# Scoring with ShowCondorIGC

## 1. Introduction

The program ShowCondorIGC (SCI) supports scoring. It can load and present datas from CSV and IGC files. In case of IGC files it can filter the flightplans and check the validity (with valicon.dll from Uros). It can also calculate the points. The calculation bases upon FAI Sporting Code Annex A. But the user can make a lot of settings, to adjust the calculation. Scoring can made for

- Racing  (Condor Tasks)
- AAT (Assign Area Task)
- MAT (MAT1, MAT2 specialized for Condor)

The results can exported to a CSV file. Other programs can read it and present it in the WEB. In case of IGC files the user has the option, to export an extended CSV file with a lot of flightdatas (mean climbrate, ……).

## 2. Loading CSV and IGC files

At the end of an online play with Condor the results are saved in a CSV file. SCI is able to read it. You can also load CSV files which are created by SCI. IGC files must sent by the pilots. SCI can load them and calculate flight parameters like mean climbrate and others which are very useful for the flight analysis. SCI can export and import CSV files with and without these parameters.
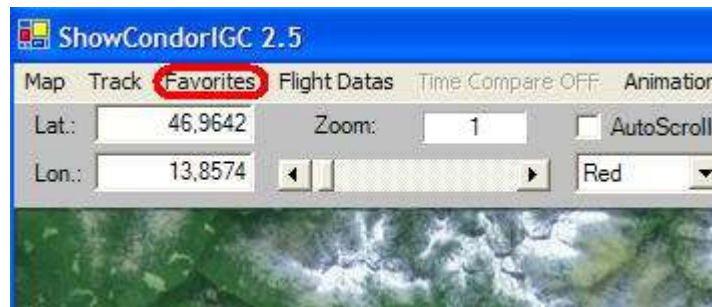To load the datas, start SCI and click on "Favorite" (see figure 1).


Figure 1

Then the Favorite Windows appears (Figure 2). On the register "Favorites" you find the following buttons:

- **Load Folder (IGC)**
  You can load all IGC files within a folder. Before loading all entries of the favorite list are removed.
- **ADD (IGC)**
  Using the multiselect capability of window you can add one or more IGC files to the list additional to the existing entries.

## Favorites

Hide   Close   Task   Data View   Sort   Watch Off

Favorites | Calculation | Filter

| Clear List | Load Folder (IGC) | Add (IGC) | Remove | | Import (CSV) | Export (CSV) |

| No | Pilot | CN | RN | Plane | Dist | Time | Speed | Penal | Points | Status | File | Start | RTime | mCR | mGN | mIA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | Pilot 2 | A2 | D-0002 | Discus2c | 264,25 km | 01:31:41 | 172,9 km/h | 43 | 0 | Finished | Test.csv | 00:00:00 | 00:00:00 | 0,00 m/s | 0,00 | 0 km/ |
| 002 | Pilot 4 | A4 | D-0004 | Discus2c | 264,25 km | 01:41:18 | 156,5 km/h | 12 | 0 | Finished | Test.csv | 00:00:00 | 00:00:00 | 0,00 m/s | 0,00 | 0 km/ |
| 003 | Pilot 6 | A6 | D-0006 | ASW28-18 | 264,25 km | 02:02:53 | 129,0 km/h | 2 | 0 | Finished | Test.csv | 00:00:00 | 00:00:00 | 0,00 m/s | 0,00 | 0 km/ |
| 004 | Pilot 8 | A8 | D-0008 | Discus2c | 213,71 km | | | 0 | 0 | Landed | Test.csv | 00:00:00 | 00:00:00 | 0,00 m/s | 0,00 | 0 km/ |
| 005 | Pilot 1 | A1 | D-0001 | LS8s | 264,25 km | 01:11:24 | 222,1 km/h | 1 | 0 | Finished | Test.csv | 00:00:00 | 00:00:00 | 0,00 m/s | 0,00 | 0 km/ |
| 006 | Pilot 3 | A3 | D-0003 | ASW28-18 | 264,25 km | 01:38:36 | 160,8 km/h | 0 | 0 | Finished | Test.csv | 00:00:00 | 00:00:00 | 0,00 m/s | 0,00 | 0 km/ |
| 007 | Pilot 7 | A7 | D-0007 | LS8s | 264,25 km | 02:07:57 | 123,9 km/h | 9 | 0 | Finished | Test.csv | 00:00:00 | 00:00:00 | 0,00 m/s | 0,00 | 0 km/ |
| 008 | Pilot 9 | A9 | D-0009 | Discus2c | 204,96 km | | | 20 | 0 | Crashed | Test.csv | 00:00:00 | 00:00:00 | 0,00 m/s | 0,00 | 0 km/ |
| 009 | Pilot 5 | A5 | D-0005 | ASW28-18 | 264,25 km | 02:21:03 | 112,4 km/h | 0 | 0 | Finished | Test.csv | 00:00:00 | 00:00:00 | 0,00 m/s | 0,00 | 0 km/ |

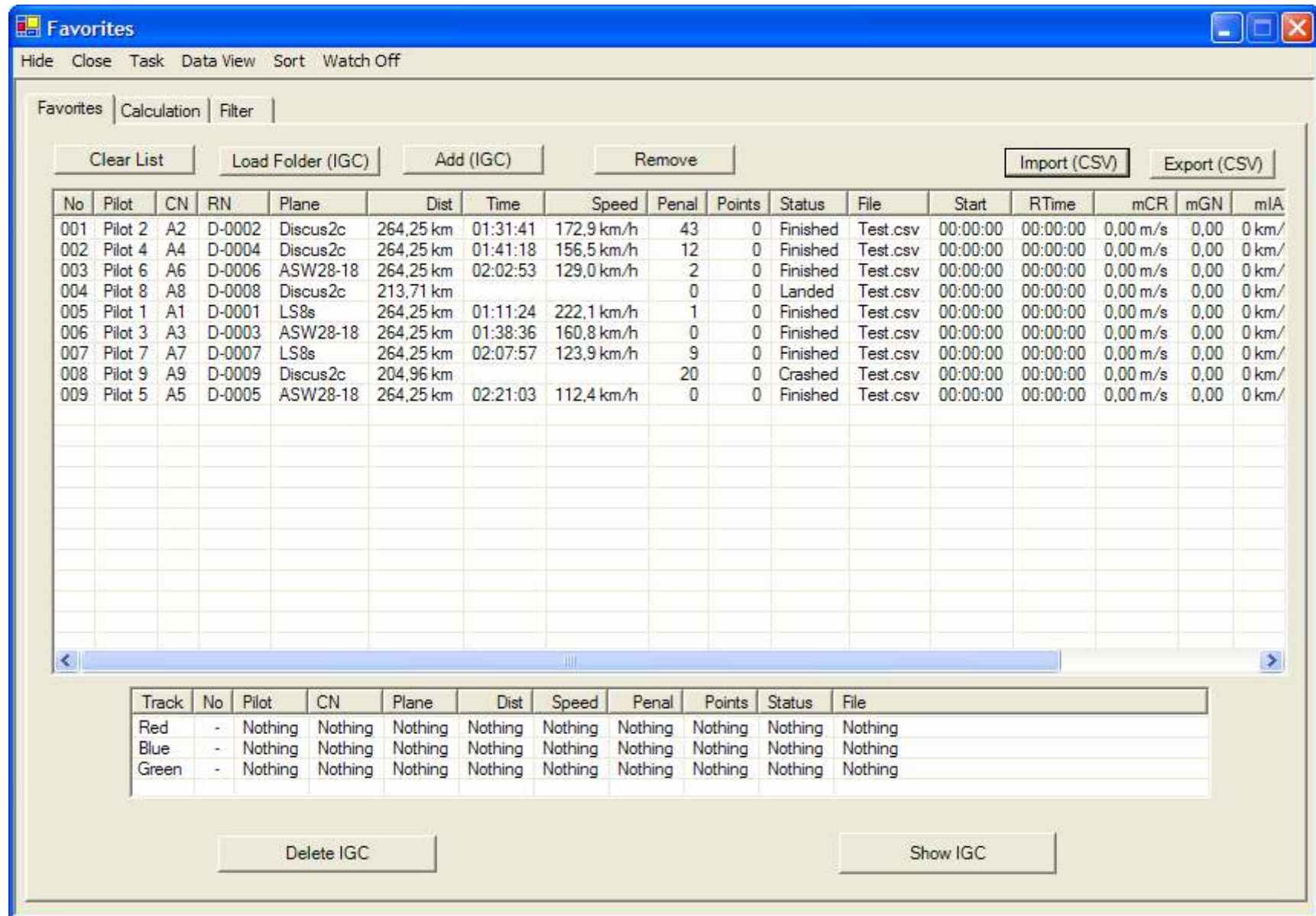| Track | No | Pilot | CN | Plane | Dist | Speed | Penal | Points | Status | File |
|---|---|---|---|---|---|---|---|---|---|---|
| Red | - | Nothing | Nothing | Nothing | Nothing | Nothing | Nothing | Nothing | Nothing | Nothing |
| Blue | - | Nothing | Nothing | Nothing | Nothing | Nothing | Nothing | Nothing | Nothing | Nothing |
| Green | - | Nothing | Nothing | Nothing | Nothing | Nothing | Nothing | Nothing | Nothing | Nothing |

| Delete IGC | Show IGC |

Figure 2

- **Import (CSV)**
  You can import a CSV file. All entries within this file are added to the favorite list.

Figure 2 shows the favorite window. All entries in the favorite list are loaded from "Test.csv". If the "Favorite List" was empty and you load a file a window appears (Figure 3) and you must enter the task and if necessary the minimum time.
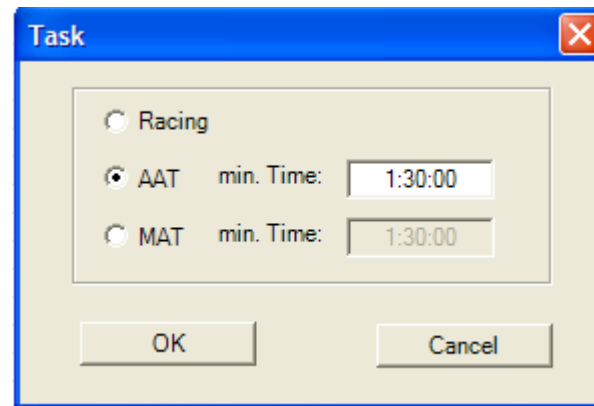


Figure 3

- **Clear List**
  Removes all entries from the Favorite List.
- **Remove**
  The selected entries (multiselect is possible) are removed from the "Favorite List".

## 3. Calculating Points
If you click on the register "Calculation" (see Figure 2) you can see the "Calculation" page (Figure 4). In the "**Calculation Parameters**" area you can check **Consider Index** and **Pmax**.
If the first is checked the calculation takes into account the indices of the planes. SCI looks for a file named "PaneIndices.txt" in the Condor folder. If there are a plane with unknown index the user was asked for it. He can enter the value and save it (in this case he never is asked again).  If Pmax is checked (that is default) then the program gives the winner the point number which is entered in the textbox. In Condor normally the winner gets 1000 points. So the textbox contains the value 1000.
In the "**Crash**" area you can determine how SCI handles crash pilots. If both checkboxes ("**Calculate Points**" and "**Penalty**") are unchecked, the pilot gets 0 points. If "Calculate Points" is checked he gets the distance points, if "Penalty" is checked, the points entered in the right textbox are subtracted.
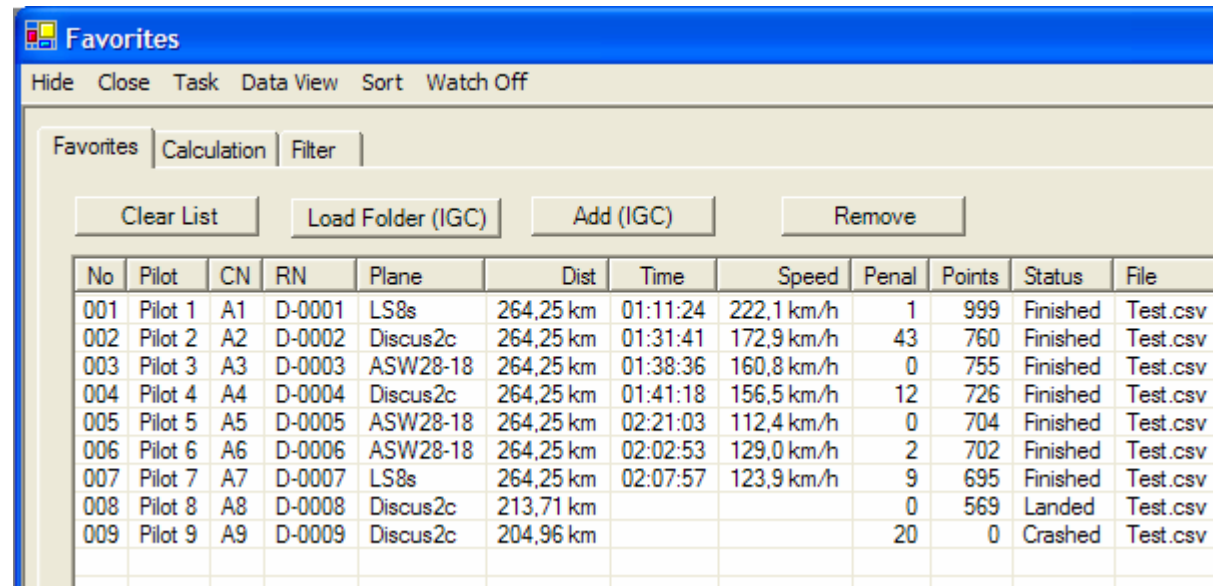
Figure 4

In the area below the "Calculation Parameters" you find the **Day Parameters**. These parameters are calculated with all competitors. In brackets you find the formula abbreviations which are used in FAI Sportings Code. If you are familiar with the formulas of the FAI Sporting Code, it should not be a problem to understand it. Most of the parameters have a checkbox. If it is checked, the value of this parameter are not calculated by SCI. You can enter a value in the textbox and SCI takes it as default and calculates with it. If there are no check then the textbox contains the value calculated by SCI. In Condor the Day Factor normally set to 1. Therefore you see that this parameter is checked and the value is 1.

On the right side you find the area **Competitor Parameters**. Here are the intermediate results of the competitor, which is selected in the listbox above. If there are a lot of competitors, you can search for it. Beneath the parameters you find the "Search" and the "Next" button and between them a textbox. You can enter a string (part of CN, pilot's name, plane or file). If you want to find the first occurrence you click on "Search" and on "Next" for every next occurrence.

You start the calculation with a click on the **Calculate** button. SCI calculates immediately and shows the results. If you change to the "Favorite" register, you see, that the score table contains the points and is sorted (Figure 5).



**Favorites**

Hide   Close   Task   Data View   Sort   Watch Off

Favorites | Calculation | Filter

| Clear List | Load Folder (IGC) | Add (IGC) | Remove |

| No | Pilot | CN | RN | Plane | Dist | Time | Speed | Penal | Points | Status | File |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | Pilot 1 | A1 | D-0001 | LS8s | 264,25 km | 01:11:24 | 222,1 km/h | 1 | 999 | Finished | Test.csv |
| 002 | Pilot 2 | A2 | D-0002 | Discus2c | 264,25 km | 01:31:41 | 172,9 km/h | 43 | 760 | Finished | Test.csv |
| 003 | Pilot 3 | A3 | D-0003 | ASW28-18 | 264,25 km | 01:38:36 | 160,8 km/h | 0 | 755 | Finished | Test.csv |
| 004 | Pilot 4 | A4 | D-0004 | Discus2c | 264,25 km | 01:41:18 | 156,5 km/h | 12 | 726 | Finished | Test.csv |
| 005 | Pilot 5 | A5 | D-0005 | ASW28-18 | 264,25 km | 02:21:03 | 112,4 km/h | 0 | 704 | Finished | Test.csv |
| 006 | Pilot 6 | A6 | D-0006 | ASW28-18 | 264,25 km | 02:02:53 | 129,0 km/h | 2 | 702 | Finished | Test.csv |
| 007 | Pilot 7 | A7 | D-0007 | LS8s | 264,25 km | 02:07:57 | 123,9 km/h | 9 | 695 | Finished | Test.csv |
| 008 | Pilot 8 | A8 | D-0008 | Discus2c | 213,71 km | | | 0 | 569 | Landed | Test.csv |
| 009 | Pilot 9 | A9 | D-0009 | Discus2c | 204,96 km | | | 20 | 0 | Crashed | Test.csv |

Figure 5

## 3. Using Filter
If you click on the register **Filter** you see the following window (Figure 6).
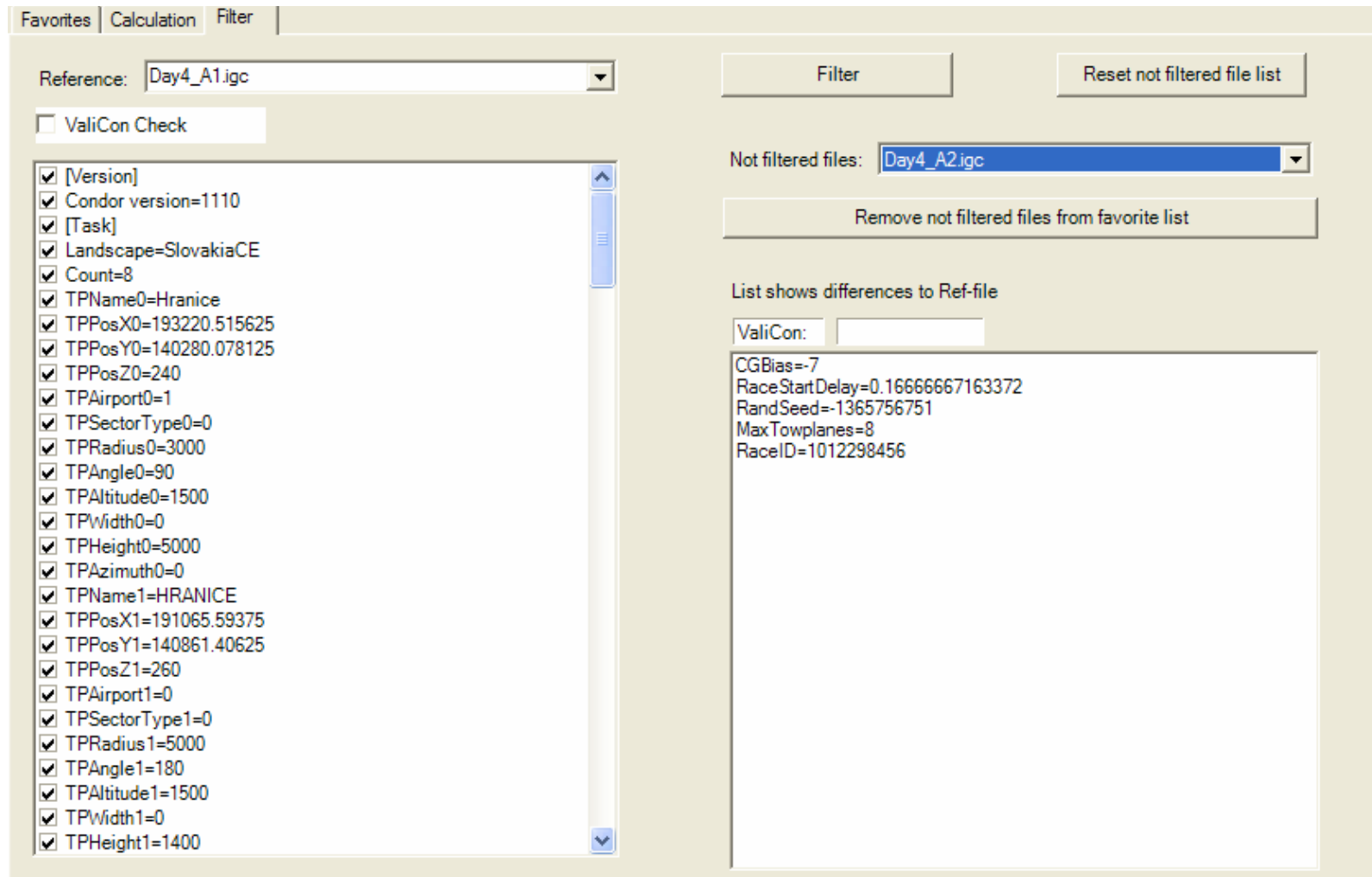


Figure 6

With the **Filter** register you can compare the flightplans of the IGC files. So you can control, if the flights are made under same condition. Additional you can check every file with "ValiCon", a tool programmed by Uros with makes it impossible to manipulate Condor IGC file unnoticed. At first you must select a reference file with the "Reference" combibox. This combibox contains all the IGC files of the favorite list. You must be sure that the selected file has the right flightplan. In the listbox below you see all entries of the flightplan. Every item has a checkbox. If the box is checked, this item will be considered otherwise not. If you want, you can check the "ValiCon" checkbox which looks for manipulated files. Now you can click on the **Filter** button. SCI compares the flightplan items of every file of the favorite list with the checked items of the reference file. At the end of the filter process you can find all files which do not pass the filter in the "Not filtered Files" combobox. If you select one of the files the items which are not identical to the reference are shown in the list below.



Figure 7

In Figure 7 the "Rand Seed" item is not identical. If you click on "RandSeed" in the right list the corresponding "RandSeed" in the left list are shown and you can uncheck this item if you want. If you filter again the "RandSeed" item will not appear in the right list. At last you can click on the "Remove not filtered Files from Favorite List" button. Now the favorite list contains only file, which passed the filter.

## 4. Viewing and Exporting Datas

SCI users can see the results of a competition day in the favorite list. For IGC files SCI computes a lot of flight datas. With the Menu command **DataView** the user can change between different views and make the flight datas visible. The flight datas represent the following parameters:

- mCR: mean climb rate of the whole flight
- mGN: mean gliding number (gliding number without influence of wind)
- mIAS: mean indicated airspeed (the speed you see on your speedometer, the real speed is higher depending on the altitude)
- nLift: number of lifts
- AltLift: average climbed in a lift
- Detour%: Detour in percent, only gliding passages are regarded. With backwind the value can be lower 100 %.

| No | Pilot | CN | RN | Plane | Dist | Time | Speed | mCR | mGN | mIAS | nLift | AltLift | Detour% |
|----|-------|----|----|-------|------|------|-------|-----|-----|------|-------|---------|---------|
| 001 | Pilot1 | A1 | D-0001 | ASW28-18 | 207,94 km | 01:55:34 | 108,0 km/h | 1,78 m/s | 36,25 | 165 km/h | 14 | 339 m | 102,26 % |
| 002 | Pilot2 | A2 | D-0002 | LS10 | 207,94 km | 01:41:46 | 122,6 km/h | 1,93 m/s | 39,52 | 171 km/h | 15 | 267 m | 98,55 % |
| 003 | Pilot3 | A3 | D-0003 | ASG29 | 207,94 km | 01:38:55 | 126,1 km/h | 1,85 m/s | 40,33 | 182 km/h | 15 | 267 m | 99,86 % |
| 004 | Pilot4 | A4 | D-0004 | ASG29 | 207,94 km | 01:35:54 | 130,1 km/h | 2,12 m/s | 40,00 | 179 km/h | 8 | 502 m | 99,51 % |
| 005 | Pilot5 | A5 | D-0005 | Discus2c | 207,94 km | 01:49:09 | 114,3 km/h | 2,02 m/s | 33,68 | 170 km/h | 14 | 356 m | 99,28 % |
| 006 | Pilot6 | A6 | D-0006 | ASG29 | 207,94 km | 01:44:17 | 119,6 km/h | 1,84 m/s | 37,04 | 183 km/h | 17 | 262 m | 101,94 % |

Figure 8

With a click on **Export (CSV)** you can export the content of the result table to a CSV file. If you do this, you are asked, if you want to save the flightdatas (mCR, mGN, …). If your answer is no, then these datas are not saved into the CSV file. In this case you get a CSV file which is compatible to the files created from a Condor server. If your answer is yes, you get an extended CSV file which contains the flightdatas. You can publish this CSV files for download on a website or in the Condor forum. All people who have SCI can import these CSV files (look chapter 2: Loading CSV and IGC files). They can reproduce the score table (favorite list) and in case of the extended CSV they can take a look to the flightdatas.

## 5. Support for Online Scoring

```
┌─────────────────┐         ┌─────────────────┐         ┌─────────────────┐
│  WEB Program    │         │  Watch Folder   │         │ ShowCondorIGC   │
└─────────────────┘         └─────────────────┘         └─────────────────┘
┌ ─ ─ ─ ─ ─ ─ ─ ─ ┐         ┌─────────────────┐         ┌─────────────────┐
                                                         │ ┌─────────────┐ │
                                                         │ │ Score Table │ │
│ ┌───────────┐   │         │ ┌───────────┐   │         │ │             │ │
  │ IGC Files │ ──────────────▶│ IGC Files │ ───────────▶ └─────────────┘ │
│ └───────────┘   │         │ └───────────┘   │         │                 │


│ ┌───────────┐   │         │ ┌───────────┐   │         │ ┌─────────────┐ │
  │ Result.CSV│ ◀──────────────│ Result.CSV│ ◀───────────│ Result.CSV  │ │
│ └───────────┘   │         │ └───────────┘   │         │ └─────────────┘ │
└ ─ ─ ─ ─ ─ ─ ─ ─ ┘         └─────────────────┘         └─────────────────┘
```
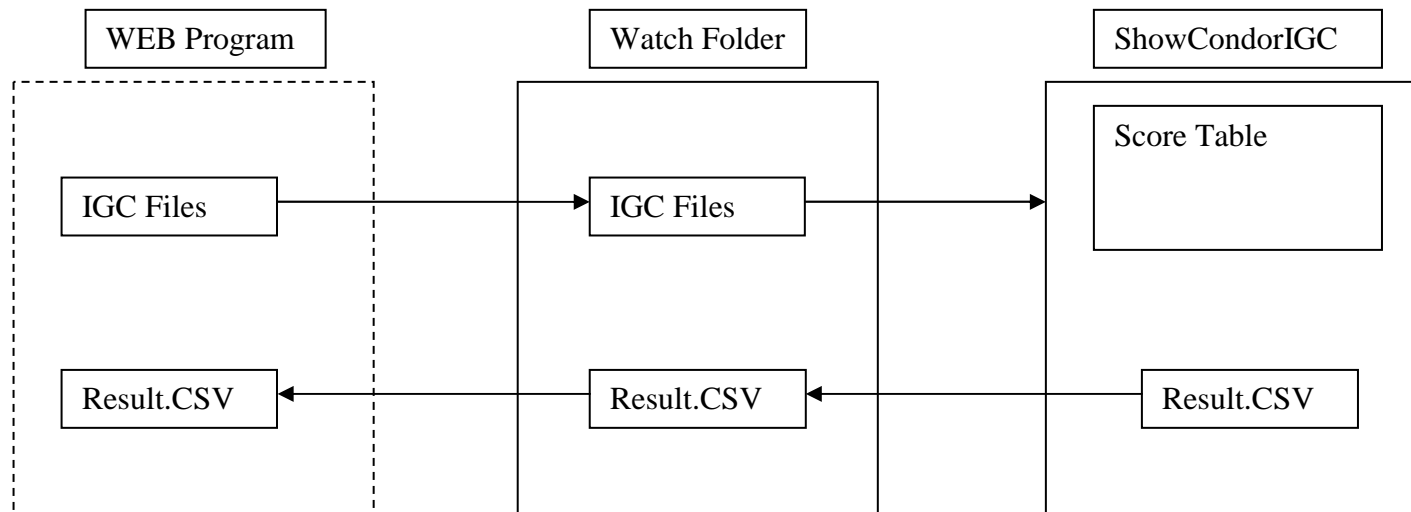
Figure 9

Figure 9 shows the scheme, how online scoring support function. An outside web program must move the incoming IGC files into a so called "Watch Folder". ShowCondorIGC looks within a set time interval into this folder and adds all new IGCs to the favorite list and makes a calculation. The Results are saved into a result.csv file. This file was put into the Watch Folder where the web program can fetch it in the next cicle.

The user must set SCI into the so called "Watch Mode". He must click on the menu command "Watch OFF" (see Figure 10). Then the "Watch" window appears. Here the user can make some settings. These settings can be add to a setting list, changed and removed (with the buttons left from the setting list). If the window will be closed with the "OK" button, the settings of the setting list are saved into the file "SCIWatchSettings.txt" in the Condor folder. When the watch windows opens, this file will be loaded and the setting list filled. If the setting list is empty or you want to create new settings you must enter the settings (see below).

- Watch: Here you can switch the watch on and off (this are not saved)
- Window Name: If the Watch Mode is On, the name of the favorite window changes to the name you enter here.
  The window name is very useful, if you use several instances of SCI (one for national and one for international scoring). You must click on the "…" button. Then you must select the wanted folder or create it. As file name you can enter a dummy name.
- Name of csv File: That is the name of the result csv file. The web program can read it and show the results on a web page.
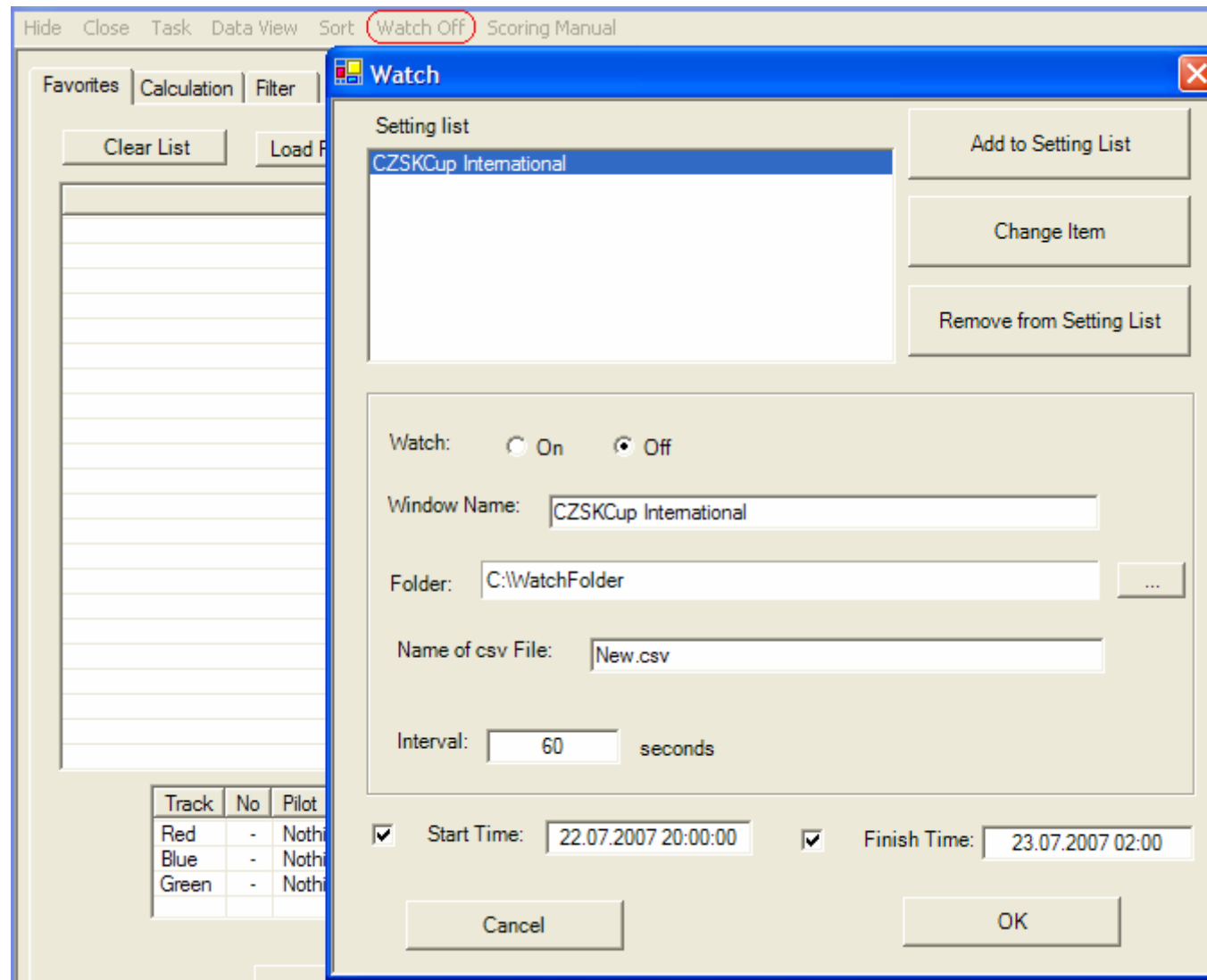- Interval: Her you must enter the value of the time interval in seconds.

Hide   Close   Task   Data View   Sort   (Watch Off)   Scoring Manual

Favorites | Calculation | Filter

Clear List      Load F

| Track | No | Pilot |
|-------|-----|-------|
| Red   | -   | Nothi |
| Blue  | -   | Nothi |
| Green | -   | Nothi |

**Watch**                                                                                      ✕

Setting list

CZSKCup International                                          Add to Setting List

                                                              Change Item

                                                              Remove from Setting List

Watch:        ○ On      ● Off

Window Name:    CZSKCup International

Folder:    C:\WatchFolder                                              ...

Name of csv File:    New.csv

Interval:    60    seconds

☑  Start Time:   22.07.2007 20:00:00    ☑  Finish Time:   23.07.2007 02:00

        Cancel                                    OK

Figure 10

If you leave the window with the "Cancel" button, nothing happens. If you leave it with the "OK" button SCI looks for the watch value. If the value is "On" SCI looks into the watch folder and makes a new scoring if it finds new IGC files. This will repeated in every time interval. If watch mode is "On", the buttons of the favorite windows are enabled and the windows name changes to the name of the setting. You can switch off the watchmode, if you click on the menu command "Watch On". The Watch window appears and you can change the watch to "Off".

You can check "Start Time" and/or "Finish Time". Then you can change the date and time in the textboxes. "Start Time" means, that the watch begins in the time interval after passing the start time value. "Finish Time" means, that the watch ended in the time interval after finish time and the program ended. "Start Time" and "Finish Time" are not part of the setting list.

## 6. Final Remarks

The scoring features of SCI are tested in the CZSK competition. I thank the whole team and specially Marek Svozil (22) for many useful suggestions and testing. If there are any questions you can send a Private Message (PM) to Fox9 in the Condor forum.

If you copy this manual into the Condor folder, you can start it with the menu command "Scoring Manual" from the favorite window of ShowCondorIGC.

July 2007
Helmut Kuenne (Fox9)