OSV 9 SOFTWARE

USER'S MANUAL

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Caution and safety precautions

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

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This symbol indicates that this product should not be disposed with household waste. It has to be returned to a local authorized collection system. By following this procedure you will contribute to the protection of the environment and human health. The recycling of the materials will help to conserve natural resources.

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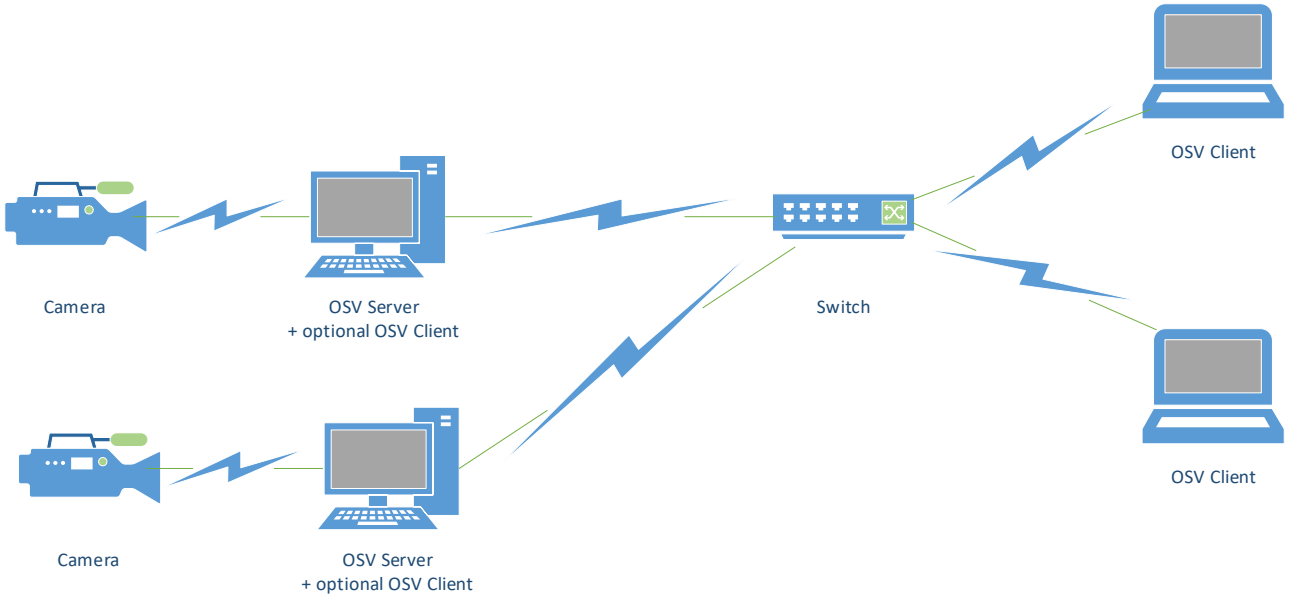
1 INTRODUCTION

The OSV9 system has been developed to replace OSV7/8 software. It has been designed to work with the MYRIA and MAGIC PRO cameras.
The system is divided into two main parts: a server and a client. Both applications can run on the same machine, or on different machines on the same network, as shown in this schematic:



2 INSTALLATION

2.1 Requirements

- Minimal Computer Requirements:
  - Windows 10 or 11 [64 bits]
  - Screen resolution: minimum 1920x1080
  - RAM: 16GB
  - Minimum CPU:
    - Intel Core i7 8700 (or laptop equivalent) or newer
    - AMD R7 2700 (or laptop equivalent) or newer
  - Storage:
    - SSD required
    - Size: minimum 500 GB
    - Write speed: minimum 1000 MB/s sequential write
    - Disk space usage: approx. 1 GB per minute of recording at 2500 img/sec
  - Network:
    - A 1 Gb/s capable network card, with jumbo frames support, large buffers and configurable interrupt moderation is required
    - Recommended model: Intel I219-LM
- Network card parameters (use integrated network card):
  - Jumbo frames: Enabled (9014 bytes)
  - Speed: 1 Gb/sec Full-Duplex
  - Receive buffers: 2048
  - Interrupt Moderation: Enabled
  - Interrupt Moderation Rate: Minimal
  - IP Address: 192.168.2.100
  - Network mask: 255.255.255.0
- A supported camera:
  - MYRIA
  - MAGIC PRO

2.2 Setup

Following listed installers are provided; they should be installed in this order.

Depending on your computer status, you may have to install:

- VC redistributable (VC_redist.x64_2015_2022.exe)
- Dot.net framework (ndp48-x86-x64-allos-enu.exe)

If a previous version of the OSV9 software was already installed, you need to uninstall the old MYRIA camera driver (eBUS Runtime 64-bit) because it is no longer compatible with this version of OSV9. Please note that it is no longer required to manually install a camera driver, as the correct drivers will be automatically installed by the OSV9 software installer.

Then you need to install:

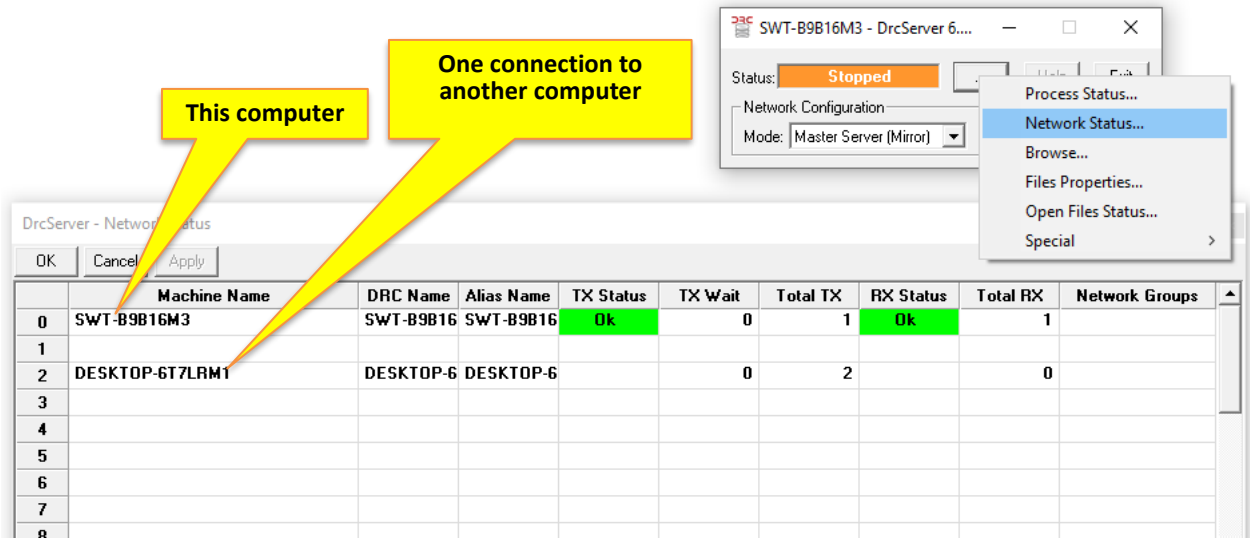
- Swiss Timing DRC (SwissTiming.DRCFramework.Runtime.xxx.msi)
- OSV9 software (OSV9 PhotoFinish xxx.msi)

3 DRC & NETWORK CONFIGURATION

3.1 Editing DRC connections

Editing DRC connections must be done inside the DRC Server.
Before editing DRC connections, the DRC Server must be in mode “Master Server” and in state “Stopped”.

The connection list page can be accessed from the “…” menu, under “Network Status”.

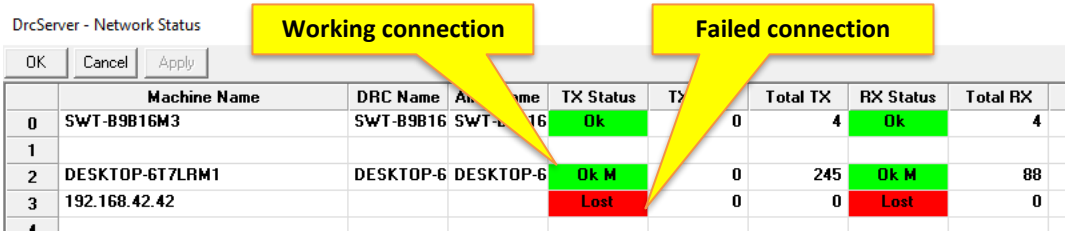


To add a connection, right-click any empty line and select “Remote Connection Properties”. To edit an existing connection, do the same but on an existing line.

Read following sections of this chapter to see a guide to setup DRC connections for OSV, according to specific use-cases.

Once all required connections are configured, click “OK” to apply them.

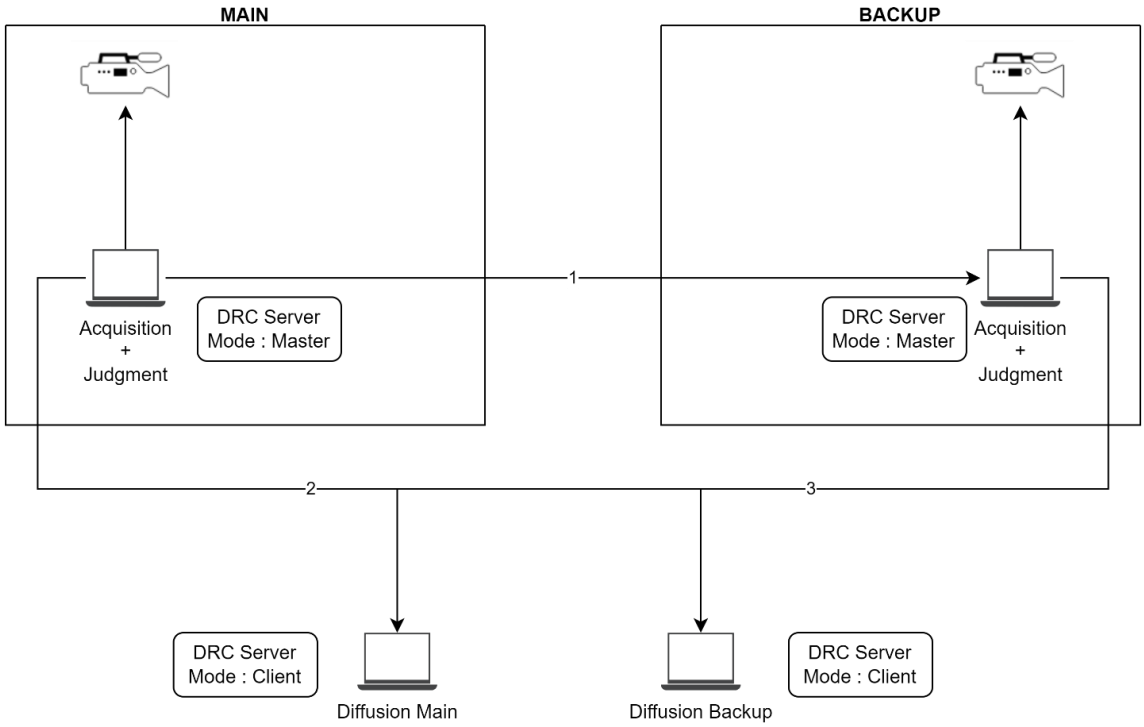
After setting the DRC Server’s state to “Running”, coming back to the connection list will display all working connections with a green background:



Please note, that regardless of the chosen network configuration, any DRC server configured in mode “Master Server” must be set to state “Running” before starting to work in the OSV software, or some features will fail.

3.2 Combined acquisition and judgment

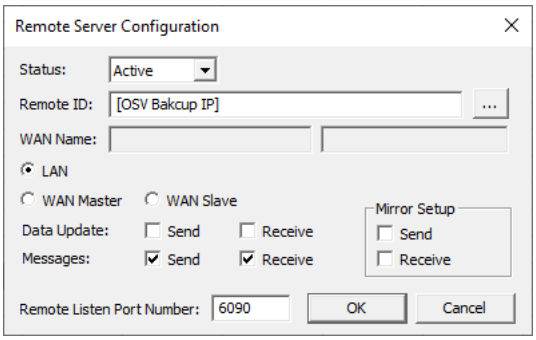
When a single computer is used for acquisition and judgment, this configuration should be applied:



The arrow direction indicates which computer should manage the connection: The computer at the origin of the arrow should open a connection towards the computer pointed by the arrow.

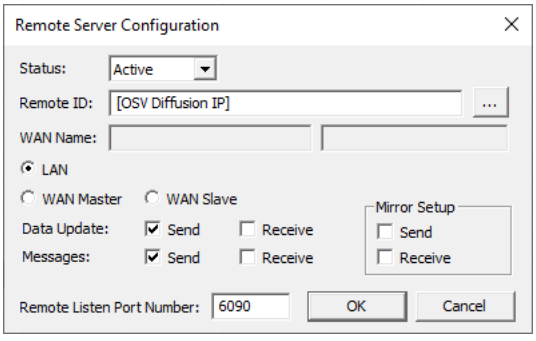
The connections should be configured like this:

1. Connection between OSV Main and OSV Backup (Optional, only needed if you use synchronized judgment)



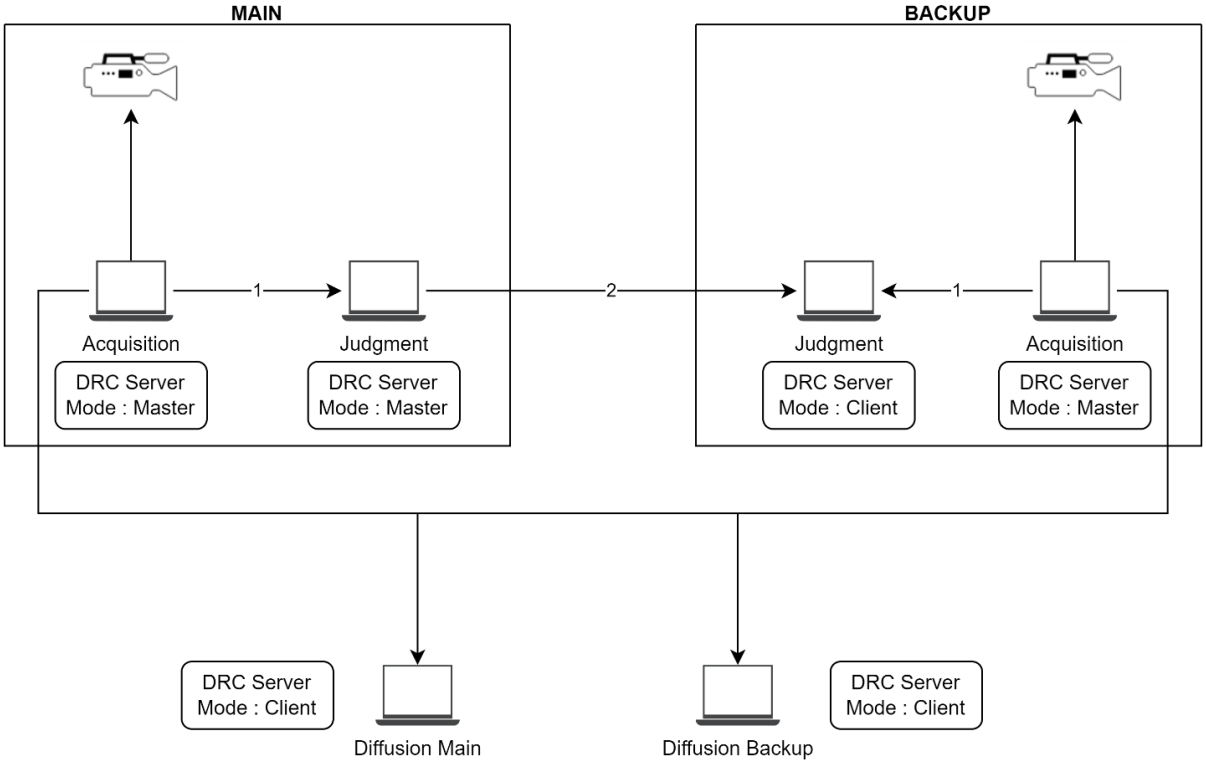
2.&3. Connections from :

- OSV Main to
  - Diffusion Main
  - Diffusion Backup
- OSV Backup to
  - Diffusion Main
  - Diffusion Backup



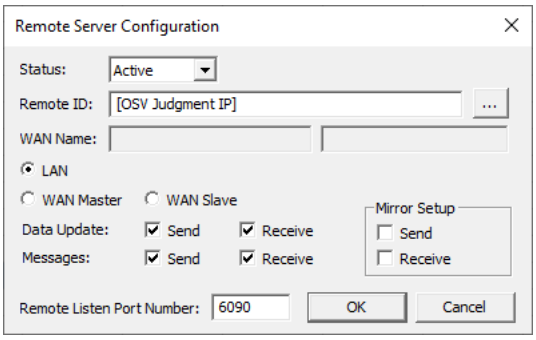
3.3 Separate acquisition and judgment

When image acquisition is done on a different computer than judgment.



In this case, the connection to OSV Diffusion is the same as in the previous chapter. The other connections should be managed in this way:

1. Connect each acquisition instance to its corresponding judgment instance



2. (Optional) If synchronized judgment is needed, both judgment instances must be connected. Apply the same connection settings as in connection n° 1 of the previous chapter.

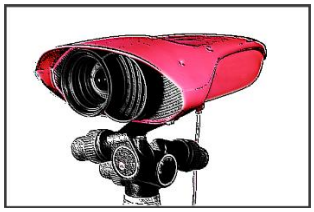
4 FIRST START

4.1 Single PC

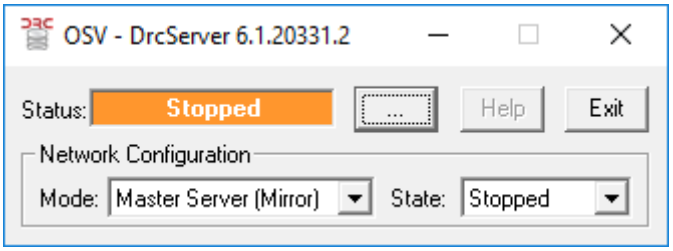
This mode is designed for situations where image acquisition and race judgment are done on the same computer.
If your use-case differs (i.e. image acquisition on one computer and race judgment on another one), please refer to the dedicated chapter of this guide: *Multiple PCs.*

Simplified start:

- Launch **OSV9** shortcut created on the desktop, it will automatically:
  - Display a splash screen.

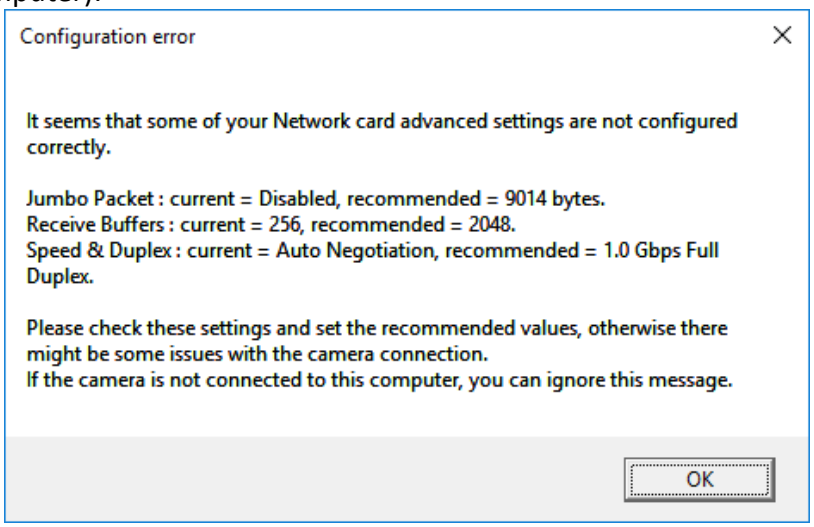


  - Launch the **DRC Server**.

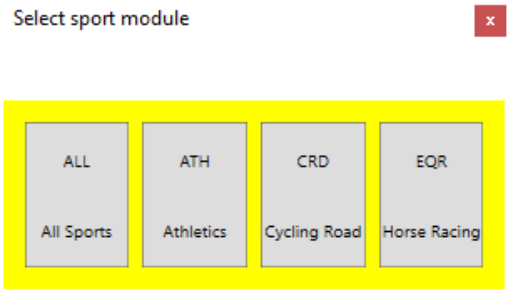


Usually, there is nothing to do in the DRC Server.

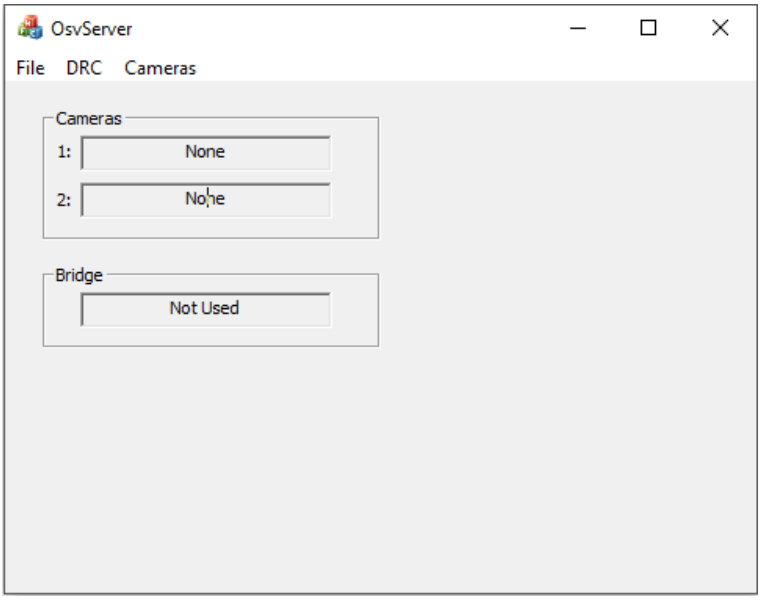
  - Check of the network board settings; if some parameters are not the recommended one, a message will be displayed (you can ignore it if no camera is connected on this computer):



- Ask you the sport (click on the corresponding button).

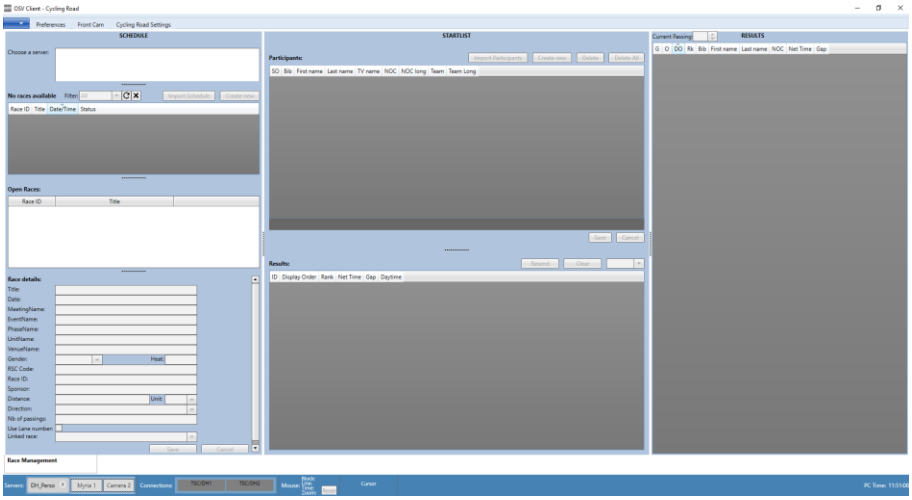


- Launch the **OSV Server**.



Usually, there is nothing to do in the OSV Server.
All the actions should be done from the OSV Client.

- Launch the **OSV Client**.



- Connect the client to the server (see bottom left of the screen). If the connection is successful, the server will become green.

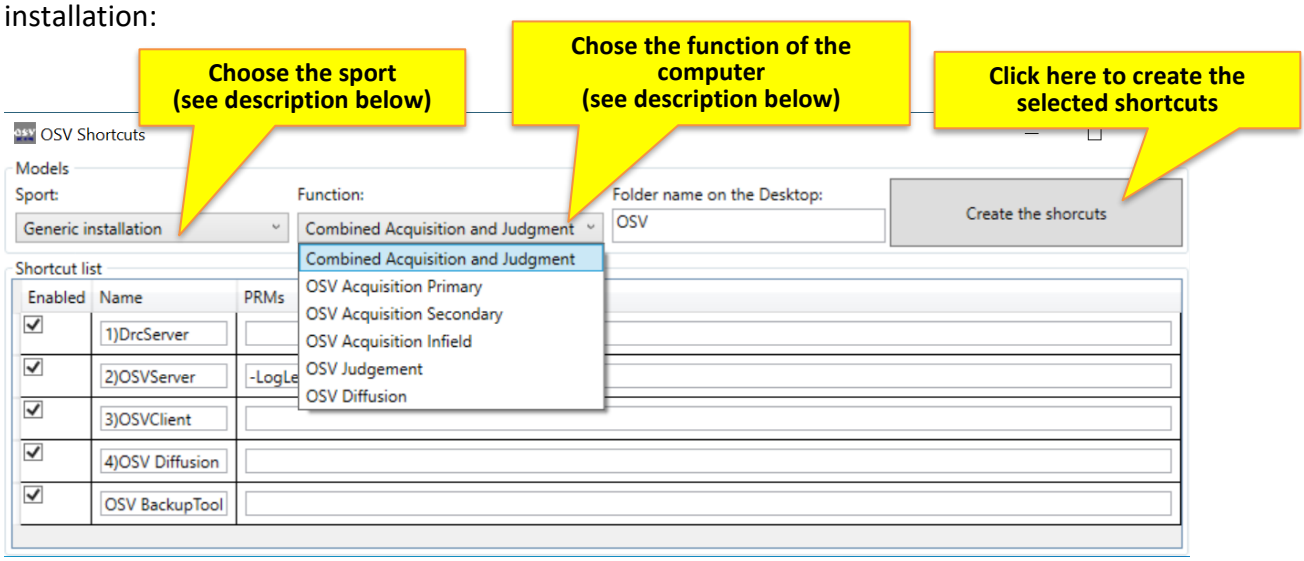
- Connect the camera. If the connection is successful, the camera will become orange and the time and swivel angle will be displayed.

4.2 Multiple PCs

This mode is designed for situations where image acquisition and judgment are done on different computers.

4.2.1 OSV Configuration

To work in this mode, some specific options are required. The default OSV desktop shortcut does not allow working in this mode.
To configure this mode, use the software “OSV Shortcut Creator”, provided by the default OSV installation:



On each computer, select the sport for which you’re configuring the software. We provide default options for the following sports:

- Generic: Choose this when no other sports match your situation
- Athletics
- Cycling Road
- Horse Racing

Select the corresponding function of this computer. We provide these functions by default:

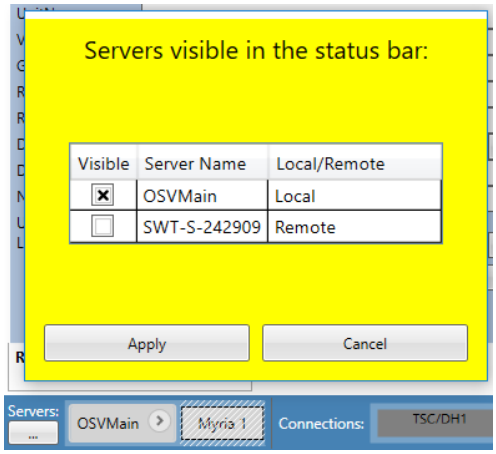
- Combined: Choose this when the same operator will manage one camera’s image acquisition and race judgment on this computer
- Acquisition: Choose the one corresponding to the camera connected to this computer if a dedicated operator will manage image acquisition on this computer. This mode doesn’t allow race judgment on this computer.
- Judgment: Choose this mode when a dedicated operator will use this computer to judge race results, using images captured on another instance. This mode doesn’t allow to control the camera.
- Diffusion: Choose this mode if this computer will be used only to export race images.

Every shortcut selected in the list will be created on the desktop, inside a folder named “OSV” when clicking the button “Create the shortcuts”.

After configuring OSV 9 with this tool, you can start the software either from the “OSV9” shortcut on the desktop, or from the shortcut “OSVClient” in the folder “OSV” on the desktop.

4.2.2 Connection to OSV Server

For the situation where judgment and acquisition are on different PCs, use the “…” button in the server area to expand the server selection popup.



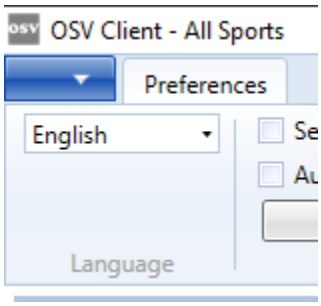
It will allow to select an OSV server to use for judgment.

When there are multiple OSV Servers in a network, the OSV Server Filter will limit the number of visible servers in the status bar.
By default, only the local OSV Server is visible.

4.3 Language Selection

By default, the software is displayed in English.

To use the software in another language, it can be selected in the “Preferences” tab. There is a dropdown list where available translations can be selected.



Once a language has been selected, the software will immediately be displayed in the chosen language.

If the desired language is not present in the list, the software “ST Translator Assist” can be used to create a new language file that will be used by the OSV software. See the chapter “Software Translation” of this guide.

5 MAIN VIEW

List of all OSV servers running on this DRC network

Notification area: all info, warnings and errors will appear in this tab

Import schedule from connected inputs

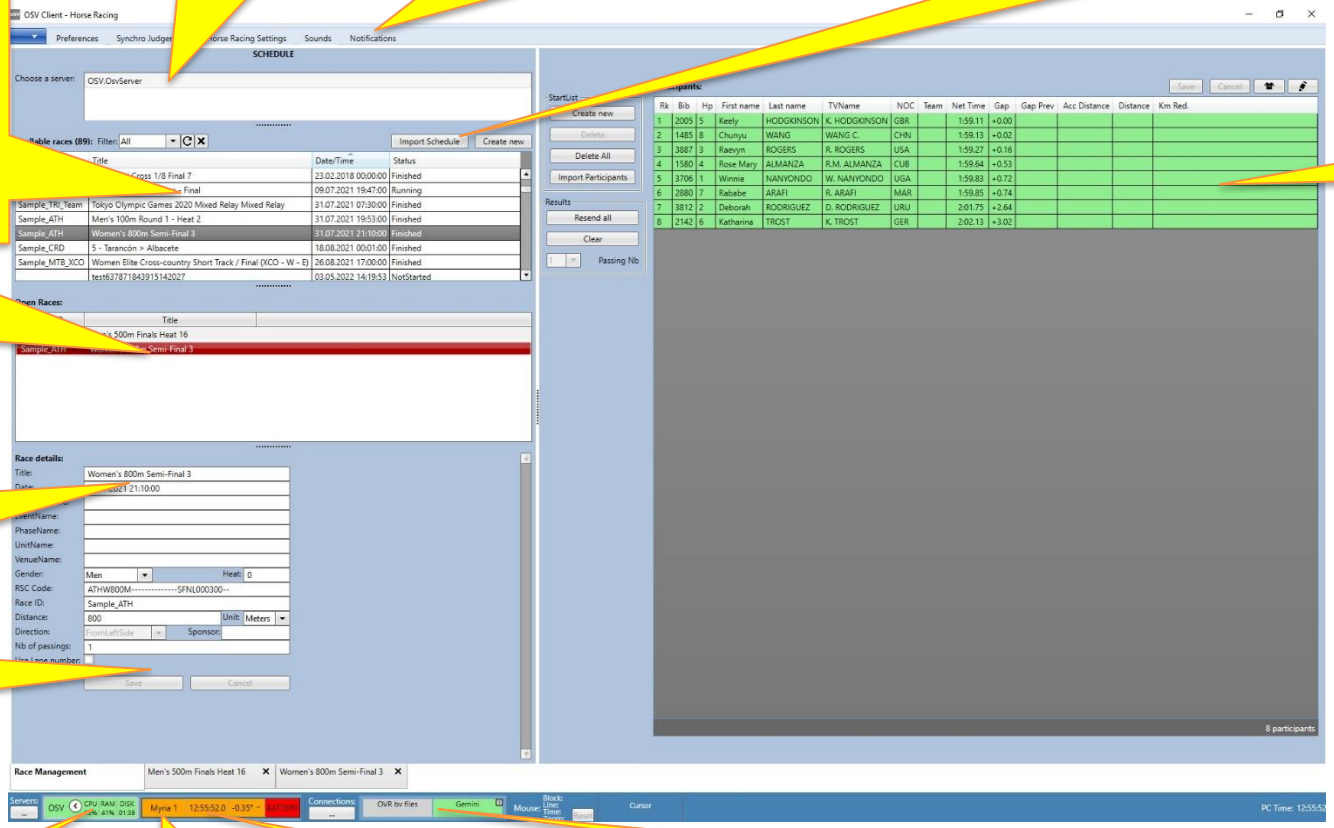
List of all races on the server
- Right-click to open, zip, unzip, open file location or delete (Select all for delete : Ctrl-A)
- Double-click to open the race and go to its tab
- Use the Filter to find a race faster

Startlist / Results of the selected open race

List of open races
- Right-click to close or clear race data
- Double-click to go the this race tab
- Select to view startlist and results

Race details
- Edit fields
- Save or cancel modifications

OSV Server status
- Green = Ok
- Red = KO
- Gray= Not connected



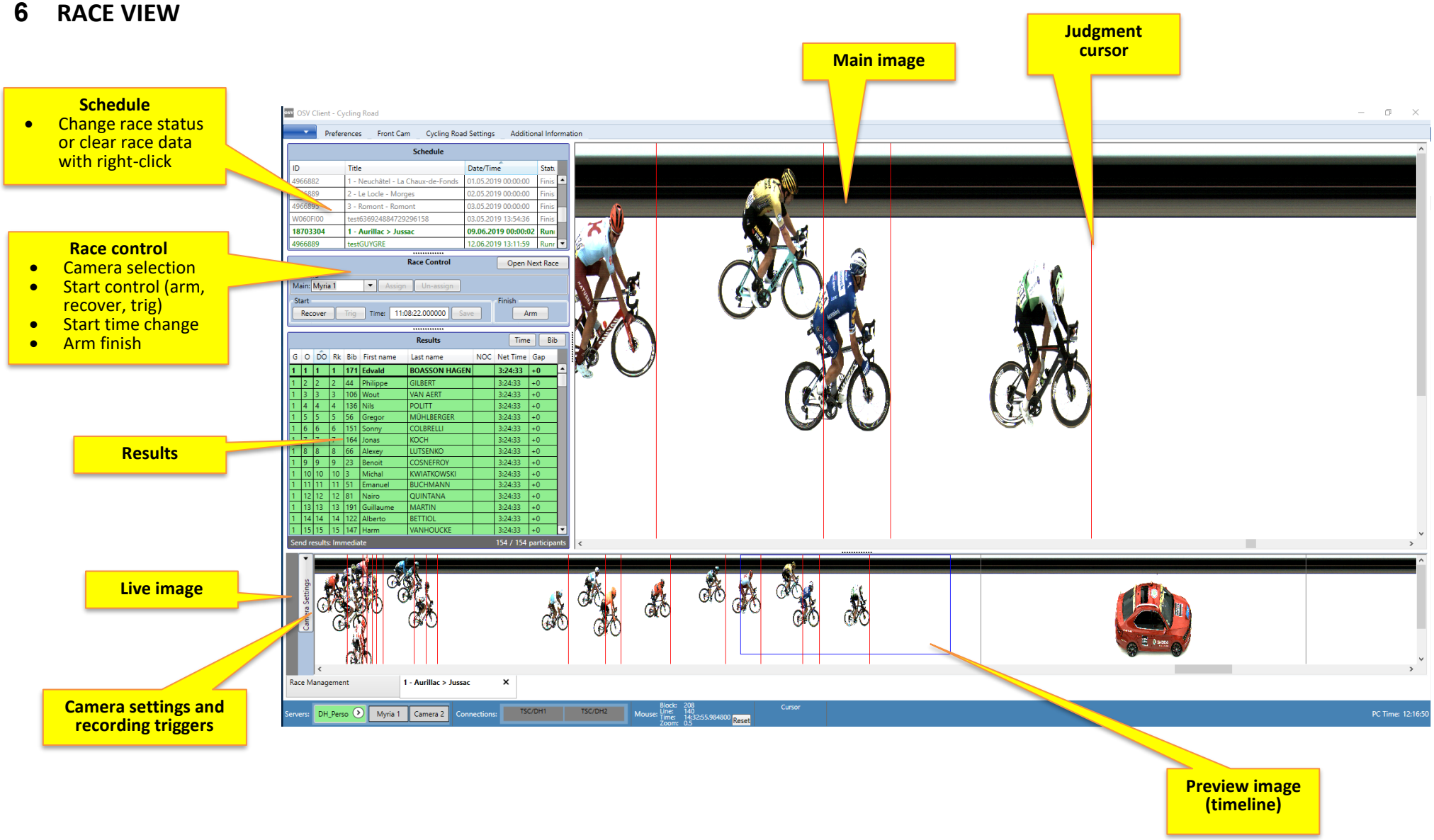
Resources usage (server-side)
- Green = Ok
- Orange = Warning
- Red = Critical
- **+ Bridge info if it is used**

Camera status
- Green = Ok (acquisition in progress)
- Orange = Ok, idle
- Red = KO
- Gray = Not connected

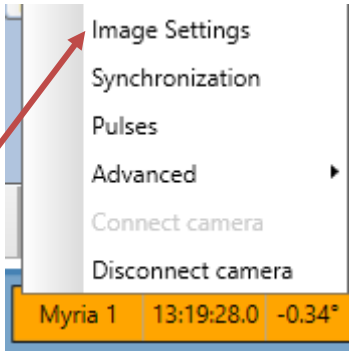
Synchronization status (with camera time of day)
- Green = Pulse or GPS sync
- Orange = Manual sync
- Blue = PTP OK (only with Bridge)

TSC Data connection status
- Right-click for options

6 RACE VIEW

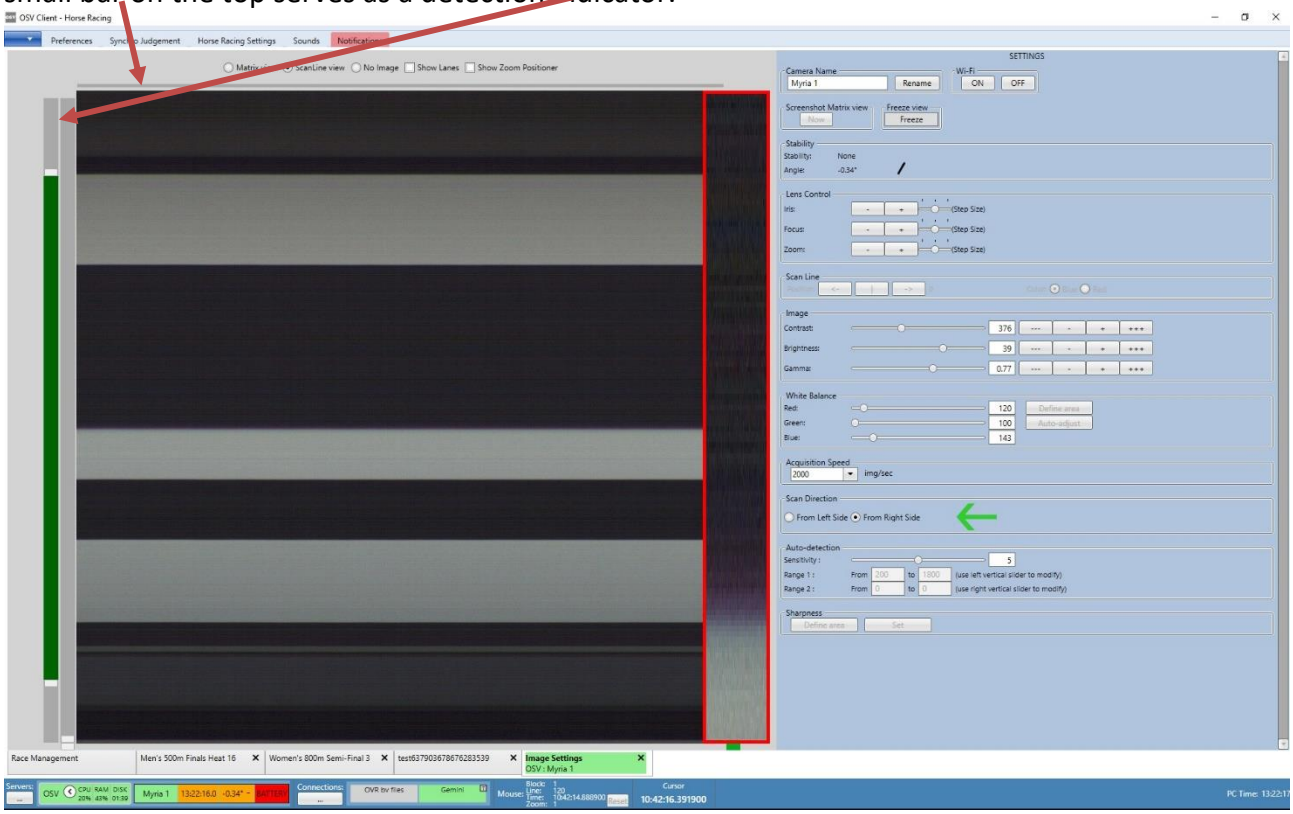

Schedule
• Change race status or clear race data with right-click
Race control
• Camera selection
• Start control (arm, recover, trig)
• Start time change
• Arm finish
Results
Live image
Camera settings and recording triggers
Main image
Judgment cursor
Preview image (timeline)

7 IMAGE SETTINGS



To setup the camera and all image settings, right-click on the camera (only when it is orange, impossible when it is green because it means that the camera is already in acquisition) and choose “Image Settings”. In this view, the left part displays the image and let you choose between Matrix mode and ScanLine mode. The right part shows all parameters that can be changed.

In the left part, in ScanLine mode, you can select two areas for the automatic object detection. The small bar on the top serves as a detection indicator.



In Matrix mode, you can place the zoomed boxes anywhere you want on the alignment line (first click on a zoomed box to select it, then click in the image at the desired height).

In the right part, some settings can only be modified in Matrix mode (Scan Line Position for example) or in ScanLine mode (Scan Direction for example).

The Wi-fi card (integrated in some MYRIA camera) can be turned on or off (by default: off). The card can take up to 75 seconds to start.

A screenshot of the Matrix view can be taken by using the corresponding button. It will add the time of day of the camera on the picture and save it on the disk. This can be used for example to have a “proof” that the alignment has been correctly done.

8 CONNECTIONS AND I/O MODULES

There are several ways of connecting to external devices or software to receive or send data. They can all be accessed by clicking the “Connections” button at the bottom of the main OSV window.

All the module types can be configured in this view.
When selecting a parameter in this view, a short description of the parameter’s effect will be displayed at the bottom of the view.

Any IO module in this view is only active if its “Enable” checkbox is ticked.

8.1 OVR STBP

Configure an STBP (**S**wiss**T**iming **B**inary **P**rotocol) connection to a TSC or OVR software for importing or exporting data.

- Setup: Configure the connection to the TSC or OVR, according to the network configuration.
- Date format: How dates are formatted in the CSV input when importing a schedule
  - BestMatch: Automatically find the valid format when importing
  - Local: Use the format defined by Windows on the computer
  - Invariant: The American standard format
  - Custom: Write your own format if none of the above corresponds to the situation
- Ask Schedule for Specific Date: Select this option if you want to import schedule by date instead of everything at once
- RSC Code fallback: Select this option to try to find races by RSC Code if no race is found by Race ID
- Net times from transponder: Select this option if your transponder system sends net times instead of day times.

8.2 OVR ASCII

Configure an ASCII connection to a TSC or OVR software for importing or exporting data.

- Setup: Configure the connection to the TSC or OVR, according to the network configuration.
- One way out: Select this option if you only want to send data but not receive anything
- Net times from transponder: Select this option if your transponder system sends net times instead of day times.
- Send Supplementary data: select this option to send additional data, according to the selected fields below

8.3 OVR by files

Configure how to use CSV files for importing schedules/start lists and exporting results.

Options

- Use Lane Number: If selected, the imported races will apply the “Use Lane Number” flag, meaning that judging athletes in these races can be done by lane instead of by bib.
- Max distance for lane: Maximum race distance where the “Use Lane Number” flag is applied. Only used if the above option is enabled.
- Date format: How dates are formatted in the CSV input when importing a schedule
    - BestMatch: Automatically find the valid format when importing
    - Local: Use the format defined by Windows on the computer
    - Invariant: The American standard format
    - Custom: Write your own format if none of the above corresponds to the situation

CSV + LST Files

Options for importing schedules and startlist from a CSV file and exporting results to LSTRslt.txt and LSTRRslt.txt files.

- CSV input path: Path where to look for the CSV file. The CSV file must be named **startlist.csv**
- LST output path: Path where the LSTRslt.txt and LSTRRslt.txt files will be written.

LIF Files

Options for importing and exporting files for the Lynx format: import from .evt files and exporting to .lif files.
If more information related to these file formats, please refer to Lynx’s online documentation: https://finishlynx.com/file-formats-meet-manager

- LIF files path: Path where to look for .evt input files and where to export .lif files.

The input and output files must follow a strict structure. An example file for each format is provided with the software and can be found in the installation directory, next to this user guide.

8.4 Front Camera

Configure the connection to a front camera.

For more information on this connection, please refer to the user guide dedicated to this device: “SCAIDER – FRONT CAMERA HD FOR PHOTOFINISH”

8.5 ASC 3 & ASC 3 MOSTRAC

Configure the connection to an ASC 3 (Mostrac) device.
For more information on this connection, please refer to the user guide dedicated to this device.

8.6 SCB

Configure the connection to a scoreboard device, and the associated display settings.

Supported models:

- GEMINI
- PICOLO
- RTD

8.7 Wind Meter

Configures the connection to a wind meter device.

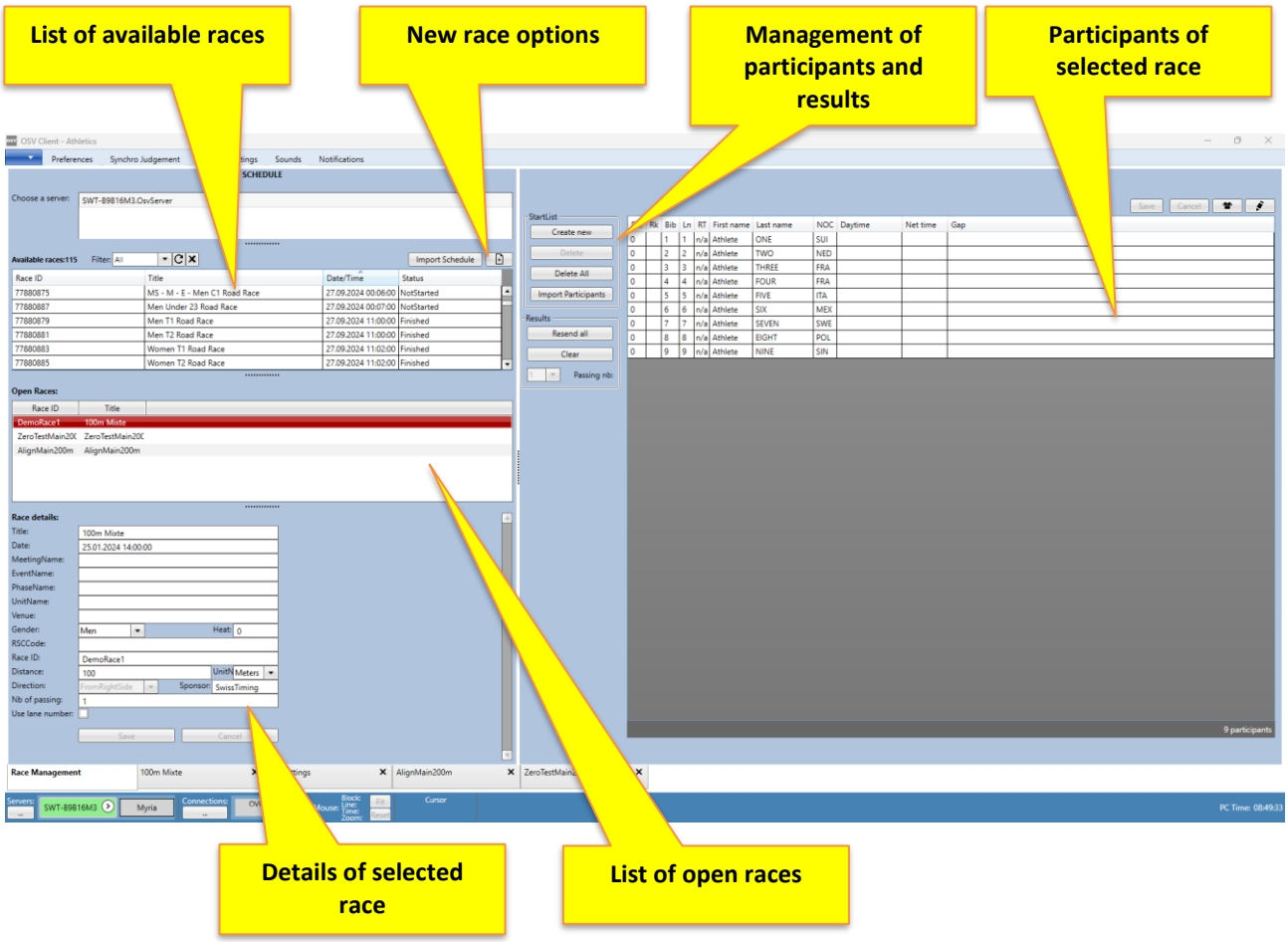
- Setup: Connection to the wind meter device
- Display Setup: Connection to a dedicated display output
- Wind meter: Type of the wind meter device in use

Supported models:

- Sirocco
- Mistral
- Boreas

9 RACE MANAGEMENT

To record images and make judgments, there must be at least one race created in the OSV software. These races can be interacted with in the “Race Management” tab.



9.1 Race creation

Create new races either manually or by importing them from an IO connection (see chapter *Connections and i/o modules*).

For manual creation, use the button above the race list and enter the required information.

To import races from all the **Enabled** connections, click the “Import Schedule” button.
When importing races, please note that the startlist is only imported if the option “Auto-import Startlists” is enabled in the “Preferences” ribbon tab. Otherwise, it is necessary to click “Import Participants” on the right side of the “Race Management” tab after opening the race.

9.2 Race manipulations

Races can be opened either with a double-click (bringing you directly to the race view) or by right-click and choosing “Open” (stays in the race management view).

The right-click menu allows several actions:

- Zip: Compress a race’s images and data to save disk space. Only available when the race’s status is set to “Finished”.
- Unzip: Decompress a race that was compressed with the previous option.
- Open file location: Opens Windows Explorer in the folder where the race is saved.
- Delete: Deletes the race and all its related data. Warning: this action can’t be undone.

When compressing or decompressing a race, it’s important to never close the terminal window before compression/decompression is finished. Closing before that would corrupt the race data and images, making it unusable and impossible to recover.

9.3 Race details

All the details of an open race can be edited in this area.

The following fields require special attention:

- Race ID: **Unique** identifier for a race. Most operations within the software rely on this field to identify a race.
- Date: Scheduled date and time of the race’s start. This is used in combination with the race ID to correctly identify a race.
- Direction: Specify in which direction the athletes will run **relative to the camera’s viewing angle**. Make sure this is set correctly, or all the text in the image will appear reversed. Can’t be changed after the race has some images recorded.
- Sponsor: Sponsor name will be sent to all ouputs.
- Nb of passings: Set how many times the athletes will be judged (for example, if you need to judge every lap)
- Use lane number: Check this to enable judging by lane, instead of judging by bib.

Any change in the race details is only valid **after** clicking the “Save” button, and re-opening the race.

10 RECORDING

To record images, the camera needs to be started (green). The camera will automatically start when it is assigned to a race. Note that it is not possible to start the camera if the Image Settings or the Synchronization view is open.
In the race view, in the race control area, you can manually assign the camera to the race (by selecting the camera and clicking “Assign”). Or the camera will be automatically assigned to the race when arming the start or the finish.
Note that the direction of a race cannot be changed when there is already some image recorded. So if you try to assign a camera configured as “Left to right” to a race which has already some image recorded as “Right to left”, an error message will be displayed. The only way to do it would be to use the “Clear race data” option.
To know that the camera is correctly assigned to the race, look at these points:

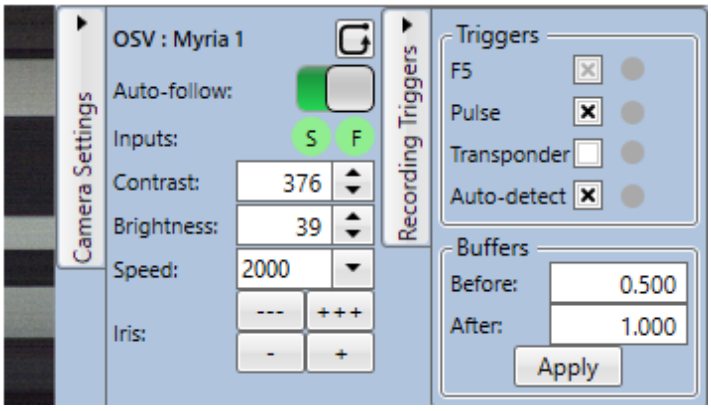
- The tab of the race should become green
- The camera name should be just below the race title in the tab header,
- The live image should display the image of is currently passing on the finish line

If all these conditions are ok, it means that we are ready to record.
You can then configure the recording triggers (at finish), situated in an expandable area in the small Camera Settings area:

- Pulse: Each pulse on the finish input will trigger the recording
- Transponder: Each transponder passing (received through the TSC) will trigger the recording
- Auto-detect: When an object is detected in the image, it will trigger the recording
- F5: When pressing “F5”, it will trigger the recording, depending on the “F5 Mode” chosen in the Preferences ribbon tab

For all these triggers, a portion of image will be recorded before the trigger, and a portion of image will be recorded after the trigger. The size of these portions can be defined by setting the time of each one. Note that, except for the F5 trigger, the finish must be armed for the triggers to work.

When recording, you can choose if the preview image should follow the live image or not, using the “Auto-follow” button in the small Camera Settings area. Some basic image settings can also be changed there, even during the race.



11 JUDGING

Zooming with the mouse wheel (+ Ctrl) and scrolling with the scrollbar, with the mouse wheel or by keeping the right-click pressed is possible in both the preview and the main images. Vertical scrolling is possible with Shift+Mouse wheel. Slow horizontal scrolling is possible with Alt+Mouse wheel. Horizontal zooming is possible with Ctrl+Shift+Mouse wheel.

To judge a rider, click on the preview image to display the chosen area in the main image. Then, a click on the main image will create a temporary judgment cursor (green by default). This cursor can be dragged with the mouse or moved with the arrow keys. When the cursor is correctly placed, press “Enter” to validate the cursor (or type a number directly). You need then to choose the bib of the rider and then press “Ok” to create the cursor. As soon as it is done, the ranking will be recalculated.
By right-clicking on a rider in the results view, you can either go to his cursor (double-click does the same), edit the cursor (change the time) or delete the cursor. You can hide the judgment cursors by pressing “C”.

If enabled, the magnet judgment option will automatically pin your cursor to the closest detected object in the image. You can find more information about this option in the section about special functions. (Chapter 16.14)

If available, transponder passings received through the TSC application can help the operator. Transponder cursors (blue by default) can be displayed in the main image by pressing “T”. Also, when choosing the bib for a new judgment cursor, the closest transponder passings are displayed, and the closest one is even pre-selected.

For CRD only, if the groups automatically calculated by the system need to be modified, you can change them by selecting the rider you want as head of a group and pressing “G”. This will create a new group. In the same way, if you want to “merge” two groups, select the rider who is head of the second group and press “G”.

When all riders have been judged, you can set manually the status of the race to “Finished” by right-clicking on the race in the Schedule area of the race view. This will allow then to zip the race if desired.

The magnifier window can assist the judgment:

M : toggle show/hide the magnifier window
L : Lock vertically and add an new magnifier.
U: Unlock and remove last magnifier.
Use also the arrow key (up – down – left - right) to move the cursor

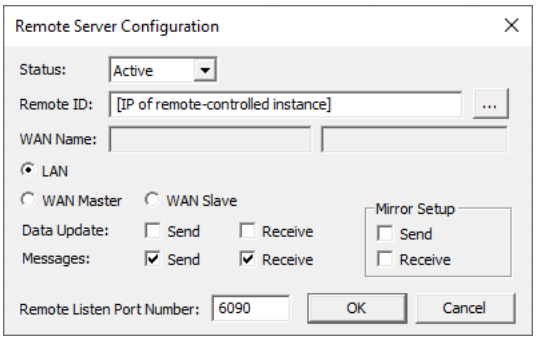
Shift Left / Shift Right will create a new judging cursor or move it fast.

12 SYNCHRONIZED JUDGING

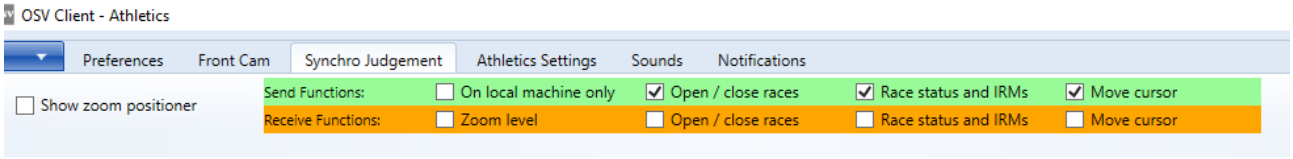
When we judge a race from 2 cameras (ie main and infield camera) we can use the synchronized judging feature. It is like a remote control from one OSV Client instance to other OSV Client instances.

Requirements:

- Both computers must be on the same DRC network, and be configured to send/receive messages only



- Both races must have the same Race ID
- Both OSV Clients must configure the synchro judgment accordingly: One to send commands, the other to receive them.



According to these settings, the synchro judgment will:

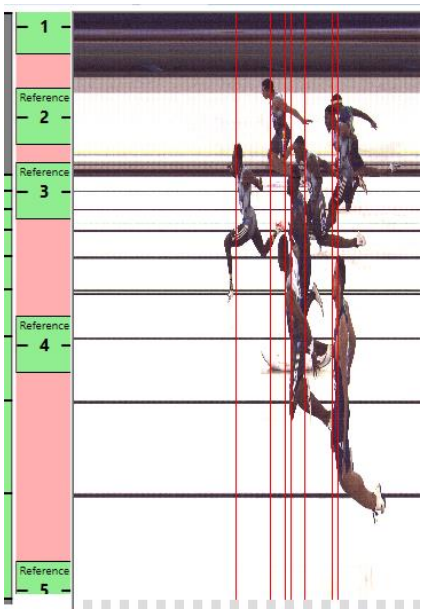
- Open and close races
- Create and move the judgement cursor.
- Set athlete results when confirming the cursor.
- Apply IRMs (DNF, DQ…) to athletes.
- Adjust the Zoom level.

12.1 Zoom position

When you are judging with dual instances (main and infield images) you can configure the vertical zoom position in order that when you click in an image, the other instance place vertically the zoom at the same location.
In Synchro Judgement ribbon, check the “Show zoom positioner”.

Insert at least 5 vertical references (one at very top, one at very bottom and other at judgement levels).

Do the same on other instances (infield or backup), using the same vertical references. Infield views will have the references in reverse order.



13 CAMERA TIME SYNCHRONIZATION

13.1 MAGIC PRO camera

The MAGIC PRO camera can't be directly synchronized from the OSV software.
To synchronize it, the connected PowerTime III should be synchronized (see its specific user's manual 3509.500).
The camera status will turn blue when it is synchronized with the PowerTime III.
If no PowerTime III are used, the camera cannot be synchronized and only gap times can be produced by the system.

13.2 MYRIA camera

To synchronize the MYRIA camera timer board, right-click on the camera (only when it is orange, impossible when it is green because it means that the camera is already in acquisition or image settings) and choose "Synchronization". In this view, you can either:

- Synchronize manually at a given time
- Synchronize at the computer time (from client computer, considered as manual sync)
- Synchronize with a pulse on an input at a given time (always Start input)
- Synchronize with a GPS (camera optional accessory) and set the Leap Seconds
- Choose the polarity of the Start and Finish inputs (default: Normally Open)
- Choose what kind of pulses you want to be saved (first edge, second edge, both or none)

When the camera has been synchronized by a pulse, the camera time in the status bar should appear in green (instead of orange for a manual synchronization).

When using the bridge, the synchronization is done in the bridge (so the input cable or GPS must be connected to the bridge, not to the camera), which will then synchronize the camera with PTP. So the camera time in the status bar will appear blue. To know if the bridge is correctly synchronized (pulse or GPS), look in the "Resources" expander area next to the server name. The synchronization status is shown in the tooltip.

14 PREFERENCES

The ribbon tab “Preferences” contains several options to personalize the OSV software behaviour to your liking.

- Language: Choose the display language of the software
- Startlist / Results
  - Send Results Immediate: As soon as a judgment cursor is created, send it to all the configured outputs.
  - Auto-import Startlists: Import startlists directly with the schedule. If disabled, use the button “Import Participants” in race management to import a startlist.
  - IRM list: Use this to edit the text of the IRM status. Warning: it will only affect races created after the modification
- F5 mode: Choose how the manual recording behaves when pressing the F5 key.
  - Toggle: Press F5 to start recording (no effect if recording is already on). Press F5 again to stop recording (no effect if recording by another trigger)
  - Press F5 and keep it pressed to record (no effect if recording is already on)
  - Press F5 to change the recording state (start recording if it is off, stop recording if it is on). This will override all the triggers.
- Cursor colors: Chose the colors of the cursors for the race view
- Gamma Correction:
  - Use the slider to define a gamma value
  - Use the shortcuts to define and apply a gamma correction to the recorded image
  - The gamma correction is not saved. The image saved will always be the original.
- Race Start / Finish:
  - Use start time offset: If enabled, when arming the start, you must enter an offset that will be applied to the next start pulse.
  - Automatically arm the finish 5 seconds after a start pulse.
  - F3 & F7 toggles: If enabled, the keys F3 and F7 will act as toggles to arm/disarm start and finish. If disabled, F3 and F7 can only arm but not disarm.
- Cursors / Judgment:
  - Show transponder cursors: Display a cursor on the race image where a transponder passing was received.
  - Show Bibs: Show the bib (or lane) of the corresponding athlete on top of judgment and transponder cursors.
  - Magnet Judgment: While placing judgment cursors, if an object is detected on the image, automatically move the cursor on the detected object.
- Image and results export:
  - Image export options: Configure the quick image export from the OSV software. If more complex configuration or outputs are necessary, please see “OSV Diffusion” software
  - Text export options: Configure the text export of race results
- Fullscreen mode
  - Hide left part: Hide race and results view when entering full screen mode
  - Hide bottom port: Hide timeline view when entering full screen mode
- Next Race: Configure actions to execute when clicking “Open Next Race” in the race view.

- Image Data: Configure the *Auto Crop* feature
    - Keep detected objects: Auto Crop will not remove images where a moving object was detected on the image. This will keep, for example, people walking, vehicles, etc.
    - Confirm crop areas: Every time Auto Crop wants to remove a part of the image, it will first ask for validation

15 BACKUP

There are two kinds of backup possibilities:

- Race compression
- End-of-day full backup

15.1 Race compression

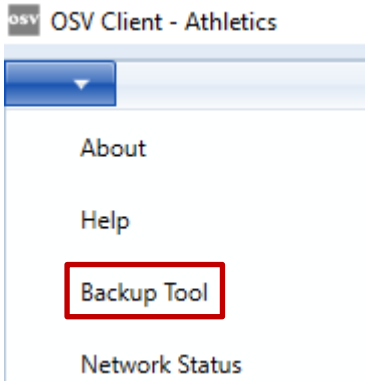
Each race (with the Finished status) can be zipped (by right-clicking on it in the list of all races). It will save some disk space by compressing the image data. It can then be unzipped if it needs to be reopened again.

Remark: to cancel an in-progress zipping operation (if it takes too much time or you need to review the image), press **Ctrl+C** in the Console window where the compression is running.
Never close the console window while the process is still running, or the race would be corrupted and impossible to recover.

15.2 End-of-day full backup (OSV Backup Tool)

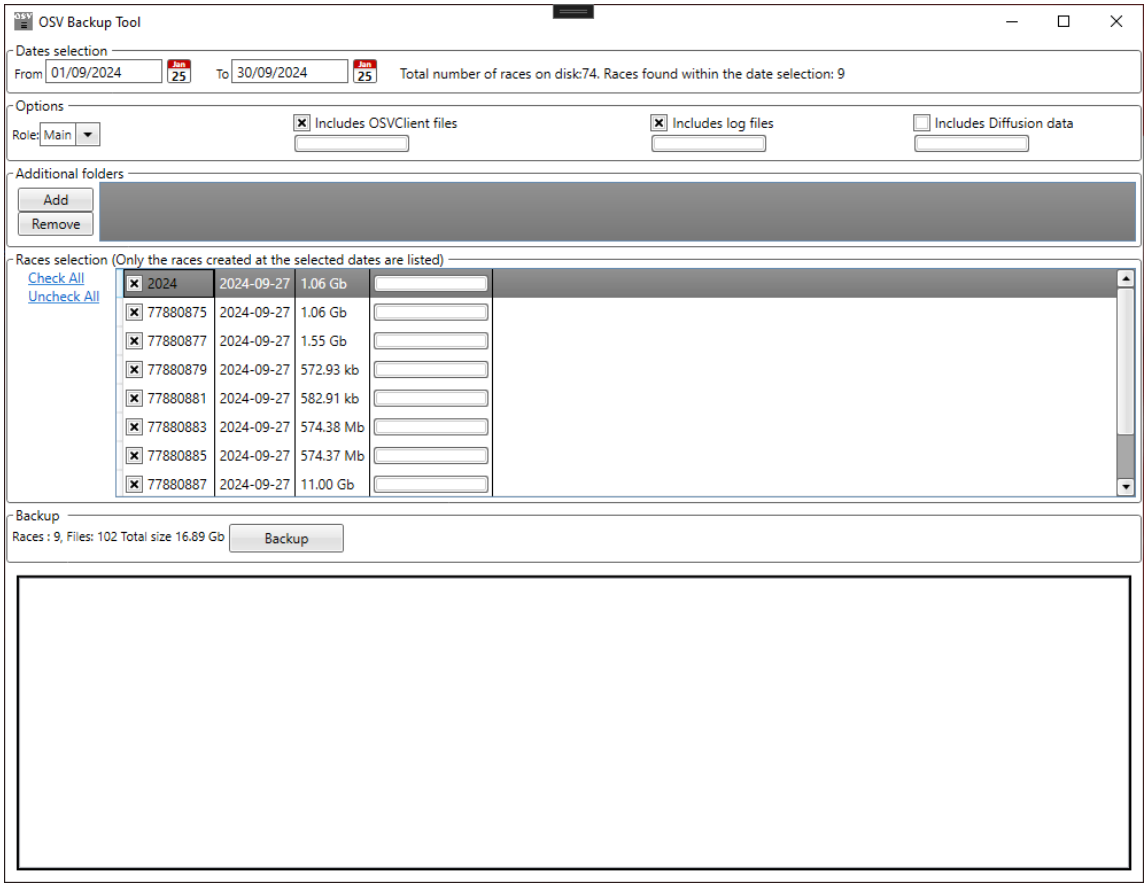
At the end of a competition day, it is recommended to do a "full backup". To do this, close the Client and Server applications and launch the "OSV Backup Tool". In this application, you can choose which day (or days) you want to backup. It will then create a big Zip file with all image data, results, event logs, DRC binary logs, etc.

"OSV Backup Tool" can be launched from Client main menu:



Once the backup tool is enabled, make sure OSV Client and OSV Server are both closed before starting the backup process, or some files may not be included in the backup.

1. Select the dates containing the races you want to back up
2. Select the role that the computer was doing (Main, Backup, etc…)
3. Select the OSV folders you want to include
4. If required, it is possible to add extra non-OSV folders manually
5. Select the races you want to include in the backup from the list
6. Once ready, click “Backup”



The software will ask where to put the zip file, and the backup process will start.
All the original files will stay untouched; this process copies them to a compressed archive.

Once the backup is complete, the folder containing the full zip will automatically open.

16 SPECIAL FUNCTIONS

16.1 Fullscreen mode

During judgment, it can be useful to have the maximum space possible to display the big image (hide left and bottom parts). To switch into Fullscreen mode, just press “F11” (and press “F11” again to go back to normal mode). In the Preferences ribbon tab, you can choose to hide or not the left and/or bottom parts when switching to Fullscreen mode.

16.2 Image Crop

It is possible to crop a part of the recorded image. To do that, in the preview image, press the “Delete” key, then draw a rectangle with the mouse around the area to remove, and press “Enter” to confirm the crop.
Notes: - It is impossible to crop an area containing a judgment cursor.
- It is impossible to crop when finish is armed.

16.2.1 Auto Crop

It is possible to automatically crop all parts of the image which are too far from any judgement cursor. To do that, navigate to the “Preferences” tab in the ribbon and click the “Auto Crop” button in the “Image Data” group.
There are 2 options available to this feature:

- Keep movements: all auto detected movements in the images will not be cropped
- Confirm crop areas: all auto crop areas will need to be confirmed by the user

16.3 Cycling road Group Cursor

To help define the groups in Cycling Road competition, it is possible to display a special kind of cursor, the CRD Group Cursor. In the preview image, press “X” to enable this cursor. It will display a semi-transparent area corresponding to the gap time between two groups. The cursor will follow the mouse pointer as it is moved. The value of the gap time (=width of the area) can be configured in the Cycling Road Settings ribbon tab (top of the window).

16.4 Basic export

To export a basic image, you can press “E” in the main image and then draw a rectangle with the mouse. Press “Enter” to export the selected area into two image files on the desktop (one with judgment cursors, one without). The output folder, file name and extension (bmp, jpg or png) can be chosen in the Preferences ribbon tab.

16.5 Cursors colors

To change the color of the permanent judgment cursors (default: red), temporary judgment cursor (default: green) and transponder cursors (default: blue), open the Preferences ribbon tab and choose the desired colors.

16.6 Gamma correction

If the image is too dark to be judged, you can apply a gamma correction to make judgment easier. In the Preferences ribbon tab, you can choose the value of the gamma correction to apply, between 0.4 (brightest) and 1.0 (original image). By pressing Ctrl+R and drawing a rectangle (validate with Enter), you can define the area to be "gamma corrected". This area will always take the full width of the image. Then, by pressing Ctrl+Shift+R, you can switch between the gamma corrected image and the original image.

16.7 Start time offset

In some competitions (for example cycling road Grand Tours), the start time of the race is given by a commissaire while the race has already started. The commissaire gives the current race time and a pulse, and the system must calculate the daytime of the start (by subtracting the race time from the pulse time). To do that, you must enable the "Use start time offset" option in the Preferences ribbon tab. Then, when you click on the Arm Start button, you can enter the offset (= race time) that will be subtracted from the next pulse to calculate the start time.

16.8 Auto-Arm finish

It is possible to automatically arm the finish 5 seconds after the start is triggered. To do that, check the box "Auto-arm finish" in the "Preferences" ribbon tab.

16.9 Front Cam

SCAIDER front camera can be used with OSV9 to help to identify finisher. It must be connected and configured (which messages must be sent to the Front Cam) in the Front Cam ribbon tab.

16.10 Receiving transponder passings

Transponder passings can be received in two different ways:

- Either by sending a Transponder passing STBP message for each passing to an IO module "IO_OVR_STBP",
- Or by sending an ASCII message for each passing to an IO module "IO_OVR_ASCII" with this structure:

[SOH][DC3]<MsgType:5>[STX]<Dist:4><Rank:3><Bib:5><StartOrder/lane:2><NetTime:12>[EOT]

All received transponder passings will be saved on the race which has the camera assigned.

16.11 Manual Start

In athletics (ATH) sport module only, when the user edits the start time of a race, the race will be flagged as Manual Start. A checkbox is visible in the race command panel and allows to toggle between Manual Start and Normal Start. When the Manual Start flag is set, all the times/gaps are rounded at the $1/10^{th}$ of a second, instead of $1/100^{th}$ of a second. If the user wants to assign a pulse

(for example a not-armed pulse) as start time without setting the Manual Start flag, the best way is to find the pulse in the Pulses list, right-click on it and assign it as start pulse.

16.12 Sharpness indicator

In the image settings view, when ScanLine mode is active, the sharpness indicator can be helpful to set the camera focus.
To use it, click a zone of the ScanLine image that contains a high contrast, for example where the image goes from black to white. This area will be zoomed in the red rectangle in the middle of the screen and the sharpness of the image will be represented by the vertical green bar.
Every time there is a new image coming from the camera, the green bar will refresh and the maximum value be represented by the red bar.
Every time you change a camera setting, the maximum value is reset.
When the sharpness is high, the focus should be better.

This indicator is only available when light regulation is in manual mode.

16.13 Light regulation

It is possible to use a light regulation feature, which will adapt the camera's contrast and brightness when the light changes. This can be useful for example when a cloud comes in front of the sun.

There are 3 possible modes:

- Manual:
  Light regulation system is disabled.
- Automatic:
  Uses the selected area to adjust the camera settings.
- 2 references:
  Uses the two selected lines to adjust the camera settings.

Use the 2 sliders on the right of the ScanLine image to determine which part of the image will be used to adjust lighting.

In automatic mode, all the pixels between the 2 lines will be used to calculate the lighting.

In 2 references mode, only the pixels on the selected lines will be used. The system will try to adapt the lighting by matching the brightness of those lines to selected reference values.
To select the reference values, use the slider on the right, in the "Regulation" group. The top reference (bright) will be matched with the top line and the bottom reference (dark) will be matched with the bottom line.

The "Reaction" value determines the speed of the regulation from 1 (fastest) to 5 (slowest). It corresponds to the number of blocks needed before a regulation happens.

16.14 Magnet judgment

This feature can be enabled in the preferences ribbon tab, in the “Cursors / Judgment” group.
Also, if pressing the Shift key while placing a cursor, it toggles the option but only for the current cursor.

When the option is enabled, when placing a cursor, if an object is detected close to where the cursor was placed, the system will automatically pin it to the object.

16.15 Sport Modules

OSV Client always loads a sport module (defined by which shortcut has been chosen). A sport module can propose some specific functionalities, ranking algorithms, options, protocols or views.
Currently, there are 4 sport modules available:

- CRD (Cycling Road)
  - Time precision is fixed (1 sec)
  - Time rounding mode is fixed (truncate)
  - Automatic group calculation
  - Special CRD group cursor
  - STBP and LIF protocols available
- ATH (Athletics)
  - All time precisions available, zero-test mode enabled when choosing 1/10000 sec
  - Time rounding mode is fixed (round up)
  - Manual start (rounding at 1/10 sec)
  - STBP, LIF and LEGACY (CSV input, LST output) protocols available
- EQR (Horse racing)
  - Calculation of kilometric reduction
  - Calculation of distance (from leader and from previous) in horse length following selectable table.
- ALL (All other sports)
  - All time precisions and rounding modes available:
    - Truncate: The reminder is removed from the current value.
      Example precision 10ms: Truncate 17.234565 = 17.230000;
    - Round Up: If the reminder is > 0 the current value is rounded to the next upper value.
      Example precision 10ms: RoundUp 17.234565 = 17.240000;
    - Round: If the reminder is >= 5 the current value is rounded to the next upper value, else the reminder is removed from the current value.
      Example precision 1ms: Round 17.555555 = 17.556000; Round 17.244001 = 17.244000; Round 17.244500 = 17.245000;
    - Round to even: If the reminder is != 5 the current value is rounded same as Round, else it is rounded up or down toward the nearest even number. Example precision 1ms: RoundToEven 17.555555 = 17.556000; RoundToEven 17.244001 = 17.244000; RoundToEven 17.244500 = 17.244000;
    - Ceil: If the reminder is > 0 the current value is rounded to the next plus value. With positive and negative time its rounds towards plus infinity.
      Example precision 10ms: Ceil 17.234565 = 17.240000;

        - Floor: If the reminder is > 0 the current value is rounded to the next minus value. With positive and negative time its rounds towards minus infinity. Example precision 10ms: Floor 17.234565 = 17.230000;
    - STBP, LIF and LEGACY (CSV input, LST output) protocols available

16.16 Important shortcuts

Complete list of shortcuts is described in the “About OSV” window.

Show About dialog (containing the list of all Keyboard shortcuts): F1
Switch to/from Fullscreen mode: F11

To show/hide judgment cursors: C
To show/hide transponder cursors: T
Navigate to next detected object: Ctrl + [Numpad +]

Toggle display between daytime and net time: D
Send results (if mode is not Immediate): Ctrl + S

17 SOFTWARE TRANSLATION

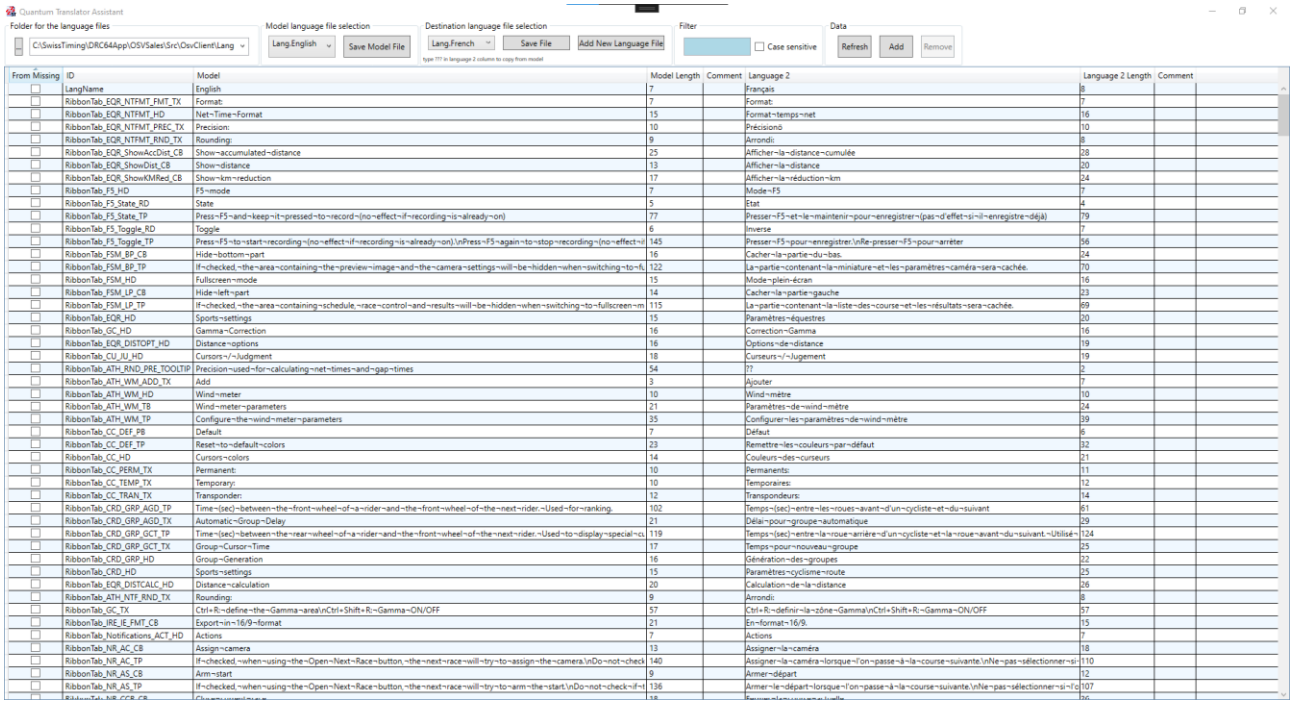
The OSV software comes with language files to translate the user interface to a desired language. By default, the software is displayed in English.

To translate the software to a new language, the dedicated tool “ST Translator Assist” can be used.

Please note that this tool is intended for users who understand how the OSV software is structured. Keep in mind that changes to existing languages, if not done properly, could degrade the user experience of OSV software.
Edit provided languages at your own risk.

17.1 How to use

On a default installation, the software is in C:\SwissTiming\DRC64App\OSV\Tools



1. Select the translation files’ location
   The translation files can be found in the OSV installation folder. By default:
   C:\SwissTiming\DRC64App\OSVSales\Src\OsvClient\Lang
2. Select the model language file
   It is recommended to use English as the model file, as it is the default language.
3. Select the destination language file, or add a new one with the dedicated button
4. Write the translation for each line in the grid
   Try to match the length of the source language to ensure a correct fit on the software.
5. Save the destination language file

The new language file will now be available in the OSV Client.

18 ISSUES

- Impossible to connect to the camera:
  - Check the camera (should be blinking)
  - Check the PoE adapter (LEDs should be green)
  - Check the network cables (should support 1GB/s)
  - Check the configuration of the (integrated) network card of the server
  - Try to ping the camera (192.168.2.10 & 192.168.2.20)

- Impossible to connect to the server:
  - Check that the OSV server is launched
  - If not on the same machine, check the DRC network configuration (see corresponding chapter of this document)

- Impossible to stop the OSV Client: it says that races are still open.
  - Close the OSV Client with the menu Exit (leaving races open)
  - After restarting, if a race is still in the “Open Races” list, close this race with a right mouse click.

- Impossible to stop the OSVServer: it says that races are still open.
  - Make sure that no clients are connected to this OSVServer (even across the network)
  - If no client is connected and the OSVServer does not close, kill it through the “Process status” of the DRCServer.

NOTES