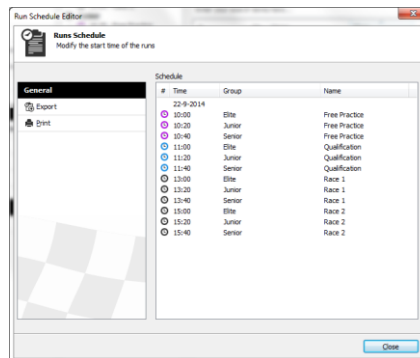
8   Timing

This chapter describes the process of starting a race and the actual timekeeping activities.

Overview

After preparing the race event, you can start racing. This part of the manual describes the process of starting a race and the actual timekeeping activities. All of this takes place in the **Timing** page of the program. When the **Timing** page is selected, it will look like the figure below.
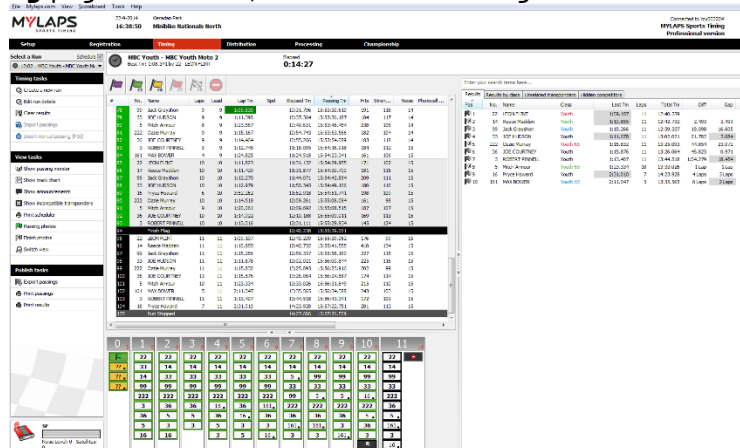
The screen is divided into three main sections:
- The Passings screen
- The Results Screen
- The Lap Chart

The screens can be adjusted by selecting the ▼······▼ tool and dragging it to the preferred position. You can hide and show the ▼······▼ tool by clicking it with the left mouse button.

Timing a run

To start a practice, qualifying or race session, check if the right track and event are selected in the title bar. To change the selected track and/or event go to the registration screen and select an event from the choice box on the top screen. Before you can start a session you first have to open the session. This can be done from the selection box on the top of the timing screen. Select the run from the selection list.
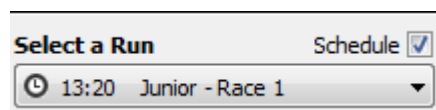
Starting a run

A run can be created by selecting **Create new run** from the taskbar. After selecting the run, you can start it by clicking the green flag. You may also use the *F5* hotkey. Please note, however, that in order for the *F5* hotkey to work, the Orbits program must be active and no other window (another program) can be active.

Before starting to time the race, you may start that run in warm-up mode, by clicking the purple warm-up flag. By doing this during the warm-up laps, you may use these passing to check transponder relations (making sure car number/driver in Orbits matches the car/driver on the track).

External start

After starting a session with a Warm-up flag, the green flag will be initialized automatically when the decoder receives a Photocell 2 input from the Auxiliary port. Please check you hardware manual for wiring details.

Flag situations

The green, yellow, red and finish flag can be selected by clicking the flag with the mouse or using the corresponding hotkeys. However, stopping the actual timing of the race can only be done by clicking the stop button, since

no hotkey is made available.

A flag change is indicated in the passings screen by a separate line. For each transponder passing the current flag situation is shown in the first column of the passings screen. In the Passings Screen, flags may be dragged into the correct position when dropped late or early.

Warm-up flag
Select the purple flag to start the warming up. When the purple flag is active the laps will appear in the Passing Screen, but will not count for the results.

Green flag (F5)
Select the green flag to start the race or to change from a yellow or red flag situation back to a green flag. A stopped race can also be restarted by selecting the green flag.

Yellow flag (F6)
Select the yellow flag when a full course yellow is given. This flag will not affect the result.

Yellow flag Not Counting (Oval features only)
If the oval features are enabled, there is an option to throw a yellow not counting flag. During this flag situation the lap count is never increased but the passings will still be registered.

Red flag (F7)
Select the red flag when a red flag situation occurs. During a red flag situation the lap count is never increased but the passings will still be registered.

Finish flag (F8)
After the finish flag is dropped, the next passing by each competitor will be marked as finished and all subsequent passings will be marked as extra and will not affect the race/qualifying result.

Stop
Select the Stop button to stop the timing and scoring for this session. Once a session is stopped, successive transponder passings will not be registered. The session can be restarted by selecting the green flag (or pressing the *F5* hotkey).

Stop a run   Select the Stop button to stop the timing and scoring for this run. Once a run is stopped, successive transponder passings will not be registered. The run can be restarted by selecting the green flag (or pressing the *F5* hotkey).

Track chart   The Track Chart is a graphical presentation of competitors that are on the track. Each box represent a competitor and displays the following information:
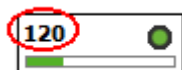
The car number
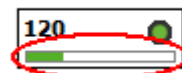
The expected time. This bar will update during the lap. If a competitor is expected to pass start finish the bar will be 100 % green.
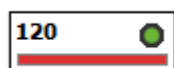
When a competitor is running late, the green bar will become red. This is an indication that the competitor is in a slow lap, or that he is out of the race.
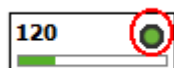
The result marker. See the next section for an explanation of the markers.
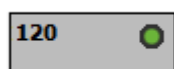
A gray background indicates that the competitor is not active anymore.

A yellow background indicates that the competitor is the leader in the run.

The Track Chart can be sorted in 4 ways.
- **On track position**: This shows the order in which the competitors have passed the detection loop in the last completed lap. The leader is the first competitor.
- **On result**: This shows the order based on the current run results.
- **On car number**: Competitors are sorted on car number.
- **On expected time**: This shows the order in which competitors are expected to pass start finish. The competitor at the top is expected first.

To select the sorting option, right click in the Track Chart screen and choose the desired option.

To show the passings of a specific competitor you can click on the competitor box and select the **Show Passings** option. Now only the passings of this competitor are shown in the Passings Screen. After you selected this option, Clicking the **Show All Passings** button on the top of the Passing Screen will show all passings of all competitors.

Markers and colors

The following markers can be shown at the right of the box.
(Behind the number)

Competitor passed in the current lap ⬤

Competitor missed one lap ⬤

Competitor missed 2 or more laps ◼

Competitor improved position ⬆

Competitor is finished 🏁

Competitor went to the track (crossed Pit out loop) 🅿

Competitor is in the pits 🅿

The following icons can be shown at the left of the box.
(In front of the number)

Last passing of the competitor was a manual passing. ⏱

Last passing of the competitor was a photocell passing. 💡

A battery indicates a transponder sending out a low battery warning. The transponder of this competitor needs to be recharged; the expected operating time left is between 0 and 12 hours and therefore the transponder needs to be charged before the next run. 🔋

Passings screen

The Passings Screen displays all information from the start/finish and start/finish pits timeline along with any manual additions to timing & scoring (e.g. adding of a manual passing, inserting flags, etc.). A colored horizontal line will appear each time a flag is activated. The color of the flag corresponds with the color of the line.

#	No.	Name	Laps	Lead	Elapsed Tm	Passing Tm	Lap Tm	Spd	Hits	Stren...	N...
1		Green Flag			0.000	12:16:35.928					
2	22	Micha³ Krech	1	1	10.038	12:16:45.966		0,0	79	129	
3	53	Tomasz Olsz...	1	1	10.537	12:16:46.465		0,0	66	126	
4	76	Karol Kruszy...	1	1	10.958	12:16:46.886		0,0	54	128	
5	85	Igor Zienkie...	1	1	11.208	12:16:47.136		0,0	58	121	
6	98	Krystian Ste...	1	1	11.551	12:16:47.479		0,0	49	129	
7	101	Jakub Barcz...	1	1	12.004	12:16:47.932		0,0	21	128	
8	108	Artem Mart...	1	1	12.253	12:16:48.181		0,0	53	122	
9	113	Sebastian ...	1	1	12.503	12:16:48.431		0,0	35	123	
10	144	Vadym Grad...	1	1	12.955	12:16:48.883		0,0	13	129	
11	222	Cezary Lewko	1	1	13.298	12:16:49.226		0,0	52	127	
12	85	Igor Zienkie...	2	2	1:23.224	12:17:59.152	1:12.016	79,0	11	125	
13	98	Krystian Ste...	2	2	1:23.614	12:17:59.542	1:12.063	78,9	66	123	
14	22	Micha³ Krech	2	2	1:25.502	12:18:01.430	1:15.464	75,4	64	129	
15	113	Sebastian ...	2	2	1:25.955	12:18:01.883	1:13.452	77,4	49	121	
16		Yellow Flag			1:26.891	12:18:02.819					
17	53	Tomasz Olsz...	2	2	1:26.906	12:18:02.834	1:16.369	74,5	19	126	
18	108	Artem Mart...	2	2	1:27.468	12:18:03.396	1:15.215	75,6	74	120	
19	76	Karol Kruszy...	2	2	1:28.700	12:18:04.628	1:17.742	73,2	41	123	
20	144	Vadym Grad...	2	2	1:29.496	12:18:05.424	1:16.541	74,3	19	124	
21	101	Jakub Barcz...	2	2	1:29.746	12:18:05.674	1:17.742	73,2	28	125	

Indications in the passing screen

`1:43.415` Overall best lap time: A lap time in purple indicates an overall best lap time for this competitor.

`1:51.137` Personal best lap time: A lap time in green indicates a personal best lap time for this competitor.

`2:35.539` Lap time violation: The lap time of this competitor is below the indicated minimum lap time in the run properties. (If the lap time is faster than 2 seconds, the lap time will be ignored)

`P 20` Pit passing: This passing was received on the pit detection loop

`58` A yellow signal strength or number of hits indicates a value low.

`110` Low battery warning: A red competitor number indicates a transponder sending out a low battery warning.

`✖ 175   250` Deleted passing: A deleted passing is marked with a cross in front of the passing. This passing is marked deleted; the competitor will not be credited with a lap for this passing.

`⊘ 17   250` Invalidated lap time: The lap time of this competitor is invalidated manually. The lap time cannot be selected as best time for the competitor.

`⏱ 183   3` Manual passing: This is a manual passing and doesn't have a photocell or transponder time associated with it.

`👤 4   ??  1007` Unrelated transponder: A transponder not linked to a competitor.

`💡 5   ??` Unlinked photocell passing: If a photocell 'hit' cannot be linked to a transponder passing it will appear as an unlinked photocell passing.

`💡 4   250` Linked photocell passing: When a photocell has been assigned, the car number of the competitor will appear.

Delete passings

Passings, which for some reason are not correct, can be deleted in the Passings Screen; for instance when a technician walks past S/F with a transponder in his pocket causing an unexpected passing. A deleted passing will be interpreted as if it did not happen.

To delete one or more passings, select them in the Passings Screen, click the right mouse button and select Delete Passing(s). All selected passings are now marked deleted by a gray line with red characters and a red cross before the line number.

Note: Deleted passings are not removed from the run - they are just marked as deleted. Therefore it is still possible to undelete a deleted passing (result): select the passing, click the right mouse button and select **Undelete (Passing)**.

Invalidate passings

A passing that ends a lap, which for some reason (competitor took a shortcut) should not be considered for best lap time, can be

invalidated in the Passings Screen. An invalidated passing will only be used to count a lap

To invalidate a passing, select it in the Passings Screen, click the right mouse button and select Invalidate Passing. The selected passing is now marked invalid by a gray lap time with red characters. When a lap time is lower than the minimum lap time specified for the run, Orbits will pop-up a dialog to ask you if the passing should be deleted or not.

Moving flags and manual passings
One of the main features of Orbits is the ability to change flag situations at any time. Together with the ability to delete and undelete passings, add and move manual passings, this makes the system very flexible and powerful. To move a flag or a manual passing, click on it and drag the passing to the new position.

The new time of the passing will be set to 0.001 seconds before or after the passing it is dropped on. After a flag or manual has been moved, the result of the race will be recalculated automatically.

Lap chart
The Lap chart shows the passings in a way that is often used when manually timing a race. At the top of the chart the lap count is displayed and underneath in boxes the numbers of the passing competitors. The colors of the boxes represent the color of the flag that was active at the moment of the passing. In race mode each time the leader passes, a new column is created. Clicking on a passing in the Lap chart, will select the passing in the Passing Screen.

Lap chart colors

Warm-up flag

Green flag

Yellow flag

Red flag

Finish flag

Extra passings after finish

| 53 |
| 53 |
| 53 |
| 53 |
| 53 |
| 53 |

The content of a passing box gives extra information on the status of a passing:

Pit
Indicates that this passing occurred on the pit start/finish loop.

Low strength
Indicates that this passing had a low strength warning.

Lap time violation
Indicates that the lap time of this passing is below the minimum lap time or the passing has been invalidated.

Low battery
Indicates that the transponder is sending out a low battery warning.

Manual passing
Indicates that the passing is a manual passing.

Unlinked photocell
If a photocell 'hit' cannot be linked to a transponder passing it will appear as an unlinked photocell in the lap chart.

Linked photocell
When a photocell has been assigned, the car number of the competitor will appear in the box.

Deleted passing
A red cross through the car number indicates that the passing has been deleted.

Unrelated passing
If a transponder passing is not linked to a competitor it will appear as unlinked in the lap chart.

Bold and standard text with point
Bold text indicates that this passing is in the same lap as the leader. A standard text with a point indicates at least one lap behind the leader.

Passings Monitor

On the Timing page you can enable the Passing Monitor dialog by clicking on 'Show passing monitor' task item.
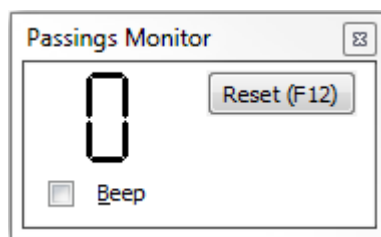
This dialog will show the number of transponder passings on the Start/Finish timeline. On this dialog you can also enable the passing beep. If enabled a beep will sound every time a transponder passes the Start/Finish timeline. To make it more accurate, the passing beep is generated on first contact between the transponder and the loop.

Result screen

The Results Screen is used to display results during a practice, qualification or race. This screen shows the current position of the drivers and information like: lap count, total time, time difference with the leader when they are in the same lap. When you right click in the results screen you can modify the column settings by selecting the **Choose Columns** option.

Hide racer from result

Hide the competitor from the result by right mouse clicking the competitor and selecting Hide competitor from result. When you hide a competitor from the result, the data won't be lost and can easily be recovered by selecting the Hidden competitors tab.

To put the racer back in the run, go to the Hidden competitors tab, select the competitor and right mouse click and select **Show Competitor on Result**.

You can also permanently delete a competitor from the result when necessary by right mouse clicking the competitor and selecting **Remove Competitor**. If the removed competitor had passings, these will now show as unrelated passings in the passing screen. The result of the unrelated transponder is listed under hidden results

Result status

When appropriate you can mark a competitor as Did not start (DNS), Did not finish (DNF), Disqualified (DQ) or Garage by right mouse clicking the competitor and selecting the desired option. For the DNF and DQ status, there is an option to send the competitor to the bottom of the results. On the print-out the status of each competitor will be shown.

Active

The competitor is active.

DNS

The competitor will be marked as Did Not Start and moved to the bottom of the result.

DNF

The competitor will be marked as Did Not Finish. If you don't choose to move the competitor to the bottom of the result it will keep it's position.

DQ

The competitor will be marked as Disqualified. If you don't choose to move the competitor to the bottom of the result it will keep it's position.

Garage

Indicates that the competitor is in the garage. This status will have no effect on the result.

Corrections and penalties

Penalties can be given during and after timing a run. A penalty on position can only be applied after the run is stopped.

You can give penalties to a competitor by selecting the competitor in the Results Screen, right mouse clicking and selecting Corrections and Penalties.
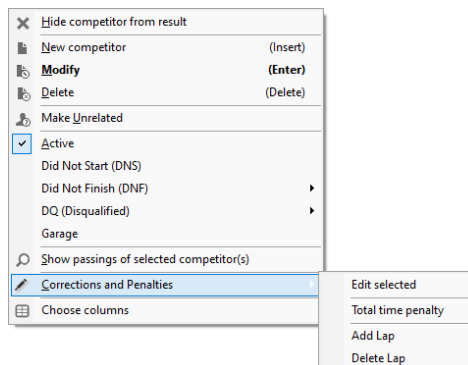
A penalty can consist of a correction of Total time, Number of laps, Best lap time, position and/or points. The penalized or corrected results will be marked with an ✎ icon in the corresponding column of the result screen.

An overview of all penalties that have been given during a run can be seen on the Processing Page by clicking **Penalties/Corrections** on the left taskbar.

Results by class

The Results by class screen displays the same as the Results screen but grouped by the classes of the competitors. This is useful when the run contains competitors of different classes.

Pos		No.	Name	Class		Last Tm	Laps	Total Tm	Diff	Gap
1		23	John Doe		Experienced	45.7747	2	1:31.4095		
2		89	Richard Siz		Experienced	46.6245	2	1:34.2315	2.8220	2.8220
3		33	Elza Bidem		Experienced	49.6285	2	1:42.9441	11.5346	8.7126
4		77	Alexander Rize		Experienced	51.2506	2	1:45.6074	14.1979	2.6633
5		12	Joce Petterson		Experienced					
1		123	Paul First		Rookies	46.7109	2	1:34.6180		
2		777	Guy Wonza		Rookies	47.1062	2	1:35.4202	0.8022	0.8022
3		44	Carlos Suarez		Rookies	49.9110	2	1:43.6315	9.0135	8.2113
4		111	Reeze VanHouten		Rookies	49.9676	2	1:45.0351	10.4171	1.4036
5		214	Suzan Fry		Rookies	52.1204	2	1:49.5602	14.9422	4.5251

Sequencer

The sequencer shows the order in which the competitors pass the timelines on the track and in the pit. If the timelines are passed in the expected order, the square will color green. But if a timeline is missed, the square will turn red. This will give you a quick indication if your setup is alright and if any competitor is missing timelines.

		No.	Name		Track	Pit
1		23	John Doe			
2		89	Richard Siz	2.8220		
3		123	Paul First	3.2085		
4		777	Guy Wonza	4.0107		
5		33	Elza Bidem	11.5346		
6		44	Carlos Suarez	12.2220		
7		111	Reeze VanHouten	13.6256		
8		77	Alexander Rize	14.1979		
9		214	Suzan Fry	18.1507		
10		12	Joce Petterson			

Unrelated transponders

If a transponder passes a timeline and the transponder number is unknown in both the run and the group, the transponder will appear as an unrelated transponder on screen. A relation between transponder number and competitor can be created by double clicking on the unrelated competitor on the "Unrelated competitors" tab.

Transponder	Time of Day	Passing...	Timeline
1001	12:10:39.946	8	Intermediate 1
1002	12:10:38.371	7	Intermediate 1
1003	12:10:34.782	7	Intermediate 1
1004	12:10:48.339	7	Intermediate 1
1005	12:10:49.993	7	Intermediate 1
1006	12:10:46.061	7	Intermediate 1
1007	12:10:39.977	7	Intermediate 1
1008	12:10:37.934	7	Intermediate 1
1009	12:10:43.051	7	Intermediate 1
1010	12:10:39.541	7	Intermediate 1

In order to relate a competitor to a transponder you can choose one of four options.

Quickly create a competitor
A new competitor with the given transponder number will be created.

Link transponder to an existing competitor
An existing competitor can be selected from the run, group or database. The transponder will be linked to the selected competitor.

Keep unrelated, but show on results
No relation is created between a new or existing competitor but the unrelated transponder number will be visible in the result.

Keep unrelated, don't show on results
No relation is created between a new or existing competitor. The unrelated transponder is not visible on the result. The unrelated transponder will be visible under "Unrelated transponders" after clicking on the button "Show hidden competitors".

Run information (Advanced)

The Run information screen will give you all kinds of detailed information about the currently selected run, like the time a flag has been active, the number of competitors on track and in the pit and the number of lead changes in the run.

	Results	Results by class	Sequencer	Unrelated transponders	Hidden competitors	Run information		
Green Time	Yellow Time	Red Time	Green Laps	Yellow Laps	Yellow flag count	Avg. Speed	Leader	Leader Change Count	Laps
2:19:32	0	0	14	0	0	4,748	214 - Suzan Fry	7	14

Transponder switch

When two competitors have accidentally switched their transponders, you can manually switch them back. In the Passings Screen, select and right mouse click a passing of one of the competitors. Select the **Switch Transponder(s) With...** option and a list of competitors will appear. Select the competitor the transponder needs to be switched with. When more than two competitors have the wrong transponder you can repeat the process.

Manual passings

When the transponder of a competitor is not detected, that competitor needs to be timed manually. Reasons for not detecting a transponder can be an incorrect transponder position, a transponder that was not charged or a completely missing transponder. If multiple transponders are not detected, a bad loop installation may be a more likely cause for the failures.

To insert a manual passing at the current race time you have to hit the 'F10' key. To insert a manual passing after a passing in the passing list, do a right mouse click on the passing and select Insert a Manual Passing from the pop-up menu. After inserting a manual passing you can drag it to another position with your mouse.

A manual passing will show with the ⏱ icon in the Passings Screen. You can assign, or reassign it to a competitor by selecting it, clicking the right mouse button and selecting Assign Competitor to Passing.

The Assign a Manual Passing dialog will pop up. It consists of two lists sorted by Competitor number. The first list contains all competitors in the current Run. The second list contains all competitors for which a manual passing was previously added. A manual passing is assigned to a competitor by selecting a name from one of the lists and clicking the Assign button or hitting the Enter key. When you select Delete, the manual passing will be deleted.

Note: The 'F10' hotkey can be pressed at any time while a race/qualification is running.

Lap times from manual passings will always be invalidated and therefore not count as best lap time. Multiple laps can also be added by right clicking the competitor and selecting Corrections and Penalties. Photocell and manual passings work similarly.

Driver ID

Enabling this feature, allows you to assign up to 6 transponders per 'team'. In the competitor details screen, you can specify the transponders for the team by clicking on the **Edit Transponders** button.

The feature is enabled in the menu Tools -> Options
- Select Transponder settings
- Select the option Driver ID

There are 2 ways to support multiple drivers per team.

Unique transponder per competitor
Each driver per team has its own unique transponder. You can specify the transponder number per driver.

X2 Driver ID
The team has one transponder and the X2 Driver ID Unit is used to select a driver ID.
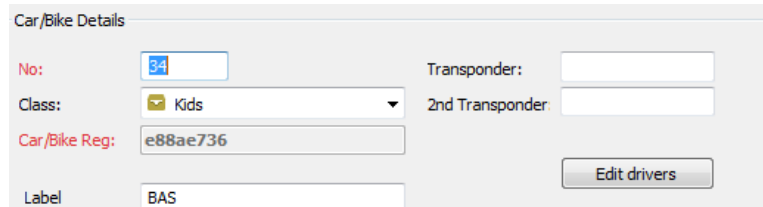
Camera integration (plug-in required)

When the camera system is configured in Tools -> Options -> Camera integration, an additional menu item will be shown when right clicking a passing: "Show Al Kamel passing photo". After clicking this, the passing photo(s) of the selected passing will be

shown by the camera system using the default web browser.

Edit a competitor

Click on 'Edit Drivers button to assign the Transponder(s) for the selected competitor.
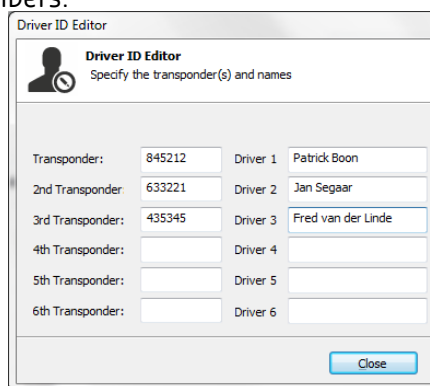
If you use a transponder per competitor you need to fill in all the transponder numbers.
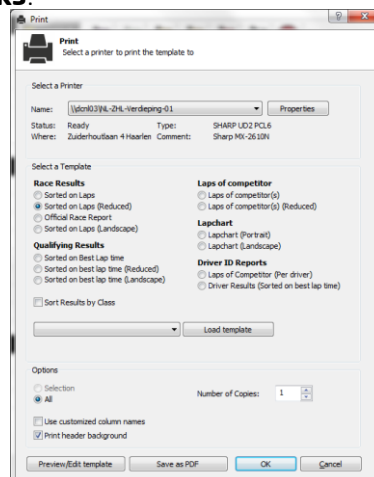
Print results

Orbits has several pre-defined templates for printing results. To print the results of a run or merge, click on **Print**, which can be found under **Publish tasks**.

Print the results of a run

- You can choose the following templates:
- Race results
- Qualify results
- Laps of competitor
- Lap chart

Results can be sorted on class by selecting the option Sort Results by Class. Change the names of the columns displayed on the printout by selecting the option Use customized column names. The gray header background can be displayed by selecting the option Print header background. Select the number of copies and press Ok to print the results.

Print preview

Press Preview/ Edit template to see a preview of the printout on the document.

Pos	No.	Name	Class	La...	Diff	Total Tm	Best Tm	Nat/State	Sponsor
1	11	SORECA DAVIDE	125 INT	8		18:49.807	2:19.179		
2	199	RAVERA LORENZO	125 INT	8	0.523	18:50.330	2:18.652		
3	78	MANTERO FEDERICO	125	8	25.587	19:15.394	2:20.920		
4	721	POGGI LUCA	125 INT	8	37.886	19:27.693	2:23.129		
5	38	VIGLINO GIORGIO	125	8	1:02.531	19:52.338	2:22.953		
6	715	FERLONI ALESSAND...	125 INT	8	1:13.029	20:02.836	2:26.629		
7	33	SERVENTI MANUEL	125	8	1:42.477	20:32.284	2:28.221		
8	833	ALESSI MARCO	125	8	2:00.547	20:50.354	2:32.560		
9	220	CHIERICO MATTEO	125	8	2:01.783	20:51.590	2:35.034		
10	137	VIGLINO RICCARDO	125	8	2:02.654	20:52.461	2:32.985		
11	82	VEZZETTI ALESSAND...	125	8	2:26.220	21:16.027	2:36.721		
12	119	GARRE' MATTIA	125	7	1 Lap	19:07.724	2:41.190		
13	126	FRECCERO STEFANO	125	7	1 Lap	19:19.039	2:33.512		
14	86	CAROZZO MARCO	125	7	1 Lap	19:22.635	2:41.324		

Edit Print Out

The race and qualify result templates can be customized. Select the template you want to customize and choose Preview/Edit Template and press on Edit Print Out.

Printout header

Logo and text objects

The print template editor offers several objects to place in the header

of the template (This is marked by the rectangle, as displayed in the picture). The available objects can be selected by using the toolbar shown at the top of the screen. Once you've selected an object you can create it on the printout pushing the left mouse button and hold it. Move your mouse to the right bottom of the printout to enlarge it. When the object has reached the proper size you can release the left mouse button.

Line object
The line object is a simple object that shows a horizontal or vertical line in a color or width that is defined by the user. Right click on the object and choose Properties to change the line thickness.

Text object
The text object can display a user-defined text or a predefined value (date, time, etc.). With the buttons you can change the colors. By getting the properties of the object (double click left button or right click and select properties from menu) you can change the rest of the settings.

Place your text here
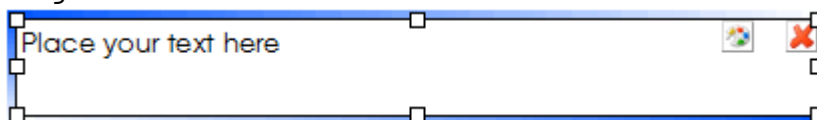
Picture object
The picture object can be used to display images in jpeg, gif, bitmap or icon-format. By default the image is displayed using its original proportions, by selecting the "original size"-button the images keeps it original size. Each object can be resized by using the arrow tool. Before you can resize or move an object you must select it first. A selected object shows a border around the object with eight squares. Now you can resize the button by pressing the left mouse button on top of one of the squares and drag the mouse until it has reached the proper size. If you move the mouse over the object a moving cursor appears. If you hold the left mouse button and move to mouse the object will follow the mouse.

No Picture Selected

The changes made to the selected template can be saved. The program will prompt to save the changes.

Printout Columns

To select the columns to be printed, select a competitor and right-click and select Column Settings. You can also adjust the row height if necessary.

Select the Columns to be printed

Header and Footer

It is possible to create and save your own personal header and footer. In order to create your own header, you do the following steps:

- Make a copy of the header file that you want to use and give it a proper name. E.g use Defaultheader.pmt and copy it and rename it colaheader.pmt
- The header and footer files can be found in the folder Print of your Orbits program data files.
- Open the template with which you want to use the adapted header.
- Open the header/footer setup and select the header file name you want to use.
- Make the changes you want to it by adding pictures, text or logo's and click on the save button. All changes to the header will be saved to the selected header.

In the same manner you can make adaptations to your personal footer.

Load specific templates

It is now possible to load a specific print template by clicking on the print task within the Processing page and in the printer dialog window click on the drop down menu and choose the template you want to use:
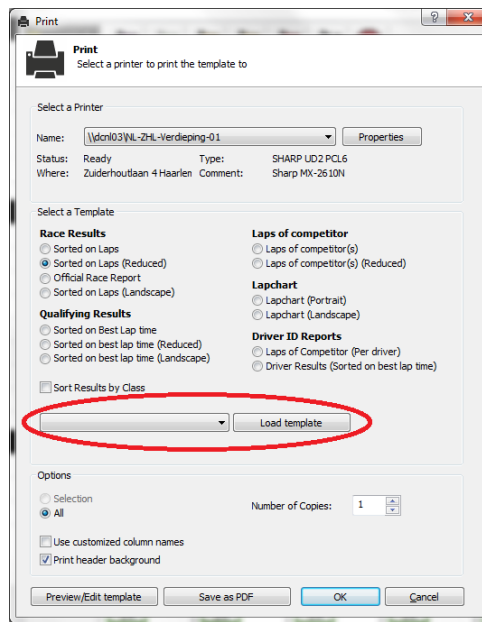
Next to this you can also save the print out as a PDF by clicking on save as PDF button in the bottom of the printer dialog window.

Print passings

To print the passings of a run, click on **Print passings**, which can be found under **Publish tasks**.

#	No.	Name	Laps	Lead	Lap Tm	Spd	Elapsed Tm	Passing Tm	Hits	Stren
1		Green Flag						18:14:23.053		
2	??	723460	0	0				18:14:28.155	48	
3	16	Aaron Marriott	0	0			0.000	18:14:28.231	64	
4	69	Thomas Carr	0	0			0.636	18:14:28.867	45	
5	7	Richard Paynter	0	0			0.952	18:14:29.183	75	
6	65	Joshua Kirby	0	0			1.022	18:14:29.253	55	
7	12	Jody Whitmore	0	0			1.079	18:14:29.310	18	
8	106	Brett Freston	0	0			1.243	18:14:29.474	50	
9	177	Ryan Griffin	0	0			1.310	18:14:29.541	39	

Export passings

To export the passing information of a run in html format click on **Export passings**, which can be found under **Publish tasks**
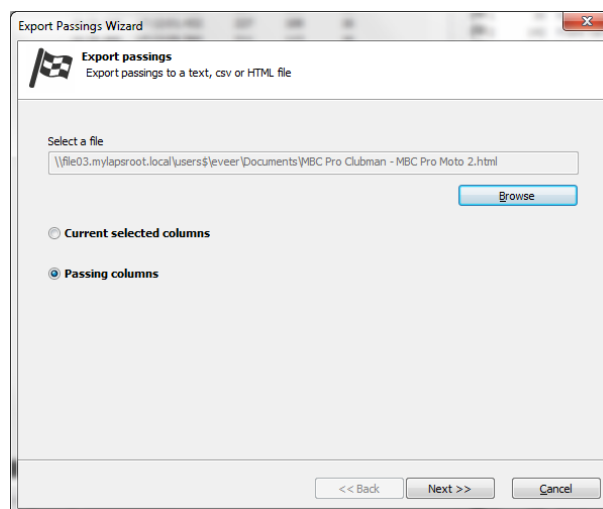
NORA-MX ACU Round 6 Culham Culham
Results of Clubman B - Clubman B Race 3

#	No.	Name	Laps	Lead Lap	Tm Spd	Elapsed Tm	Passing Tm	Hits	Strength	Noise	Photocell Time	Transponder	Backup Tx	Backup Passing Tm
1		Green Flag					18:14:23.053							
2	??	723460	0	0			18:14:28.155	48	112	35		723460	0	
3	16	Aaron Marriott	0	0		0.000	18:14:28.231	64	119	35		020	0	
4	69	Thomas Carr	0	0		0.636	18:14:28.867	45	113	41		2510402	0	
5	7	Richard Paynter	0	0		0.952	18:14:29.183	75	122	41		2387410	0	
6	65	Joshua Kirby	0	0		1.022	18:14:29.253	55	123	41		2394123	0	
7	12	Jody Whitmore	0	0		1.079	18:14:29.310	18	106	41		9420845	0	
8	106	Brett Freston	0	0		1.243	18:14:29.474	50	124	41		026	0	
9	177	Ryan Griffin	0	0		1.310	18:14:29.541	39	121	41		5358627	0	
10	18	Phil Munday	0	0		1.521	18:14:29.752	84	142	41		2575094	0	
11	137	Jaime Hall	0	0		1.607	18:14:29.838	71	122	41		027	0	
12	155	Samuel Barrett	0	0		1.612	18:14:29.843	63	120	41		008	0	
13	88	Daniel Smith	0	0		1.880	18:14:30.111	77	124	41		024	0	

Single car qualifying

When the run type is set to Single Car Qualifying, the program will switch to Single Car Qualifying mode. This means that the program will time the competitors individually. The number of competitors that are qualified on best lap time can be inputted in the run settings screen. This option is only enabled if the run is a Single Car Qualifying run. The program will show which competitor is qualifying at that moment.

Timing a Single Competitor

When a new competitor is on the track, insert the warm-up flag to start timing the competitor. After the competitor has finished his warm-up laps starts single car qualifying by inserting the green flag. Depending on the number of laps stop the qualifying session of the competitor that is on the track by inserting the finish flag. To start timing the next competitor, insert the warm-up flag again.

Note: when the number of laps is filled in, in the run settings screen (auto finish laps), the program can automatically insert a finish flag. If the option Automatically inserts a Finish Flag is checked and the number of laps is reached, the program automatically inserts a finish flag.

Select other qualifier

The program will automatically select the first competitor after the warm-up flag as the current competitor. If there are two or more competitors on the track at the same time you can pick the competitor that should be times, by selecting the competitor form the menu. (Only competitor after the warm-up flag will be displayed in the menu.)

Tie on Best Lap time

When there is a tie on best lap time, this is indicated by a red background color in the results screen. To change the qualify order for competitors that have a tie on best lap time, drag and drop the competitor in the proper position, within the competitors that have a tie. When the scoreboard feed is enabled, the scoreboard feed will be automatically put to hold, so there is the possibility to fix the tie on best lap time.

Provisional and Past Champion

When a competitor is not qualified on time, the program allows the operator to mark a competitor as a provisional or past champion. The program allows the operator to mark 10 competitors as provisional and one competitor as a past champion. This can be done from the results screen, by right click on a competitor and selecting the desired option from the menu. The provisional and past champion will be placed on the qualify results behind the qualified competitors.

Note: Competitors that are qualified on time will be marked in the results screen with a white background color. Competitors that are not qualified on time will be marked with a dark gray background color.

Lineup creation

When a yellow, yellow not counting or red flag situation occurs during a race, the program automatically generates the lineup if the oval features are enabled in the general settings. Depending on the lineup method and the lineup scheme, the program automatically generates the lineup.

Lineup Method

- **Back to Last Completed Lap** > The program will go back to the last completed lap. Therefore all the passings in the current lead lap will be marked as deleted. The program will generate the lineup immediately.
- **Race up to the Yellow >** The program allows the leader to complete his lap. The program will wait with making the lineup until the leader has completed his current lap.

Lineup Scheme

- **Current Track Order >** The program will use the current track order at the yellow or red flag situation for the lineup scheme.
- **Race up to the Yellow >** The program will use the current race results at the yellow or red flag situation for the lineup scheme.

To change the position of a competitor in the lineup, drag and drop the competitor to the proper position. To set a competitor at the back of the lineup, right click on the highlighted competitor and select **Set to Back**.

If a competitor has the same position on the track as at the lineup request, he will be marked green. If the competitor is not in the proper lineup position he is marked red.
A lineup can be saved to HTML, CSV and txt file.
To print the lineup, click the print button. The columns will be printed in the selected order and size.

The following columns will be displayed:

Column name	Description
Lineup	The order in which the competitors have to lineup
No.	The car number
Name	Name of the competitor
Position on track	The current position of the competitor on the track
Laps	Lap count in the lap the lineup is made for
Diff	Difference in laps between the lap the lineup is made for and the actual number of laps the competitor has completed

Sandbagging

Orbits will monitor the competitor lap times during the race. If the lap time in the race is faster than the qualify time – sandbagging time, the lap time will be marked red.

#	No.	Name	Laps	Lead	Lap Tm	Spd	Elapsed...	Time of Da
111	30	Frank Aghina	10	10	1:58.915	130,404	20:11.481	16:29:59.74
112	12	Maarten van ...	10	10	1:58.855	130,470	20:11.869	16:30:00.12
113	44	Bert van den ...	10	10	2:03.515	125,547	20:36.010	16:30:24.27
114	26	Robert Vroom	10	10	2:01.161	127,986	20:41.048	16:30:29.30

To view the 'Sandbagging time' per competitor you can add the column 'Minimum Lap time' in the result screen.

Pos	No.	Name	Min. Lap Tm	Last Tm
1	42	Henk Bökenkamp	1:50.997	1:55.627
2	35	Harm Boerma	1:51.826	1:53.124
3	63	Mikael Sode	1:54.570	1:57.464
4	12	Maarten van Helden	1:56.807	1:57.309

After the qualify session is finished you need to create the starting grid for the race. This can be done on the Processing page. When the starting grid for the race is created the program will automatically calculate the 'Minimum lap time' per competitor. It will take the qualify time and deduct the time filled in the General Settings screen.

Section times

If your system setup is configured with sections, Orbits can display the section results. For an intermediate the times can be displayed. For a speed trap, the speed. If a competitor sets his best section time in the current lap it will be marked with a purple background color. If a competitor enters a section the previous section time will be cleared, so you know that the competitor is in that section.

Please note:
When a competitor enters the pit lane in a practice or qualifying session his best section times will be displayed instead of his last section times.

Pos	No.	Name	Laps	Total Tm	S1 Tm	S2 Tm
🟢 1	37	Kristof Salaets	3	1:00.599	-.---	13.266
⬆ 2	18	Thomas Allier	3	1:00.661	-.---	13.141
🟢 3	121	Alessio Chiodi	3	1:01.098	-.---	13.484
🟢 4	11	Steve Ramon	3	1:01.535	-.---	13.562
⬆ 5	111	Aigar Leok	3	1:02.127	-.---	13.374
⬆ 6	70	Jonny Lindhe	3	1:02.190	-.---	13.671
🟢 7	108	Kornel Nemeth	3	1:02.284	-.---	14.046
⬆ 8	31	Kasper Jensen	3	1:02.845	-.---	13.609
⬆ 9	2	Kevin Strijbos	3	1:03.251	-.---	14.015
🟢 10	71	Antti Pyrhonen	3	1:03.407	-.---	14.264
🟢 11	15	Cristian Beggi	3	1:04.000	-.---	13.890
🟢 12	16	James Noble	3	1:04.967	-.---	14.296
🟢 13	90	Sebastien Pourcel	3	1:05.279	-.---	14.420
🟢 14	4	Mike Brown	3	1:05.404	-.---	14.420
🟢 15	14	Marc de Reuver	3	1:05.965	-.---	14.513
16	7	Jonathan Barragan	2	44.899	6.963	-.---
17	101	Maximilian Nagl	2	44.930	6.932	-.---
18	51	Matteo Dottori	2	45.055	6.807	-.---
19	19	David Philippaerts	2	45.258	6.698	-.---
20	23	Alex Salvini	2	45.679	6.963	-.---
21	89	Radomir Harbich	2	45.804	6.807	-.---
22	24	Pierre A. Renet	2	46.880	6.885	-.---

9 Processing Results

Orbits contain extensive features for processing your results. This section describes the way you can assign points, merge results, create a starting grid and copy competitors.

Overview

The processing page can be accessed by clicking on the Processing page, which can be found at the top of the screen. Processing can be used to calculate overall results, create a starting grid based on the results of several runs, export results or assign points

Result tasks

The result tasks allows to assign points to the results of a run or merge, create a starting grid, add Announcements, have an overview of the penalties or corrections and to Copy competitors

Assign points

To start the Assign Points wizard, select the run or merged result and click on **'Assign points'**, which can be found under the Result Tasks. The Assign Points Wizard will guide you through the process.

There are several choices here:

- *All classes use the same Point scheme*: Select Use one point scheme if all classes have the same point scheme
- *Each class uses a specific Point scheme*: Select Use the class
- *Several class combine a specific Point scheme*: Select all classes that

use the same point scheme and press Combine Classes

Click on the class name to select the point scheme.

Use existing point scheme

Select a point scheme from the list and press **OK**. Editing and deleting a points scheme is done similarly.
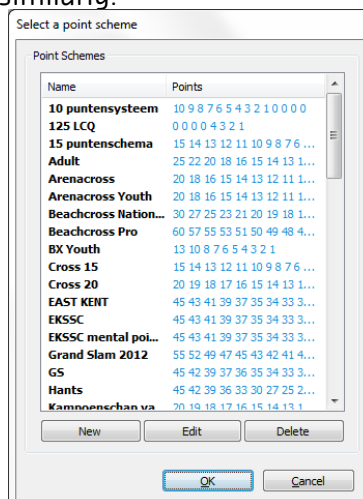
New point schemes

To create a new points scheme click on the **New** button. Editing an existing point scheme has the same effect.
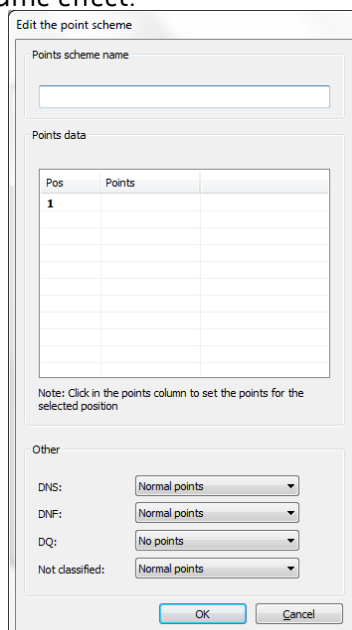
Point schemes settings

Points scheme name: Name of the point scheme.

Points
Here you enter the points to be assigned to the results of the run or merge in ascending order. Follow each number by <Enter>. It is also possible to enter decimal point values.
The new point scheme will automatically be saved to disk in the directory Points in the Orbits folder.
Enter the points scheme by clicking on the points column and fill in the points for that position.

Other
Here you can specify the points for a specific result state.

DNS competitors
- Normal Points: Points according to position.
- Fixed points: Specify the points.
- No points: No points are assigned

DNF competitors
- Normal Points: Points according to position.
- Fixed points: Specify the points.
- No points: No points are assigned

DQ competitors
- Normal Points: Points according to position.
- Fixed points: Specify the points.
- No points: No points are assigned

Not classified
- Normal Points: Points according to position.
- Fixed points: Specify the points.
- No points: No points are assigned

Clear points   To clear the already assigned points of all competitors in a run or merged result, click on **'Clear points'**.

Manage points schemes   To add, edit or delete points schemes, without assigning a points scheme, click on **'Manage points schemes'**

Starting grid   Select the preferred layout of the starting grid. The starting grid settings can be found under **Tools -> Options** and then the Starting grid task, which can be found at the left part of the screen.
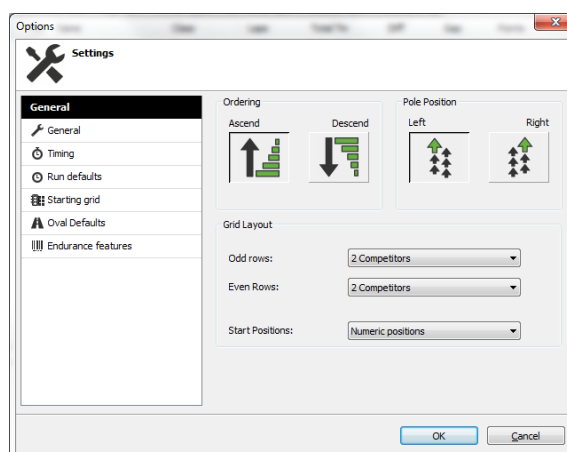
Ordering
The starting grid can be printed in ascending or descending order.

Pole Position
The layout can be one or more rows with a pole position either on the left or right side.

Grid Layout
The starting grid can have a different number of competitors in the even

Create a starting grid (Wizard)

and odd rows. The max. number of competitors in a row is 6.
Select the run to create the starting grid for. Then open the 'Starting Grid wizard' by clicking on Starting grid button, which can be found under Result tasks and select Use Starting Grid Wizard from the menu. Now the wizard will guide you through this process.

Step 1> Select the run
Select the run where you want to create the starting grid for.

Create starting grid for competitors in <Run>
When you want to create a starting grid for a specific group of competitors, copy the competitors to the run where you want to make the starting grid for. Only competitors that were added to this run will appear on the grid.

Step 2> Specify the starting grid options
The second step is to select how the starting grid should be created. The starting grid can be created using the following methods:

- *Result, the starting grid is based on the result of a run*: The starting grid is based on the result of another run. Depending on the type of that run, the starting grid will be sorted on best lap time or laps. Select the run where the starting grid is based on.
- *Even and odd row, the grid is based on the result of runs*: The starting grid is based on the result of 2 runs. Select a run for the odd positions and select a run for the even positions.
- *Manual starting grid, manually assign the start positions*: Manually assign the start positions. Select a group of run that contains the competitors. Select a run or group that contains the competitors that should be on the grid.
- *Random starting grid, create a random starting grid*: Create a random starting grid. Select a run or group that contains the competitors that should be on the grid.
- *Inverted, grid is based on the inverted grid of another run*: The starting grid is based on the grid of another run. Select the run where the grid is based on.
- *Starting Grid 2nd best lap time, the grid is based on the second best laptime of the run:* based on the seconds best lap time of competitors in a run

Sort the starting grid by class
The starting grid will be sorted on class.

Only add qualified competitors
Only add qualified competitors from the selected run.

Step 3> Finish the starting grid
The last page of the wizard displays the starting grid. Click on finish to print or modify the starting grid.

Modify the starting grid

Once a starting grid is created you can easily modify the start positions with the starting grid editor.

Modify the start positions: You can change the start position by selecting a competitor and drag and drop him to the preferred position.

Invert starting grid: This will put all competitors on the grid in reverse order.

Invert top x competitors: This will put the top x competitors on the grid in reverse order.

Edit comment: When a competitor is selected you can change the text in the comment column.

If you right click a competitor you get a menu with the following options:

Send to Back
Place the selected competitor at the back of the starting grid.

Insert/Delete Empty Place
Insert or delete an empty place at this position.

Delete Selected Competitor
Remove the selected competitor from the starting grid.

Edit comment
Edit the comment of the selected competitor.

Starting grid header comment: This text will be printed at the top of the starting grid.

Starting grid footer comment: This text will be printed at the bottom of the starting grid.

Select the additional data that should be displayed per competitor:
Select the additional information column you want to print per competitor.

Print the starting grid

To print the starting grid, click on the **Print** button, which can be found under the **Other** Tasks. This will open the printer selection dialog. If you want to print a starting grid sorted on car number, you can click on Print large numbers button, which can also be found under **Other** tasks.

Announcements

Announcements can be used to make notes of official decisions made during a run. E.g. Stop and Go Penalty for competitor, reason for red flag etc. Depending on the type, announcements are shown on the official race result printout and on Mylaps.com or only in the Announcer Page. To add, modify or delete announcements by selecting Announcements from the Results tasks and right click on the Announcement Screen to select your task from the menu.
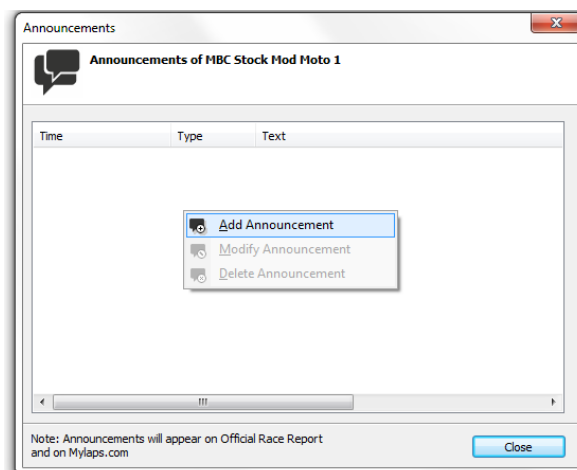
Copy Competitors

From a run or merged result, qualified competitors can be selected and copied to another group or run. Select the competitors you want to copy to another run, in the results screen. Open the dialog by clicking on Copy the competitors button, which can be found under results task. In this dialog you can specify which competitors should be copied to another group or run.
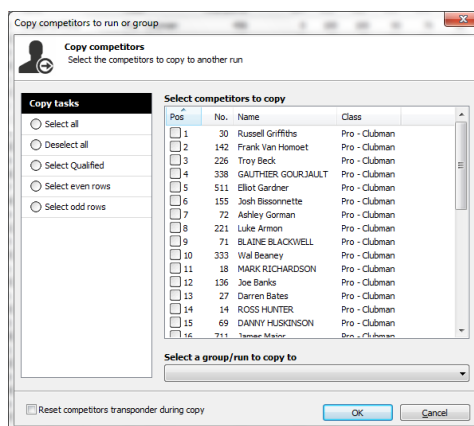
- **Select all:** Select all the competitors
- **Deselect all:** Deselect all competitors.
- **Select qualified:** Only copy competitors that are qualified. Qualified competitors will be displayed with a block color.
- **Select even rows:** Only copy competitors that are on a even position.
- **Select odd rows:** Only copy competitors that are on a odd position.
- **Select a group or run to copy to:** Specify the group or run to copy the selected competitors to.
- **Reset competitors transponder during copy:** When checked, the competitors' transponder number will be set to zero during copy.

Press the **OK** button to copy the competitors.

Merge results

In Orbits, the results of a series of runs may be combined in order to calculate an overall result of a series of qualifying sessions or races. From the merged results of qualifying sessions, a selection of qualified competitors can be made and copied to the appropriate final group. A merge can be based on best lap-time, race result, or points.

Create a merged result

To create a merged result, click on **Create a new merge**, which can be found under the **Merged result tasks**. Now the wizard will guide you through this process.

Merged result tasks

- Create a new merge (quick)
- Create a new merge
- Modify the merged result
- Calculate the merged result
- Clear merged result
- Start live merge
- Stop live merge

General merge settings

Step 1> General merge settings
Name
Name of the merged result.

Sort method
Specify how the merged result should be sorted.
- **Qualify sort**: The merged result is sorted on best lap-time.
- **Race sort**: Results are sorted by highest number of laps and then lowest total time.
- **Most points sort**: Result is sorted on most total points. The competitor with the most points wins.
- **Less points sort**: Result is sorted on less total points.

When you use **merge on points**, you can include a **specific tie solver**:
- **Last result:** in case of a tie it will look at the result that was last added to the merge
- **Qualifying:** in case of a tie it will look at the best lap time
- **Race:** in case of a tie it will look at the number of laps and total time

Invert the result
Check this button when you want to invert the result.

Merge method
- **Best**: Take the best result. (This is default setting for a merge sorted on best lap time)
- **Sum**: Calculates the sum of the results. (This is default setting for a merge sorted on points or sorted laps)
- **Average**: Calculates the average result.

Select runs

Step 2> Select the runs to merge
Select the runs that are going to be merged. By using the arrow buttons, runs can be added to the merge. To delete a run from this merge use the corresponding buttons.

Results filter
The result filter allows you to exclude competitors from the merge. The following filters are available:
- **On Position**: Only include competitors in the merge that are in the specified range. (Minimum position, Maximum position)
- **On Class**: Only include competitors in the merge that are in the selected class(es).
- **On Points**: Only include competitors in the merge that are in the specified range. (Minimum position, Maximum position)
- **Qualified**: Only include qualified competitors in the merge.

To specify a filter on a result, select a run or merge from the list and choose

the filter from the choice list. Check 'Use same filter for all' if you want to apply the filter for all runs in the merge.

Options

Step 3 > Options
Qualification requirements
 This property indicates how competitors can qualify for the merged result. The possibilities are:
- **None**: All competitors appear on the result.
- **On best lap time**: When selected, you can specify a percentage. To appear on the results, a competitor must achieve a lap time of no more than the specified percentage of the best lap time. This only applies to merges sorted on best lap-time.
- **On average best lap time of top x**: When selected, you can specify a percentage. To appear on the results, a competitor must achieve a lap time of no more than the specified percentage of the best lap time. This only applies to merges sorted on best lap-time.
- **Minimum percentage of the leader total laps**: When selected you can specify a percentage. To appear on the results, a competitor must complete at least the specified percentage of laps of the leader. This only applies to printed results. This only applies to merges sorted on laps.
- **Maximum number of competitors**: When selected, you can specify a position. All competitors from the specified position down do not qualify. This applies to race, qualifying as well as practice results.

Keep not qualified competitors in the merge
If you apply a Qualification Requirement on this merge, not qualified competitors will appear on the merged result. If this option is off, a not qualified competitor will not appear on the result.
Unique Identifier
This is used to identify competitors with the same information in the selected field.

Counting runs
Specify how many runs are counting for the merge. The program will drop the worst result if a competitor appeared in more runs than specified.

Step 4> Finish the wizard
Calculate the merged result: Check this button to calculate the merged result.

Calculate merged result

A merged result can be calculated after all runs are finished (and points are assigned). Click on 'Calculate merged result' which can be found under Merged result tasks' to calculate the result.

Note: The merged result is not automatically updated when the result of one of the run changes. Click on 'Calculate merged result' to apply the changes. Only Live Merges will update automatically.

Solve ties

When two or more competitors have the same number of points, the total points column is marked with a red background. Even if you have indicated a specific tie solver, the competitors are still highlighted to make you aware of it

| 10 | 3 | Remco Vos | 125 | 13 |
| 11 | 15 | Brad O'Leeary | 125 | 13 |

You can still change the position also manually, by selecting a competitor and drag and drop him on the preferred position.

Team points merge

To create a team merge on points, create a merge on points and choose 'take the sum of the team result' as merge method.

Then on the extra merge options page at advanced select the desired team identifier.

This should be a field by which the team members can be identified. This will usually an additional field. In the resulting merge each team will appear once and the points of the individual members will be summed to form the team result.

Publish tasks

The publish tasks allow to export or print results or lap times of a run or merge

Export results to file

The results can be exported in three different format:
- txt file; The results are exported to a tab delimited text file.

- csv file: The results are exported to a comma delimited text file.
- html file: The results are exported to a html file.
- xml file: The results are exported to a xml file.

Export lap times

Exporting lap times to TXT, CSV or HTML. To export the lap times of a run, click on Export lap times to file, which can be found under Publish tasks. Now the wizard will guide you through this process.

The lap times file can be exported in three different format:
- txt file; The lap times are exported to a tab delimited text file.
- csv file: The lap times are exported to a comma delimited text file.
- html file: The lap times are exported to a html file.

Section Info
This will export the section times per lap.

Passing Info
This will export the passing info

Export points for championships

Exporting points in a xml format.
The xml file can be imported in another application

Live points

Orbits can assign live points to a run. This can be done checking the checkbox in the Assign Points Wizard. When a run is running and the order of the results in a run changes then the competitors will receive the points according to the chosen point's scheme. When the run is stopped the points are frozen.
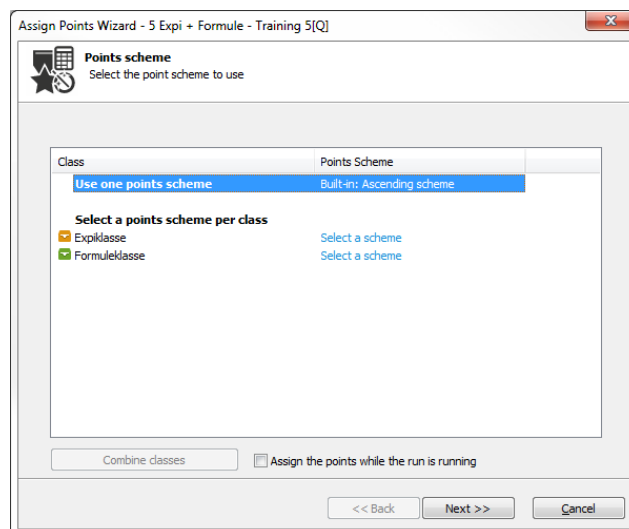
When a run has live points enabled a small calculator will appear over the run icon:

Live merge

Orbits can calculate a merge semi live. This can be done by clicking on the "Start live merge" task in the Processing page. When a merge is live it will be recalculated every 5 seconds.
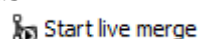
A live merge can be used in combination with a live points run.

The live merge will be colored yellow:

To stop the live merge click on the "Stop live merge" task:
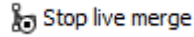
 Stop live merge

Note: Only one live merge can be active at a time

Distributing live merges

Live merges can also be distributed. On the Announcer Page and in the Result Monitor a live merge can be selected.

10 Distributing Results

Besides the timing and scoring functionality Orbits has several ways to distribute the results to the outside world.

Overview

Orbits has several ways to distribute the results to the outside world. These options include a MYLAPS.com upload, Scoreboard feed and Results on an Onboard Display screen.
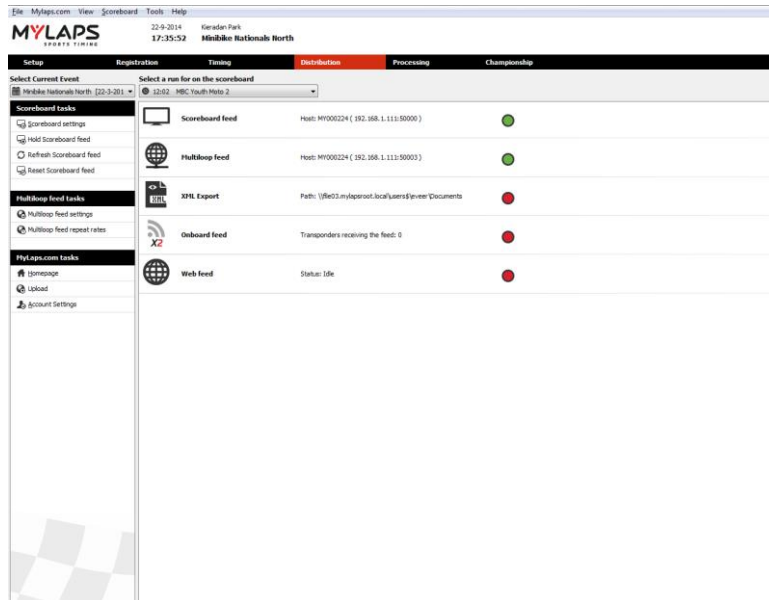
Scoreboard tasks

The Orbits program can supply a single information feed via RS232 (null modem) and multiple information feeds via TCPIP (network) to other computers or scoreboards. Both the MYLAPS RMonitor protocol and the Daktronics protocol are supported. Please contact MYLAPS if you want to receive the RMonitor protocol.

Via **Scoreboard – Scoreboard Settings**, the communication settings for the information feed(s) can be specified.
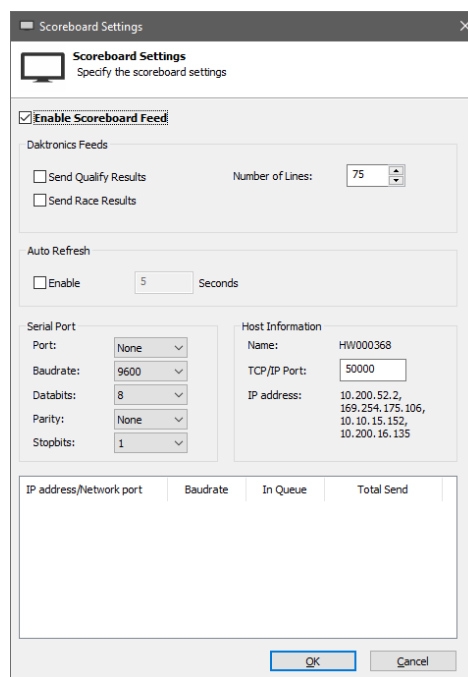
RS232

In the Serial Port section set the COM port that the scoreboard is connected to. The following settings should be filled in for the RMonitor protocol: Baud

rate=9600, Data bits=8, Stop bits=1, Parity=None.

TCP/IP

The hostname and IP address will be automatically shown in the Host Information section. Specify the port that you want to use. Port 50000 is normally always available.

Daktronics

The Daktronics protocol is built into the Orbits software. Choose to send information about qualifying results and/or select to send information about the race results. Select the appropriate feed and the number of lines that are used on the scoreboard.

Auto refresh

Here you can specify the interval at which the feed will automatically be refreshed. Refreshing the feed can also be done manually by pressing 'F2'.

Run on the scoreboard

The active run will be automatically displayed on the scoreboard. In case no run is active, the run to be displayed can be selected in the drop down menu
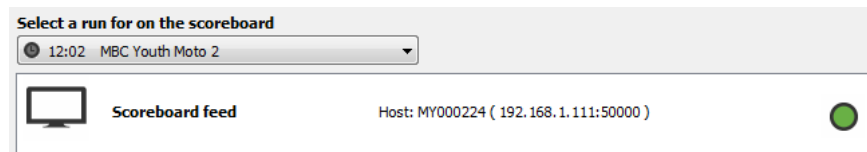
MYLAPS.com tasks

Get your results and lap times online in a few clicks
Using the MYLAPS software packages you can upload your race results in a few clicks. Putting your results online has never been easier. Uploading to MYLAPS.com is free of charge and offered as an extra service with this timing software. Give your racers the information they deserve and start uploading today.

All your results on one page
All the events you uploaded can all be seen on one easy page on MYLAPS.com. You can even get your own MYLAPS.com sub domain (This is an address like: myraceclub.mylaps.com) to link directly to your uploaded results. In this way, your racers can access their results, lap times and section times within 1 click.
To expose your organization in a professional way, you can also put on a link to your own website, and put a logo on all the results that you upload!

Get the results on your own website
MYLAPS.com offers organizations that upload, the possibility to put their uploaded results live into their own website. By copying a small piece of code into your own website, your site will stay up-to-date while you upload results to MYLAPS.com.

Upload: Computer is connected to the internet

To upload results to MYLAPS.com, click the Upload to MYLAPS.com button, which can be found under Publish tasks. Now the wizard will guide you through this process.

- **Step 1> Login on MYLAPS.com:** In order to use the MYLAPS.com service you must login with the username and organization of your MYLAPS.com account. Enter the username and password which are associated with your organization.
- **Step 2> Specify the runs and merges:** The program will select all finished runs to upload to MYLAPS.com. Once a run is uploaded to MYLAPS.com it will not be selected for upload until the result of the run changed. Click the Next button to start uploading to MYLAPS.com.
- **Step 3> Uploading results** The Upload wizard makes a connection with the MYLAPS.com server. Once the connection is made the results are automatically uploaded.
- Click on the link to view the results.

Upload: Computer is not connected to the internet

The first 2 steps are the same as when the computer is connected to the internet.
- **Step 3 > Save the upload file:** When there is no connection to the internet, specify the location to save the upload file, so the results can be uploaded to MYLAPS.com from another computer.
- **Step 4 > The upload is finished:** The upload file is successfully saved to the selected location. To upload the results to MYLAPS.com, bring the file to another computer that is connected to the internet and open it there.

Web Feed (LiveTiming)

Orbits can send results to the online timing server with the Web feed plugin. On the server spectators can follow the uploaded run. For example: http://liveresults.mylaps.com/demo/
The Web feed plugin is linked to your MYLAPS Organization account.

Enabling the web feed

The Web feed can be enabled on the Distribution page. Click on 'Web feed' and check the 'Enable Web feed' checkbox.
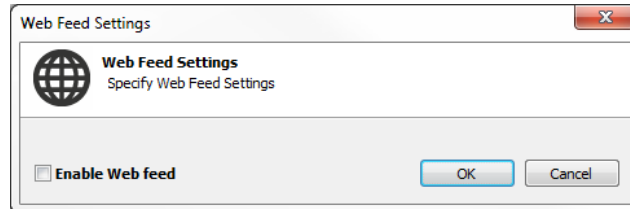
Also make sure to enter your MYLAPS Account Settings.
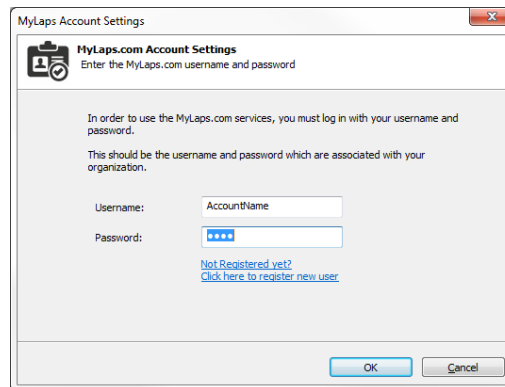
Status

The Web Feed has 3 statuses:
- Idle
- Uploading
- Error (for instance when there is no internet connection)

Activation

To use the LiveTiming web page your account has to be activated. Please contact your MYLAPS to activate your account.

Local App Feed

The **'Start local App Feed'** task on the Distribution page will start another Orbits console. Smartphone users using the MYLAPS Live Timing App can connect to this local feed if the PC the Local App Feed console is running on is accessible via a local Wi-Fi network. The uses have to fill in the ip-address and port (typically 60000) of the PC running the Local App Feed.

Features of the App Feed are:
1. It can handle a lot of (local) connections (up to 2000).
2. The Local App Feed is not part of the Orbits Server but runs in a separate console. This is done because handling a lot of connections can take a lot of CPU power, so it's best to run it on a separate computer. You can do this by starting it from the Orbits Remote launch pad.

Speedhive Feed

The Speedhive Feed enables live timing (live results view) via an app and/or a web site. For more information about the app go to https://speedhive.mylaps.com/app, information about the web site can be found here https://speedhive.mylaps.com/livetimingpromo.

The Speedhive feed can be enabled on the Distribution page. Click on 'Speedhive feed' and check the 'Enable Speedhive feed' checkbox.
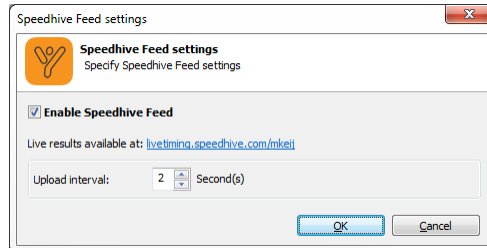
The upload interval can be set between 1 and 9 seconds.

Also make sure to enter your MYLAPS Account Settings.
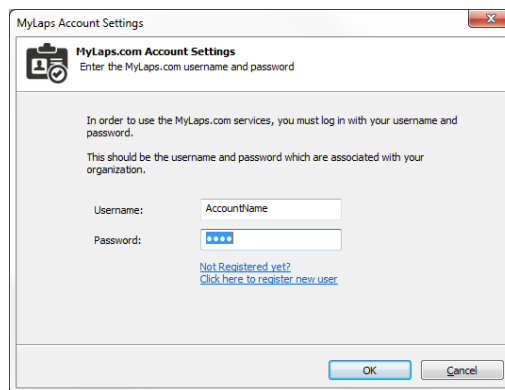
Status

The Speedhive Feed has 3 statuses:
- Idle
- Uploading
- Error (for instance when there is no internet connection)

Onboard Feed

Orbits can send the official class based timing and positioning information to a display in a vehicle via the Onboard Feed. This is done by sending onboard feed messages to a RaceLink. The RaceLink will then send the messages over the CAN bus, the information in these messages can be displayed by a display. Information in these messages include: position, lap time, gap, diff, type of run, time or laps to go and diff personal best.

Enabling the Onboard Feed

The Onboard feed can be enabled on the **Distribution** page. Click on 'Onboard feed' and check the 'enable onboard feed' checkbox.

How does it work

When a transponder passes the start/finish timeline Orbits will put the official timing and positioning information into onboard feed messages and send these messages to the X2 server.

The X2 server will then send the onboard feed messages to the RaceLink just after start/finish. The RaceLink will put the messages on the CAN-bus in the vehicle, which can be received and displayed by the display.

When the display receives the messages it should send back an acknowledgement message(s).

Diagnostics

Note: A number in the icons above means only that number of messages is received. The icon without a number means all messages are received.

Some columns have indicators.
Position
=   no change
+   improved
-      decreased

Lap time
+   same as or worse than previous
-      better than previous
*   personal best
!   overall best

Gap, Gap behind, Diff and Last time diff
+   same as or larger
-      smaller

Note: A number in the icons above means only that number of messages is received. The icon without a number means all messages are received.

Some columns have indicators.
Position
=   no change
+   improved
-      decreased

Lap time
+   same as or worse than previous
-      better than previous

*   personal best
!   overall best

Gap, Gap behind, Diff and Last time diff
+   same as or larger
-       smaller

11

Championship Administration

This chapter describes how to do the championship administration with Orbits.

Overview

Open the championship page of the program by pressing the **Championship** button at the top of the program.

Championship management

Orbits organizes the championship per season. The selected championship is displayed on the top of the screen.

A championship consists of a number of events. Combined these events will form a championship. There is no limit on the number of events per championship.

Create a championship

You can create a new championship from the championship page. Click on **Create a new championship** to open the 'Championship Settings' screen.

Edit or delete a championship

To edit a championship click on '**Edit championship**', this can be found under 'Championship Tasks'. Now you can modify the championship in the Championship Details screen.

To delete a championship from the program click on '**Delete championship**' under the Event Result Tasks.

Championship settings

A championship offers the following settings:

Name: The name of the championship.
Season: The championship season.

Sort method
Here you can choose how the championship should be sorted. There are two options:
- **Most points:** The championship will be sorted on most points.
- **Least points:** The championship will be sorted on least points.

Tie solver
In case of a tie on points Orbits offers the following Tie solvers:
- **Most 1, 2, 3 places per run:** The competitor with the most 1st places will win. In case this is the same, it will look to the most 2nd places. Etc. It will look at the run results.
- **Most 1, 2, 3 places per event:** The competitor with the most 1st places will win. In case this is the same, it will look to the most 2nd places. Etc. It will look at the event results.
- **Result of last run:** The competitor with the best result in the last run will win.
- **Result of last event:** The competitor with the best result in the last event will win.
- **Points of all events:** The competitor with the best points for an event will win
- **Points of last event:** The competitor with the best amount of points in the last event will win
- **Points of last run:** The competitor with the best amount of points in the last run will win

Valid results
In case of a tie on points Orbits offers the following Tie solvers:
- **All points are counting:** The competitor with the most 1st places will win. In case this is the same, it will look to the most 2nd places. Etc. It will look at the run results.
- **Maximum number of valid runs:** Specify how many runs are counting for the championship. The program will drop the worst result if a competitor appeared in more runs than specified.
- **Maximum number of valid events:** Specify how many runs are counting for the championship. The program will drop the worst result if a competitor appeared in more events then specified.

Championship display options

A championship offers the following settings display options:

Select the layout
Specify how a championship should be displayed. There are three different layouts available.
- **Points per run:** The program will add a column for each run in the championship.
- **Points per event:** The program will add a column for each event in the championship.
- **Points per run and event totals:** The program will add a column for each run in the championship. It will also display the totals per event.

Footer Text
This text will be displayed on the print out and on the web MYLAPS.com website. You can define 3 lines of footer text.

Adding a result to the championship

Click on 'Add event result' to add a new result to the championship. This will start the 'Add Event Result' wizard which will guide you through the process.
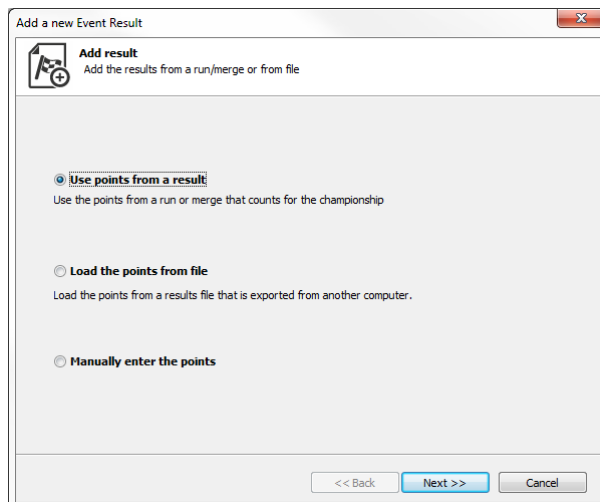
The first step is to select how to add the result. There are three options here:
- Use points from a result: Add a run or merged result that contains the points for the championship. Use this option when you the results are available in the local version of Orbits.
- Load the points from file: Add the result from a point's file that was exported from another Orbits program.
- Manually enter the points: Enter the points manually. Use this option when the results are not available in Orbits.

Use points from a result
When this option is selected you need to specify which run or result is counting for the championship. Select the run or merge and click next. The points will now be added to the championship.

Load the points from file
When this option is selected you need to select the file that contains the points for the championship. Click on next to import the file and add the points to the championship.

Manually enter the points
When this option is selected you need to specify the name of the event. Click on next to manually enter the results of the event.

Edit the event result   After a result is added to the championship. Select the event from the Event List and click on '**Edit event result**' which can be found under Event Result Tasks.

Change the competitor points

It is possible to edit the points or competitor info. Select the competitor you want to modify and click on '**Edit competitor**' which can be found under Competitor tasks. The following screen will appear.

Add a competitor

Add a competitor to the result by clicking on '**Add competitor**' which can be found under Competitor tasks.

Championship layout

The championship standings will be displayed as following.

Nationalen 250/500
Season: 2010

Pos	No.	Name	Total	Drop	Diff	Gap	19-06-2005 R1	R2	Total	03-07-2005 R1	R2	Total	15-05-2005 R1	R2	Total
1	33	Kenny JANSSENS	106	13	0	0	20	14	34	13	25	38	25	22	47
2	22	Joel MOTMANS	104	0	2	2	25	25	50	20		20	18	16	34
3	45	Francois PAQUET	100	12	6	4	22	18	40	18	22	40	12	20	32
4	25	Tim GODRIE	98	3	8	2	3	15	18	16	20	36	22	25	47
5	13	Tijs VAN TICHELEN	75	0	31	23	12	20	32	25	18	43	0		0
6	50	Victor TIESTERS	69	4	37	6	15	9	24	22	16	38	7	4	11
7	16	Xavier ROELEN	67	0	39	2	10	22	32	14	14	28	0	7	7
8	17	Kenny DE BRUYN	66	6	40	1	14	6	20	11	11	22	16	14	30
9	8	Frédéric MERTENS	64	9	42	2	11	13	24	15	13	28	9	12	21
10	5	Jiri WEYTS	56	0	50	8	16	2	18			0	20	18	38
11	28	Adri VANDERSANDEN	56	0	50	0	13	0	13	10	9	19	13	11	24
12	31	Michael STIEMANS	52	0	54	4	6	16	22			0	15	15	30
13	35	Kim STRAETEMANS	48	0	58	4	0	0	0	9	12	21	14	13	27
14	49	Tommy GOOSSENS	47	0	59	1	18	1	19	12	15	27	1	0	1
15	32	Nicolas STAMPAERT	36	0	70	11	7	11	18	8	7	15	3	0	3
16	40	Kristof LOVERIX	34	0	72	2	9	12	21	5	8	13			0
17	15	Dirk PARIDAENS	34	4	72	0	5	8	13	7	6	13	4	8	12
18	47	Olivier FAUCON	32	0	74	2	2	10	12			0	11	9	20
19	42	Vincent PAQUET	29	0	77	3			0	1	10	11	8	10	18
20	20	Joris HANON	18	0	88	11	8	7	15			0	0	3	3
21	19	Vincent FAYT	15	0	91	3			0			0	10	5	15
22	6	Gert VAN HOEK	14	0	92	1	4	5	9	0		0	5	0	5
23	26	Olivier LAROCHE	13	0	93	1			0	6	5	11	2	0	2
24	177	Bart HOOLANDTS	12	0	94	1			0			0	6	6	12
25	46	Frank VERBRUGGHE	8	0	98	4	0	0	0	4	4	8			0
26	41	Philippe BLAIRON	8	0	98	0			0	3	3	6	0	2	2
27	2	Patrick SOORS	4	0	102	4	0	4	4			0			0
28	9	Rob LAUWERS	4	0	102	0	1	3	4			0			0
29	721	Franky VAN EECKE	3	0	103	1	0	0	0	2	0	2	0	1	1
30	11	Joel VAN BOXEL	2	0	104	1	0	0	0	0	2	2			0
31	18	Gert KAESEMANS	0	0	106	2			0	0	0	0			
32	4	David VAN ACHTER	0	0	106	0	0	0	0			0			0
33	36	Ake DE MEERSMAN	0	0	106	0			0			0	0		0
34	37	Evert BRAAM	0	0	106	0			0			0	0		0
35	29	Dominique SCHROYEN	0	0	106	0	0	0	0			0			0

1st place 2nd place 3th place *7* dropped

19-06-2005	Kampioenschap van Vlaanderen
03-07-2005	J.R.T. O.L.V.WAVER 03.07.2005
15-05-2005	J.R.T. Westdorpe 15.05.2005

Organization Name

A column will be created for each event in the championship.

19-06-2005
R1 R2 Total

The points received for the runs in an event will be displayed in a column. Besides the point per run there is also a column Total, which displays the total pints received for a specific event.

1st place will be marked with a gold background color. **25**
2nd place will be marked with a silver background color. **22**
3rd place will be marked with a bronze background color. **20**
Dropped points will be marked with a red text-color *3*

The legend will display the date and the event name.

19-06-2005	Kampioenschap van Vlaanderen
03-07-2005	J.R.T. O.L.V.WAVER 03.07.2005
15-05-2005	J.R.T. Westdorpe 15.05.2005

Solve ties manually

Click on Show ties to display competitors with the same number of total points.

When a tie is automatically solved (according to the tie solve method in the championship settings) the position column will be marked with a green background color:

| 10 | 5 | Jiri WEYTS | 56 |
| 11 | 28 | Adri VANDERSANDEN | 56 |

When the program was unable to solve the tie, the position column is marked with a red background color:

| 16 | 40 | Kristof LOVERIX | 34 |
| 17 | 15 | Dirk PARIDAENS | 34 |

Place up

You can now choose to change the position of a competitor by clicking on 'Place up'.

Print the championship standings

The Orbits program has three pre-defined templates for printing the championship standings. To print the championship, click on 'Print', which can be found under Publish tasks.

Available layouts
- **Points per run:** The program will print a column for each run in the championship.
- **Points per event:** The program will print a column for each event in the championship.
- **Points per run and event totals:** The program will print a column for each run in the championship. It will also print the totals per event.

Orientation
- **Portrait:** The championship standings will be printed portrait. Choose this option when you have more then 40 competitors in the championship.
- **Landscape:** The championship standings will be printed landscape. Choose this option when there are many events in the championship

Export Championships to file

The championship standings can be exported to a HTML file. To export the championship standings, click on '**Export to file**' to file, which can be found under Publish tasks. Select the location where you want to save the championship.

Upload championship standings to MYLAPS.com

To upload your championship standings results to MYLAPS.com, click the Upload to MYLAPS.com button, which can be found under Publish tasks. Now the 'Upload Championship' screen will guide you through this process. An internet connection is required to publish the championships.

Login on MYLAPS.com

In order to use the MYLAPS.com service you must login with the username and organization of your MYLAPS.com account. The championship standings will be displayed under this account.

Username

Enter the username which are associated with your organization.

Password

Enter the password of your organization.

Select the championships to upload

Select the championships you want to publish on MYLAPS.com.

Finally click on Ok to upload the championships. The program makes a connection with the MYLAPS.com server. Once the connection is made the championships are automatically uploaded.

12

X2 Link

X2 Link wirelessly communicates with vehicles on the track. Data flows both ways: the X2 Transponder installed in the vehicle sends official race data to the system. The system immediately converts this data into official race data such as lap time and position and more. This data is then sent back to the vehicle through radio frequency, and the onboard display in the vehicle will display all sorts of vital race information – such as position in the race, gap between vehicles in front and behind and number of laps.

X2 Link components

X2 BaseLink

The BaseLink sends out radio frequency signals, which are picked up by the X2 RaceLink mounted on each vehicle. The BaseLink is installed at the start/finish line, on a position with a maximum line of sight, for instance on top of a finish arch. This will ensure an optimized wireless connection with the RaceLink installed at the vehicles.

The BaseLink connects to the X2 Server, which also powers the BaseLink.

X2 RaceLink

Via the X2 RaceLink add-on, racers will be able to receive 2-way communication into their vehicles. RaceLink works with MYLAPS X2 Transponders. Live race data will be displayed on supported onboard displays.

Disconnect a BaseLink

To disconnect the BaseLink do a right mouse click on the BaseLink on the Setup page and click disconnect BaseLink.

Delete a BaseLink

It's also possible to delete a BaseLink from the X2 server. To do this right click on a BaseLink in the BaseLink overview and press 'Delete BaseLink'. The BaseLink will become unassigned.

BaseLink Settings

The BaseLink settings can be opened by double clicking on the BaseLink on the Setup page.

Network Tab:

Here you can see the IP address for the connected BaseLink. Network settings for a BaseLink cannot be changed in this Dialog: Settings can be changed via the X2 Utility or X2 Manager.

Details tab:

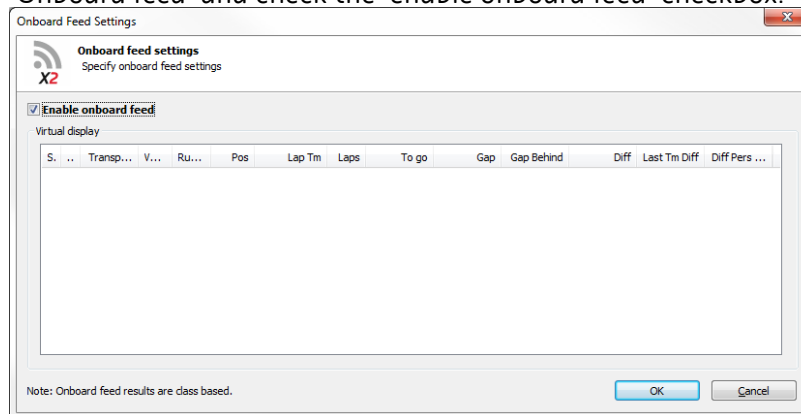The mode of the BaseLink can be set here. There are 3 modes available:

1. Idle – BaseLink will not be sending data
2. Broadcast – The BaseLink will send X2 Link data
3. Diagnostics - TBD

Onboard Feed

Orbits can send the official class based timing and positioning information to a display in a vehicle via the Onboard Feed. This is done by sending onboard feed messages to a RaceLink. The RaceLink will then send the messages over the CAN bus, the information in these messages can be displayed by a display. Information in these messages include: position, lap time, gap, diff, type of run, time or laps to go and diff personal best.

Enabling the Onboard Feed

The Onboard feed can be enabled on the **Distribution** page. Click on 'Onboard feed' and check the 'enable onboard feed' checkbox.

How does it work

When a transponder passes the start/finish timeline Orbits will put the official timing and positioning information into onboard feed messages and send these messages to the X2 server.

The X2 server will then send the onboard feed messages to the RaceLink just after start/finish. The RaceLink will put the messages on the CAN-bus in the vehicle, which can be received and displayed by the display.

When the display receives the messages it should send back an acknowledgement message(s).

Diagnostics

Note: A number in the icons above means only that number of messages is received. The icon without a number means all messages are received.

Some columns have indicators.
Position
=   no change
+   improved
-       decreased

Lap time
+   same as or worse than previous
-       better than previous
*   personal best
!   overall best

Gap, Gap behind, Diff and Last time diff
+   same as or larger
-       smaller

Note: A number in the icons above means only that number of

messages is received. The icon without a number means all messages are received.

Some columns have indicators.
Position
=	no change
+	improved
-	decreased

Lap time
+	same as or worse than previous
-	better than previous
*	personal best
!	overall best

Gap, Gap behind, Diff and Last time diff
+	same as or larger
-	smaller

12

Result Monitor

This chapter describes how to use the Result Monitor.

Overview

The Result Monitor Console can display result information on attached monitors which are stored in templates. A template can be created and edited by the Template Editor.

Main page

The Result Monitor screen
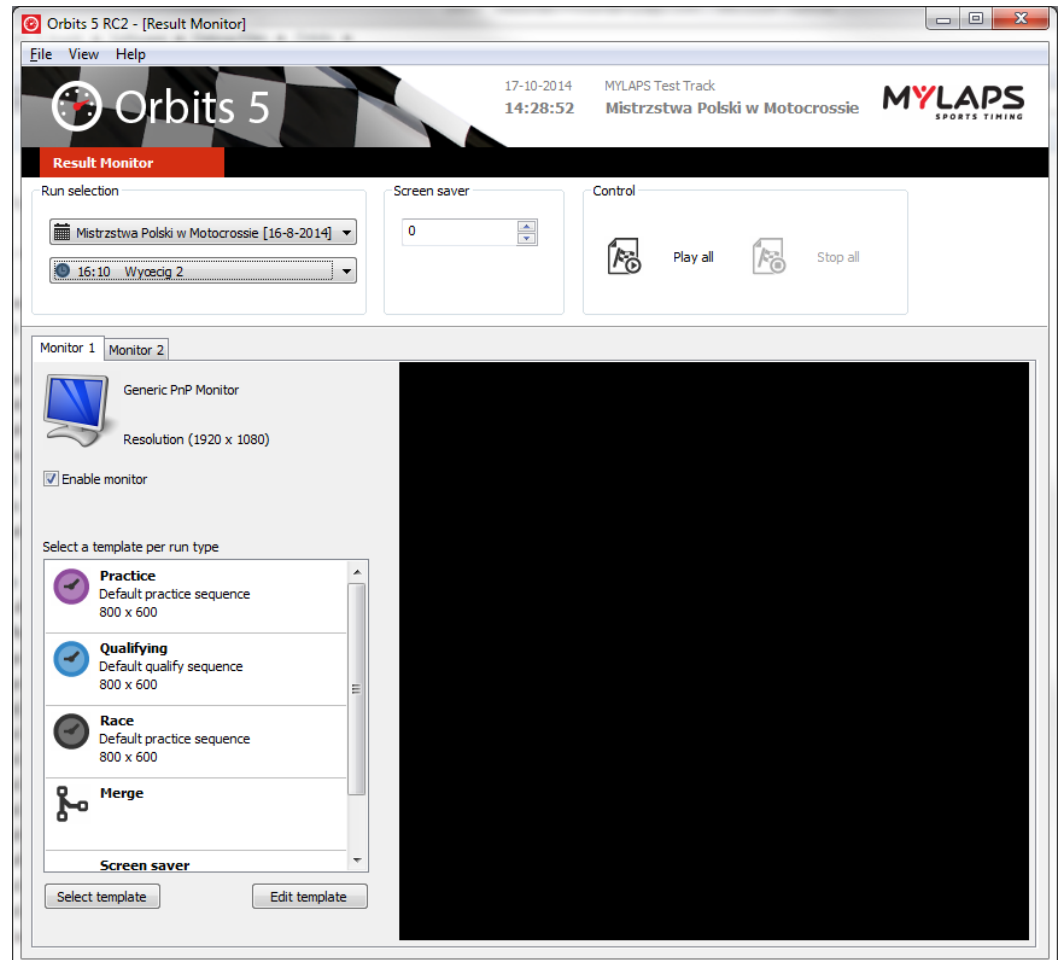
Run Selection
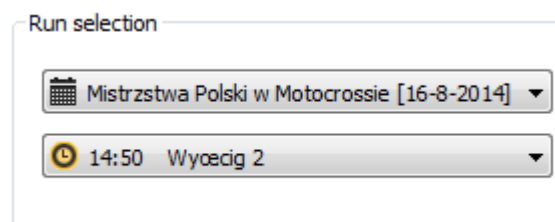
The run to display can be selected in Run Selection.
By default, the current run will be displayed.

Screen Saver
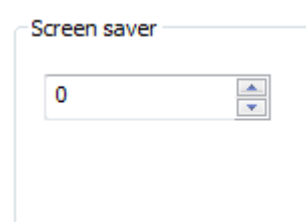
In the screen saver control the amount of seconds after which the screen saver is

activated can be set.

Control
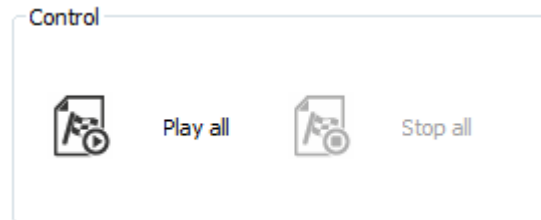
Select **Play all** to display Result Monitor on all enabled monitors.
Press **Stop all** to stop displaying.

Monitor Selection
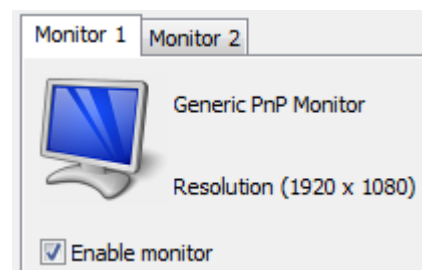
When there is more than 1 monitor connected to your computer an extra tab per connected monitor will appear. Each monitor can have its own template that it will show. Click on the tab of the monitor you want to edit.

Template
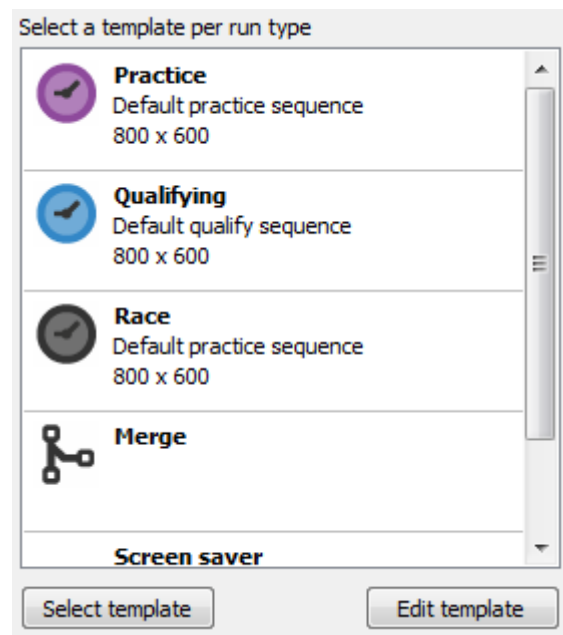
Select a run type and press "**Select template**" to select a template for that run type. Press "**Edit template**" to edit the selected template.

Select template
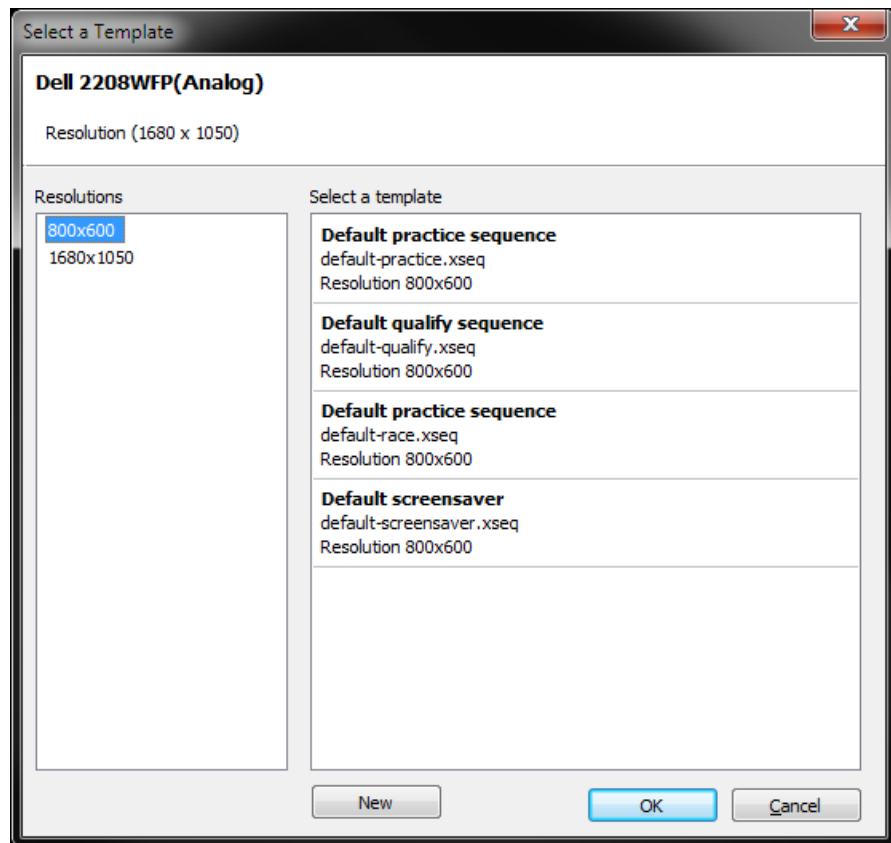
In the left column you can select the resolution of the display. On the right side you can select a template for the selected monitor resolution.

Click "New" to create a new template.
To edit a template, select the template and click "OK". This will return you to the Template screen. Here you can press the "Edit template" button.

In this screen it is also possible to create a new template

Template Editor
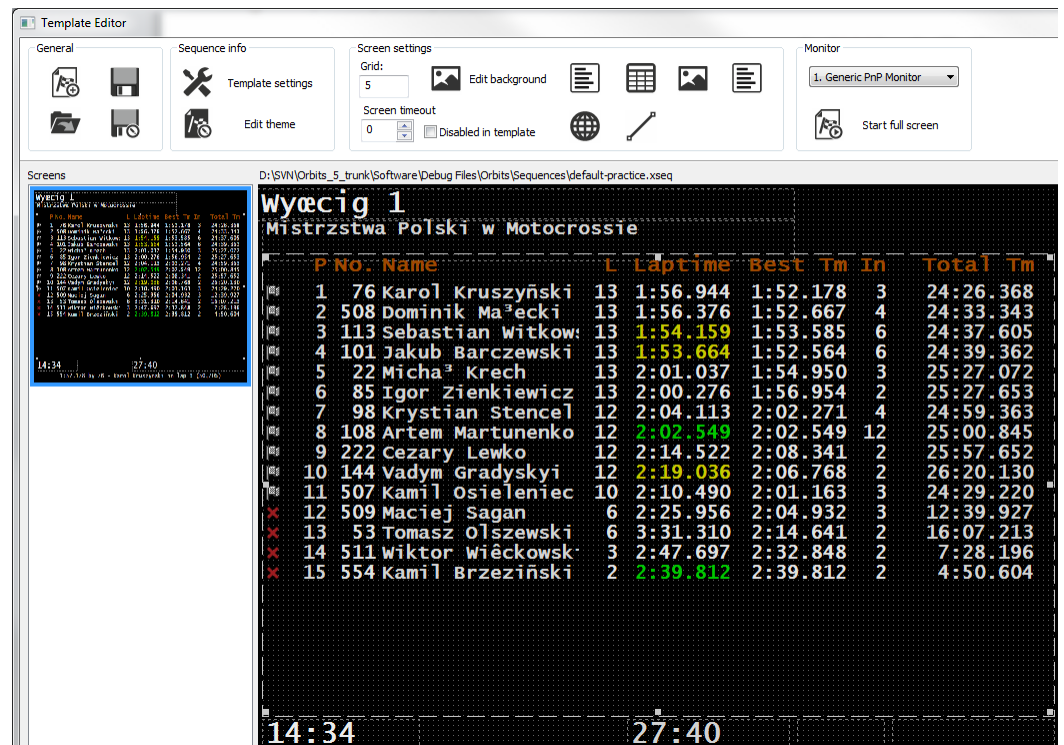
In the Template editor you can edit a template to fit your needs.

General

 Create a new template

 Open a template

 Save a template

 Save template as

Template info

 Template settings: Display resolution settings

 Edit theme: Font and color settings used in the theme

Screen settings
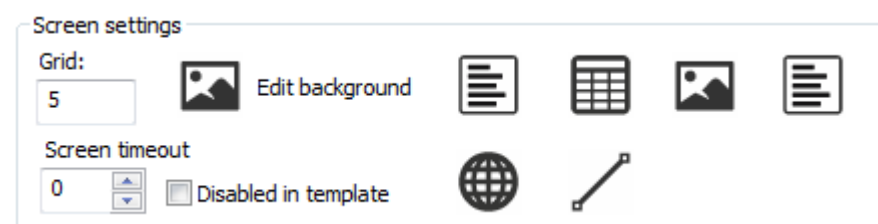
In this section you can alter the size of the grid, select a background color or image or insert a table, a text, a picture, a line or a website.

You can also set the timeout to switch between screens in case you have defined more than one screen per monitor.

Monitor
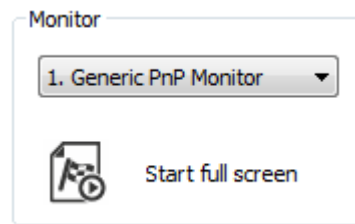
Select the monitor on which you want to preview the template and click **Start full screen**

Screens
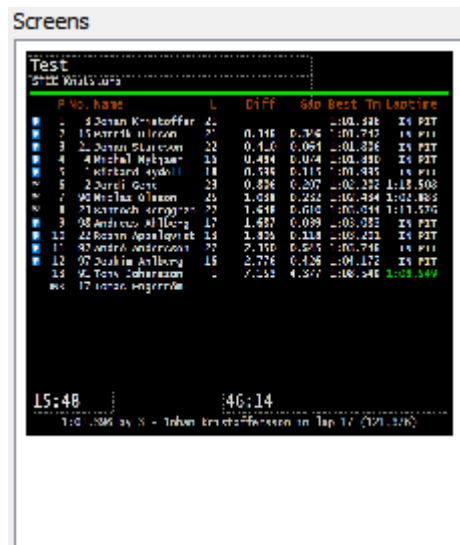
All the screens in the current template will be shown in the screens section. A screen can be added by right clicking in the screens section.

Create a new layout

To create a new layout, go to the General section and select the "New" Icon
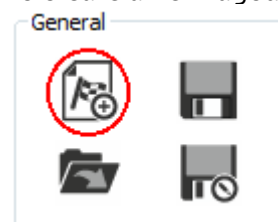
Template Settings

The Template Settings dialog appears
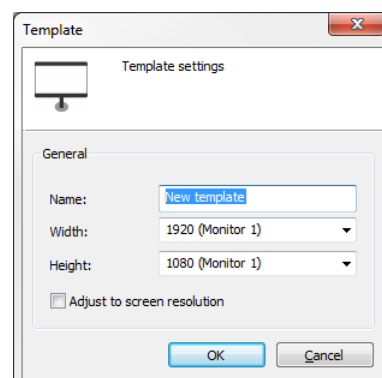
Here you can enter the name of the new template and select the resolution.

Theme

Press the icon "Edit theme" to add, delete or edit a Theme.

Edit theme
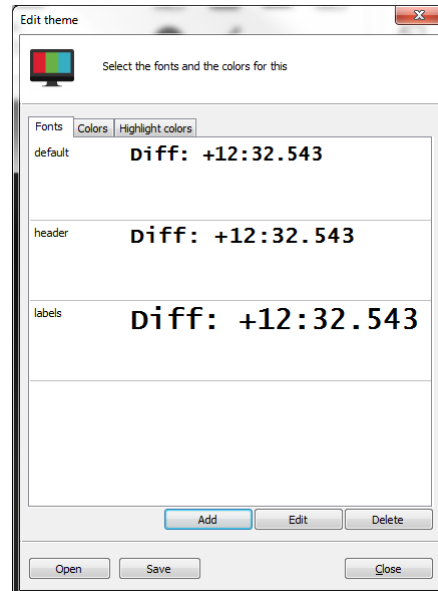
New Font

Select the Fonts tab and press "Add"
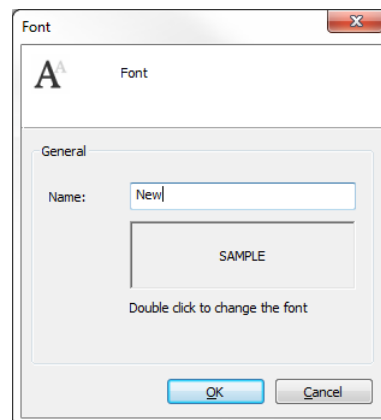
Type name and click on SAMPLE to edit the font details.
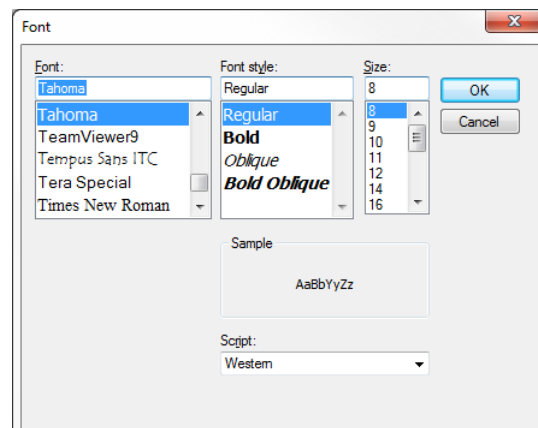
Select the desired font and press "OK".

Edit Background

To edit the background color or picture of a screen, select "Edit background in the "Screen settings" section.
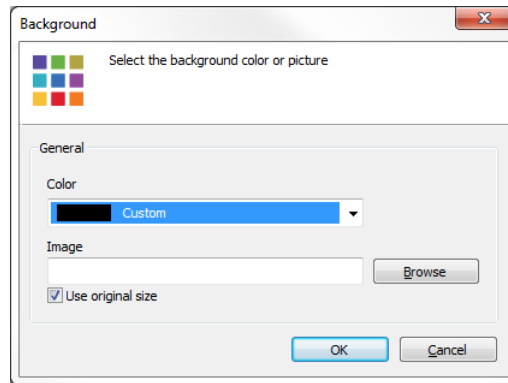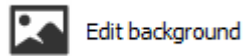
Edit background

Here you can define a background color and a background image.

Grid Selector

Select the size of the grid to align items

Grid:
5
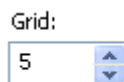
Screen Timeout

Select the timeout in seconds to switch to another screen / template on the same monitor.

Screen timeout
0   Disabled in template
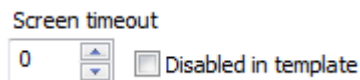
Select "Disabled in template" in case of one screen per monitor.

Editor

Items which can be added to a template are: table, text, picture, line, or website.

Table Editor

A table will display the selected results.

There are four tabs to specify the properties of the table.

View tab
On the View tab you can select the parameters to display.

The type of template, the columns to sort on, the row to start with and the paging time between the pages can be defined.

Columns tab
Select the columns to display.
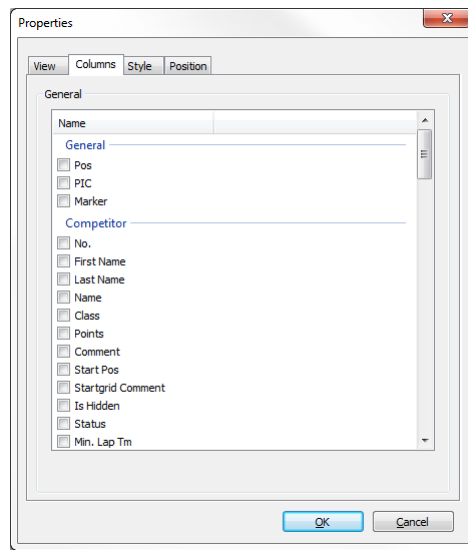
Press Column width to define the size of each selected column.

Style tab
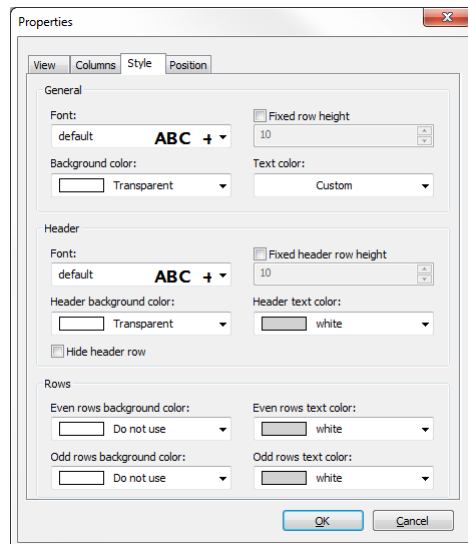
Define the font, background and text color of the template.

Position tab
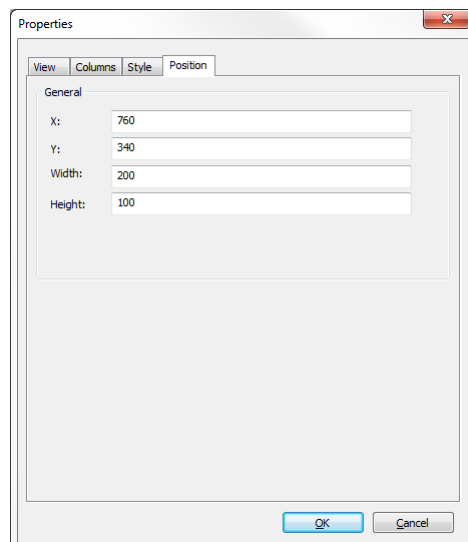
The position parameters can be changed by:
- Typing the values in the X, Y, Width and Height here
- Dragging the borders of the table in the preview pane

Text Editor

Type a text to be displayed in the results
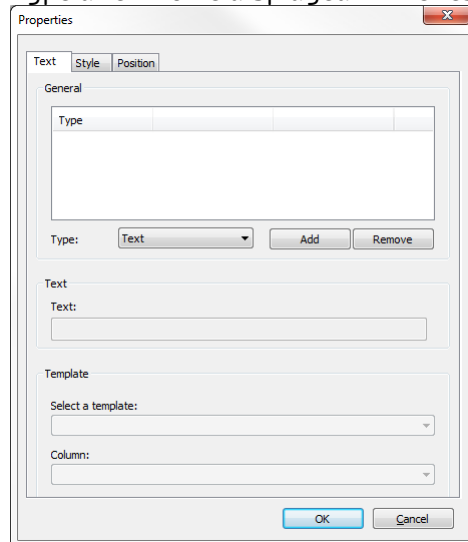
Picture Editor

Select a Picture to display in the result screen
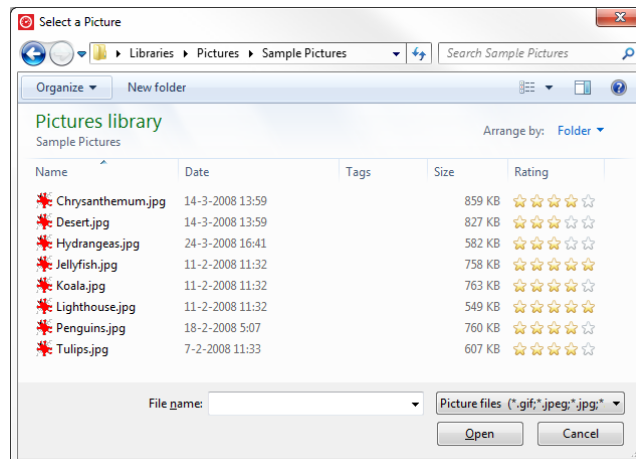
Announcer Page

This chapter describes how the Announcer system is integrated in Orbits Remote.

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Overview

The Announcer Page can be selected by Starting Orbits Remote (see Chapter 5 Remote console).

Announcer
Results of the active run

Run selection

Run selection
☑ Automatically switch to current run

📅 Mistrzstwa Polski w Motocrossie [16-8-2014] ▾

🕐 14:50 Wyœcig 2 ▾

When Automatically switch to current run is not select a previous run from an event

Template

Template

Results ▾

Seconds to next page

10 ▴▾

- Define the type of template:
  - ○ Results
  - ○ At the Line
  - ○ Announcements

- Select Seconds to next page to determine when the next page should be show (if there are too many rows to fit on the screen).
- Use the enter key to toggle paging and the arrow keys to select a page.
- The resolution of the screen and the selected font size determine how many rows fit on one screen.
- Paging is disabled for the At The Line View.

Style

Change the font of the displayed characters
Choose Columns to be displayed on the monitor
Another way to change the Style Settings is to right-click on

Monitor 1

100cc Mod Geared - 100cc Race 1

N..	Name	Class	Last Tm	Laps	Previo... ▲
7	Adam Jam...	100c...	2:01.871	5	2.9
4.	Bradley S...	100c...	2:03.588	5	3.0
2.	Jordan Tu...	100c...	2:07.625	5	3.8
1.	Regan Car...	100c...	2:10.226	5	5.0
1.	Regan Car...	100c...	2:10.017	5	5.5
4.	Elliot Dow...	100c...	2:16.934	5	9.1
2.	Jordan Tu...	100c...	2:07.566	5	10.7
2.	Frazer Mc...	100c...	2:04.177	5	11.0
7.	Luke Davies	100c...	2:04.440	5	20.0
5	Harry Miller	100c...	2:00.216	5	20.6
7.	Luke Davies	100c...	2:02.115	5	22.0
1.	Marloe Ma...	100c...	2:17.626	5	55.5
1.	Marloe Ma...	100c...	2:15.676	5	65.1
1.	Marloe Ma...	100c...	2:14.694	5	73.2

Choose columns
Change Font

Select Start at position in case of displaying results on multiple monitors

Control

Control

Display full screen

Note: use the Enter key to toggle paging and the arrow keys to select a page.
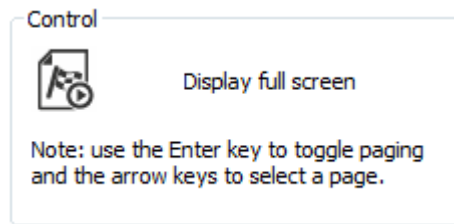
Press the Icon to display the current settings :

100cc Mod Geared - 100cc Race 1

N..	Name	Class	Last Tm	Laps	Previo... ▲
7	Adam James	100cc Geared	2:01.871	5	2.9
4.	Bradley Swinbank	100cc Geared	2:03.588	5	3.0
2.	Jordan Turnock	100cc Modified	2:07.625	5	3.8
1.	Regan Carmichael	100cc Modified	2:10.226	5	5.0
1.	Regan Carmichael	100cc Modified	2:10.017	5	5.5
4.	Elliot Downes	100cc Modified	2:16.934	5	9.1
2.	Jordan Turnock	100cc Modified	2:07.566	5	10.7
2.	Frazer McFadden	100cc Geared	2:04.177	5	11.0
7.	Luke Davies	100cc Modified	2:04.440	5	20.0
5	Harry Miller	100cc Modified	2:00.216	5	20.6
7.	Luke Davies	100cc Modified	2:02.115	5	22.0
1.	Marloe Magee	100cc Modified	2:17.626	5	55.5
1.	Marloe Magee	100cc Modified	2:15.676	5	65.1

Left double-click to return to design mode

Track temperature

The temperature information of the TrackSensor installed at the Start/Finish timeline, will automatically be displayed in the bottom right corner of the Announcer.

MX Quad Open - Wyścig 2   16:20:46

Pos	No.	Name	Class	Last Tm	La...	Total Tm	Diff	Gap
1	62	Kacper Kamiński	MX Quad Open	25.227	3	1:04.708		
2	29	Paweł Latarski	MX Quad Open	25.477	3	1:05.364	0.656	0.656
3	5	Dariusz Radny	MX Quad Open	26.117	3	1:06.409	1.701	1.045
4	13	Łukasz Tyndel	MX Quad Open	26.507	3	1:06.440	1.732	0.031
5	26	Karol Kędzierski	MX Quad Open	26.460	3	1:06.830	2.122	0.390
6	218	Przemysław Franczak	MX Quad Open	26.303	3	1:07.360	2.652	0.530
7	63	Jakub Mienik	MX Quad Open	26.772	3	1:07.454	2.746	0.094
8	227	Mateusz Zych	MX Quad Open	26.866	3	1:08.406	3.698	0.952
9	31	Piotr Konkol	MX Quad Open	27.844	3	1:10.278	5.570	1.872
10	100	Szymon Gembala	MX Quad Open	28.545	3	1:11.229	6.521	0.951

Elapsed: 1:51   Best Tm: 21.985 by 62 - Kacper Kamiński   Track temperature: 23,4 °C

The unit of the temperature can be changed via the Orbits Console menu Tools -> Options.

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How to

This 'How to..' guide has short descriptions of how to use certain functions. For more information about those functions please refer to the corresponding chapters in this manual.

Decoders

The noise level is too high, what should I do?
Check all the connections (BNC connectors make proper contact?) and all cables (Are coax cables and loop wires damaged or cut?). If the loop wire is cut and the track is wet, the noise level may go up to very high levels. Reinstalling the loop solves this problem in 99.9% of the cases.

Transponder

What does the light on the transponder indicate?
- **While being used >** The number of green blinks is the **minimum** days (24h) to go before the battery is empty. The last 24 hours before the battery is empty the transponder will blink red. A solid red LED indicates that it can switch off at any moment!
- **While connected to charger >** A red blink means the transponder is still charging When the led remains green, the transponder has finished charging

Strength or hits on some or all transponders are low
When the signal strength is pretty consistent (within 10 points or so) but is low, this indicates that the transponder is not properly mounted. The transponder needs to be mounted within 2 ft. of the track with no metal or carbon fiber between the track and the transponder. There needs to be sufficient space around the transponder. The transponder cannot be affixed with metal wire or hose clamps, since that will reduce the signal coming out of the transponder significantly.

When signal strength is heavily fluctuating for 1 transponder (more than 10 points), this indicates that there is a problem in the loop, coax cable or the connections.

Runs

How to restart a run.
After a run has been stopped, apply a green/yellow flag. The race will now restart.

Competitors

How to open the competitor database?
In the Registration Page click the Show competitor database button or press 'F3'

How to add competitors from the database to a run?
- Select a run in the Registration page.
  - o Open the Competitor Database.
  - o Select the driver(s) you wish to add.
  - o Right-click and select <Add to selected run> from the menu.

Updating competitor data
If the change is permanent, competitor data should be changed in the Competitor Database. If the change applies only to this run/group, the data should be changed in the run/group only.

Applying a change in the Competitor Database to a run/group.
If a change is permanent, but the competitor has already been added to a run there are two different ways of synchronizing the data depending on the circumstances:

1. The competitor has not passed yet >
Remove the competitor from the run and add him/her again.

2. The competitor has already passed >
As a safety it is not possible to change a competitor in a run from the Competitor Database. The competitor has to be made unrelated first and added again.
- Make the competitor unrelated in the run.
- Add the competitor again.

Results

How to delete a result from a run?
- Open the <Competitors in run> screen.
- Select the competitor who's result you wish to remove.
- Right-click and select <Delete result> from the menu.

Don't show the pace car on the results?
If the pace car has a transponder, the car will show up on the results.
To prevent the pace car from showing, you can mark the pace car result as hidden. The pace car will still appear in the hidden results, but won't show on the results (e.g. printout, RMonitor).

The wrong competitor shows up after a passing
- Select the competitor, right-mouse click and select 'Make Unrelated' from the menu.
- Now double-click on the competitor and select a new competitor from the Run, Group or Database or create a new competitor.

If the transponder numbers are switched between two competitors in a run, you may also do the following:
- Right mouse click on one of the competitors with the wrong transponder number.
- Select '**Switch Transponder(s)** with' from the menu and select the competitor whom the transponder should be switched with,

To make sure everything is alright from now on for following races, you have to do some research.
- Find out what caused the wrong competitor to show up. Were the transponders switched by accident? Was the wrong number entered in the database? etc.

Adjust the transponder numbers in the database/group if needed.

The best lap time is not a valid lap
To make a lap time not count for best lap, you can right mouse click on the incorrect passing and select 'Invalidate passing'. Now the passing will still be used to credit the competitor with a lap, however the passing will not be used for fastest lap times

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Appendices

The appendices contain information about photocells and file formats.

Appendix A – Photocells

Using photocells

For back-up purposes photocells and manual time keeping can be used. The photocells can be connected to the decoder. The decoder is triggered each time the light beam of the photocell is interrupted. The transponder and photocell inputs can be related to each other. Note that in Orbits the transponder system is used as primary system and therefore the transponder time is taken for timing and scoring.

Positioning photocells
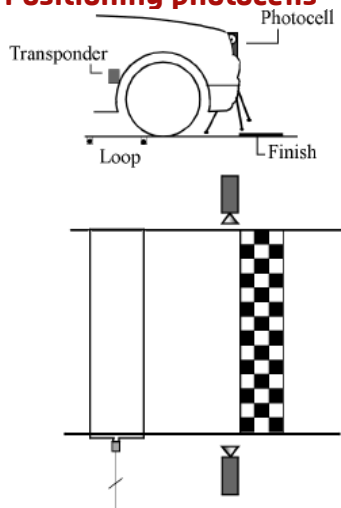
When the hardware system is set up properly, the detection loop is located before the actual finish line, in that way that the transponder is in the middle of the detection loop when the front of the vehicle is crossing the finish line.

For a correct match of transponder- and photocell passing times (lap times are not affected) the photocell should be positioned at the finish line. When positioning of the photocells is not possible as depicted in the picture on the right, the extra time difference should be calculated in the maximum transponder, photocell time separation. Make sure that when the photocells are installed, the batteries are full and that the photocells are aligned and switched on.

Setting Photocell delay

Each photocell transmitter is equipped with a selector switch for setting the photocell delay. This time defines the maximum interval between two interruptions of the light beam that will be considered as one interruption. This setting is, among others, to avoid multiple interruptions of the light beam generating multiple photocell hits.

Connecting Photocells to the decoder

Photocells are connected via a MYLAPS photocell interface cable to the auxiliary port of the MYLAPS decoder. Please refer to the hardware manual of your system for the exact pin specification of the auxiliary connector.

Appendix B – File Formats

Result file format
The exported results file contains the results of the competitors in the selected run.

Record layout
Depending on the selected file type the output file has the following record layout:

Txt file: - FIELD - <TAB> - FIELD - <cr/lf>
Csv file: - FIELD - <COMMA> - FIELD - <cr/lf>

Fields can be numeric or alphanumeric depending on the field. Fields separator is a comma "," (ASCII code 44 decimal) or a tab (ASCII code 9 decimal). Record separator is a carriage return (cr) plus linefeed(lf).

If you choose to export the selected columns the program will display the columns that are currently selected in the result screen.

Record format for qualify columns (run only)   *Export format for a qualify result*

Field	Description
Pos	Finish position of the competitor, Numeric.
PIC	Finish position of the competitor in his class, Numeric. *(Only when show class column is on)*
No	Car number of the competitor, Maximum 4, Alphanumeric.
Name	Name of the competitor, Alphanumeric.
Class	Class of the competitor, Alphanumeric. *(Only when Show class column is on)*
Best Tm	Best lap time of the competitor, Floating point with 3 decimal places.
Best Spd	Average speed of best lap
In Lap	Lap the best lap time was set, Numeric.
Diff	Differential time or laps of the competitor with the leader, Floating point with 3 decimal places or numeric.
Gap	Differential time or laps of the competitor, Floating point with 3 decimal places or numeric.
2nd Best Tm	2nd Best lap time of the competitor, Floating point with 3 decimal places.
2nd Best Spd	Average speed of 2nd best lap
2nd In Lap	Lap the 2nd best lap time was set, Numeric.
Car Reg	Car registration number of the competitor
Additional Data 1	Additional data 1 of the competitor, Alphanumeric.
Additional Data 2	Additional data 2 of the competitor, Alphanumeric.
Points	Points the competitor received, Numeric. *(Only when Show points column is on)*

Sample
Pos<TAB>PIC<TAB>No<TAB>Name<TAB>Class<TAB>Best   Tm<TAB>Best   Spd<TAB>In Lap<TAB>Diff<TAB>Gap<TAB>2nd   Best<TAB>2nd   Spd<TAB>2nd   Lap<TAB>Car/Bike Reg<TAB> Additional 1<TAB> Additional 2<TAB>Points<cr/lf>

Record format for race columns (run only)   *Export format for a race result*

Pos	Finish position of the competitor, Numeric.
PIC	Finish position of the competitor in his class, Numeric. *(Only when show class column is on)*
No	Car number of the competitor, Maximum 4, Alphanumeric.
Name	Name of the competitor, Alphanumeric.
Class	Class of the competitor, Alphanumeric. *(Only when Show class column is on)*
Laps	The number of laps of the competitor, Numeric.
Total Tm	Total race time of the competitor, Floating point with 3 decimal places.
Diff	Differential time or laps of the competitor with the leader, Floating point with 3 decimal places or numeric.
Gap	Differential time or laps of the competitor, Floating point with 3 decimal places or numeric.
Avg Spd	Average speed of race
Best Tm	Best lap time of the competitor, Floating point with 3 decimal places.
Best Spd	Average speed of best lap
In Lap	Lap the best lap time was set, Numeric.
Car Reg	Car registration number of the competitor
Additional Data 1	Additional data 1 of the competitor, Alphanumeric.
Additional Data 2	Additional data 2 of the competitor, Alphanumeric.
Points	Points the competitor received, Numeric. *(Only when Show points column is on)*

Sample

Pos<TAB>PIC<TAB>No.<TAB>Name<TAB>Class<TAB>Laps<TAB>Total Tm<TAB>Diff<TAB>Gap<TAB>Avg. Speed<TAB>Best Tm<TAB>Best Spd<TAB>In Lap<TAB>Car/Bike Reg<TAB>Additional 1<TAB>Additional 2<TAB>Points<cr/lf>

Record format for qualify columns (merge only) *Export format for a merged qualify result*

Pos	Finish position of the competitor, Numeric.
No	Car number of the competitor, Maximum 4, Alphanumeric.
Name	Name of the competitor, Alphanumeric.
Class	Class of the competitor, Alphanumeric. *(Only when Show class column is on)*
Overall Best Tm	Overall best lap time of the competitor, Floating point with 3 decimal places.
In session	The name of the session the best lap time was set.
	For each session in the merge the following column(s) will be included
	Best Tm — Best lap time of the competitor in this session, Floating point with 3 decimal places.
	2nd Best Tm — 2nd Best lap time of the competitor in this session, Floating point with 3 decimal places.
Car Reg	Car registration number of the competitor
Additional Data 1	Additional data 1 of the competitor, Alphanumeric.
Additional Data 2	Additional data 2 of the competitor, Alphanumeric.
Points	Points the competitor received, Numeric. *(Only when Show points column is on)*

Sample with 3 runs in the merge

Pos<TAB>No.<TAB>Name<TAB>Class<TAB>Overall BestTm<TAB>In Session<TAB>Best: Run 1<TAB>2nd: Run 1<TAB>Best: Run 2<TAB>2nd: Run 2<TAB>Best: Run 2<TAB>2nd: Run 2<TAB>Car/Bike Reg<TAB>Additional 1<TAB>Additional 2<TAB>Points<cr/lf>

Record format for race columns (merge only) *Export format for a merged race result*

Pos	Finish position of the competitor, Numeric.
No	Car number of the competitor, Maximum 4, Alphanumeric.
Name	Name of the competitor, Alphanumeric.
Class	Class of the competitor, Alphanumeric. *(Only when Show class column is on)*
Laps	The number of laps of the competitor, Numeric.
Total Tm	Total race time of the competitor, Floating point with 3 decimal places.
In Session	Session where the result was set
	For each session in the merge the following column(s) will be included
	Laps The number of laps of the in the specific run/merge, Numeric.
Car Reg	Car registration number of the competitor
Additional Data 1	Additional data 1 of the competitor, Alphanumeric.
Additional Data 2	Additional data 2 of the competitor, Alphanumeric.
Points	Points the competitor received, Numeric. *(Only when Show points column is on)*

Sample with 3 runs in the merge
Pos<TAB>No.<TAB>Name<TAB>Class<TAB>Laps<TAB>Total Tm<TAB>In Session<TAB>Laps: Run 1<TAB>Laps: Run 2<TAB>Laps: Run 3 <TAB>Car/Bike Reg<TAB>Additional 1<TAB>Additional 2<TAB>Points<cr/lf>

Point columns for points (merge only) Export format for a merged points result

Pos	Finish position of the competitor, Numeric.
No	Car number of the competitor, Maximum 4, Alphanumeric.
Name	Name of the competitor, Alphanumeric.
Class	Class of the competitor, Alphanumeric. *(Only when Show class column is on)*
Total Points	Total points, Numeric.
	For each session in the merge the following column(s) will be included
	Points Points for this session, Numeric.
Car Reg	Car registration number of the competitor
Additional Data 1	Additional data 1 of the competitor, Alphanumeric.
Additional Data 2	Additional data 2 of the competitor, Alphanumeric.
Points	Points the competitor received, Numeric. *(Only when Show points column is on)*

Sample with 3 runs in the merge
Pos<TAB>No.<TAB>Name<TAB>Class<TAB>Total Points <TAB>Points: Run 1<TAB>Points: Run 2<TAB>Points: Run 3 <TAB>Car/Bike Reg<TAB>Additional 1<TAB>Additional 2<TAB>Points<cr/lf>

Competitor file format
The competitor file contains competitors from a run, group or from the database.

Record layout
Depending on the selected file type the output file has the following record layout:

Txt file: - FIELD - <TAB> - FIELD - <cr/lf>
Csv file: - FIELD - <COMMA> - FIELD - <cr/lf>

Fields can be numeric or alphanumeric depending on the field. Fields separator is a comma "," (ASCII code 44 decimal) or a tab (ASCII code 9 decimal). Record separator is a carriage return (cr) plus linefeed(lf). Alphanumeric data is started and ended with quotes. The first line of the export file contains the header information.

Record format for competitor
No	Car number of the competitor, Maximum 4, Alphanumeric.
Class	Class of the competitor, Alphanumeric. *(Only when Show class column is on)*
First name	First name of the competitor, Alphanumeric.
Last name	Last name of the competitor, Alphanumeric.
Car Reg	Car registration number of the competitor, Alphanumeric.
Driver Reg	Driver registration number of the competitor, Alphanumeric.
Transponder 1	1st transponder number, can be numeric or Alphanumeric.
Transponder 2	2nd transponder number, can be numeric or Alphanumeric.
Additional Data 1	Additional data 1 of the competitor, Alphanumeric.
Additional Data 2	Additional data 2 of the competitor, Alphanumeric.
Additional Data 3	Additional data 3 of the competitor, Alphanumeric.
Additional Data 4	Additional data 4 of the competitor, Alphanumeric.
Additional Data 5	Additional data 5 of the competitor, Alphanumeric.
Additional Data 6	Additional data 6 of the competitor, Alphanumeric.
Additional Data 7	Additional data 7 of the competitor, Alphanumeric.
Additional Data 8	Additional data 8 of the competitor, Alphanumeric.

Sample
"No"<TAB>"Class"<TAB>"FirstName"<TAB>"LastName"<TAB>"CarRegistration"<TAB>"Driver Registration"<TAB>"Transponder1"<TAB>
"Transponder2"<TAB>"Additional1"<TAB>"Additional2"<TAB>"Additional3"<TAB>"Additional 4"<TAB>"Additional5"<TAB>"Additional6"<TAB>
"Additional7"<TAB>"Additional8<cr/lf>"

Groups and Runs file format

The groups and runs file contains competitors from a run, group or from the database.

The 3rd party import allows 3rd party software to import groups runs and competitors via an XML file. The XML file should be utf-8 encoded.

The following sections describe how the XML file should be formatted.

Prolog

The XML file should be preceded by the following prolog.

`<?xml version="1.0" encoding="utf-8"?>`

XML basic structure

The XML document should contain the "groups" root node and the attributes listed below.

Elements	Description	Number
groups	The root element	1
group	Group	0..*
competitors	Group of competitors	1
runs	Group of runs	1
run	Run element, a practice, qualify or race	0..*
competitor	Competitor, a participant	0..*

Example :

```
<groups>
    <group name="MX1" description="test">
        <competitors>
            <competitor no="12" class="MX1" registration="033133"/>
            <competitor no="19" class="MX1" registration="033153"/>
        </competitors>
        <runs>
            <run name="Free Practice" date="12-03-2009" time="16:00"/>
                <competitors>
                    <competitor        no="12"        class="MX1"
registration="033133"/>
                    <competitor        no="19"        class="MX1"
registration="033153"/>
                </competitors>
            <run name="Qualify" date="12-03-2009" time="17:00"/>
            <run name="Race" date="12-03-2009" time="17:00"/>
        </runs>
    </group>
</groups>
```

Notes

For groups and runs, the name is the unique identifier. For competitors the driver registration code is the unique identifier.
This means that if a group is imported already exists in the selected event, the program will update the group instead of creating a new one. The same applies for runs and competitors.

Attribute explanation

name	**Bold**	**Means Unique identifier**
name	Normal	Means Required field
name	*Italic*	*Means optional field*

Element	Attributes	Values	Description	Example
group	**name**	string	The name of the group	*MX1*
	description	string	Description of the group	*All MX1 sessions*
run	**name**	string	The name of the session	*10cc practice*
	shortname	string	The venue (or short name) of the session	*10p*
	date	date (yyyy-mm-dd)	The date the session starts	*2009-01-01*
	time	time (hh:mm)	The time the session starts	*12:00*
	type	*options:* practice, singlecarqualify, qualify, race	The type of session Practice session Single car qualifying session Qualifying session Race session	*qualify*
	startmethod	*options:* flag, firstpassing, staggered	Session start method Start race on the green flag Start the race on the first S/F passing Staggered start	*flag*
	minimumlaptime	time (mm:ss)	The minimum lap time	*01:00*
	countfirst	*options:* none, lap, laptimefromgreen	Count first passing as Do not count first passing on S/F Count first passing Count lap time from green flag to first passing on S/F	*none*
	stopclockred	boolean	Stop the race clock during red flag if true	*true*
	countlapsred	boolean	Count laps during red flag if true	*false*
	copyfromgroup	boolean	Copy competitors from group in case of unrelated transponders	*true*
	autofinishmethod	*options:* none, time, laps, timeandlaps, timeorlaps, individualontime, individualonlaps	Auto finish after Don't use auto finish Completing race time (of leader) Completing a number of leader laps Completing race time and a number of laps Completing race time or a number of laps Completing individual race time Completing a number of (individual) laps	*timeorlaps*
	autofinishtime	time (hh:mm:ss)	The race time of this session	*00:15:00*
	autofinishlaps	integer	The race distance of this session	*10*
	qualificationtype	*options:*		*max-*

		none	Don't use the qualification type	positions
		max-position	Max. Number of competitors (all sessions types)	
		max-best-laptime	Max. percentage of best lap time (practice, qualify)	
		max-avg-best-laptime	Max. percentage of avg. best lap time top x (practice, qualify)	
		min-laptime	Minimum lap time (practice, qualify)	
		min-leader-laps-up	Min. percentage of total leader laps rounded up (race)	
		min-leader-laps-down	Min. percentage of total leader laps rounded down (race)	
		min-laps	Min. number of laps (race)	
			Depends on the qualification type:	
			Time (mm:ss.nnn) in case of min-lap time	
			Number (%), number (top x) in case of max-avg-best-lap time	107,3
			Number (%, competitors, laps) for other requirement types	107
	qualificationvalue	string		
	eventdatediff	integer	The difference between the date of the event and the date of this run in days	1
competitor	no	integer	The competitor number	1
	driverregistration	string	The unique driver registration	123456
	registration	string	The unique registration	123456
	class	stirng	Competitor class	Juniors
	firstname	string	Competitor first name (or team name in case of driver id)	John
	lastname	string	Competitor last name	Doe
	Points	integer	The points of this competitor	42
	transponders	list	A comma separated list of transponders	123456, AA-12345
	drivers	list	A comma separated list of drivers	John Doe, Max
	additional1	string	Free text field	
	additional2	string	Free text field	
	additional3	string	Free text field	
	additional4	string	Free text field	
	additional5	string	Free text field	
	additional6	string	Free text field	
	additional7	string	Free text field	
	additional8	string	Free text field	

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