Dansprint Virtual Race

User Manual

Rev. 2.1

Table of contents

Dansprint Virtual Race

The Dansprint Virtual Race is a system, where paddlers can race against other paddlers. Up to eight kayak ergometers are connected. The race is displayed with a projector and VGA monitors. The start procedure is automated and the system detects false starts.

Setup

Standard setup

Equipment needed for a competition with eight ergometers.

- Eight ergometers with computers. Software version 1.75 or newer.
- Four computer monitors
- Two computer speakers
- Projector and display board
- VGA signal splitter
- Computer and printer to run the Dansprint Virtual Race and print results
- Computer and printer for result and heats handling.
- Four USB 2.0 Hubs with external power supply.
- Eight, 5 meter USB 2.0 cables. USB A Male to Mini 5 pin
- Four, 3 meter USB 2.0 cables. USB A Male to Mini 5 pin
- Power cables and power sockets
- Weight, to measure body weight of paddlers.

Fig. 1 - USB cable

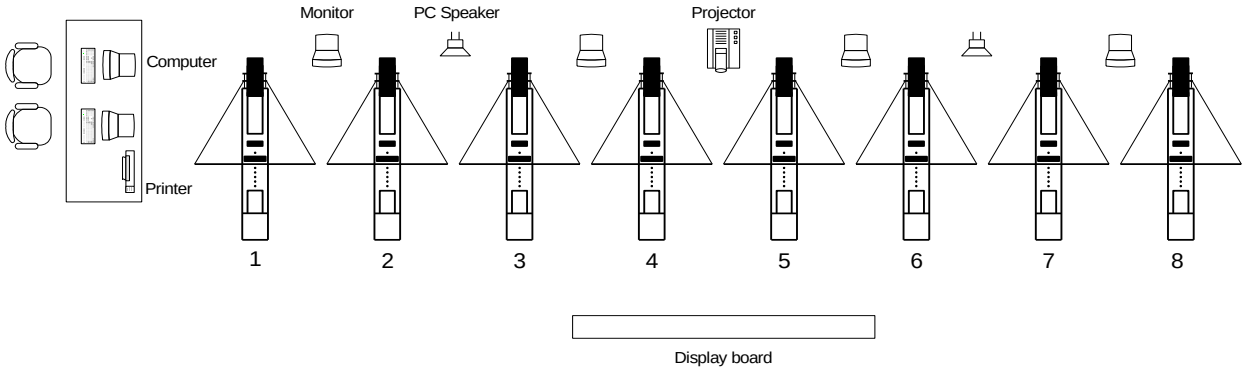

Fig. 2 - Standard setup

The distance between each ergometer must be minimum 1.80 meters.

USB cable wiring

Connect the ergo computers to the USB hubs. Connect the hubs to each other. Apply power to the hubs with the external power supply. Finally connect the PC to the USB hub.

The PC cannot power more than 2 ergo computer. Therefore it is important that the USB hubs are powered before the USB cable is connected to the PC. If this happens, disconnect the USB cable from the PC, apply power to the USB hubs and connect the USB cable again.

When the ergo computers are connected to the PC. Windows will install the drivers. The driver is a standard windows driver and therefore no special driver is needed.

Use only USB 2.0 cables or the USB communication will fail.

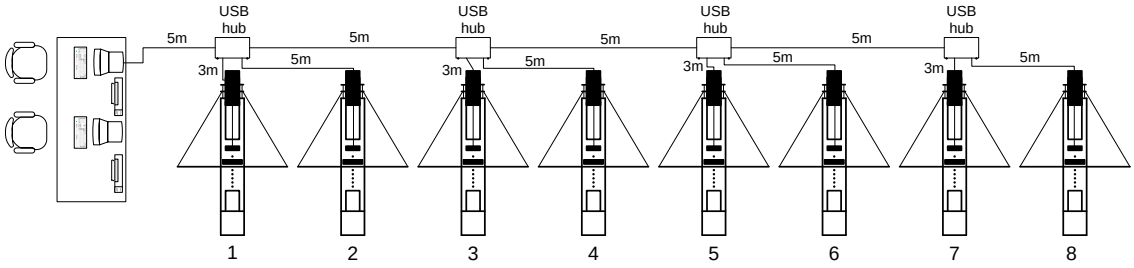

Fig. 3 – USB cable wiring

PC speaker setup

The PC speakers are used for the start commands. Connect the speakers to the PC and place them close to the ergometers.

VGA monitor setup and wiring

Each monitor is placed between every second ergometer, fig. 3. The projector is for the audience and the best place to show the race is behind the ergometers. This gives a total picture for the audience, as they can follow the race and see the competitors at the same time.

Wiring

The VGA output on the laptop is connected to the VGA signal splitter. On the splitter is written, "Input from PC". From the splitter outputs you connect each VGA monitor and projector.

On the laptop you can choose to view the picture on both the Laptop and an external monitor.

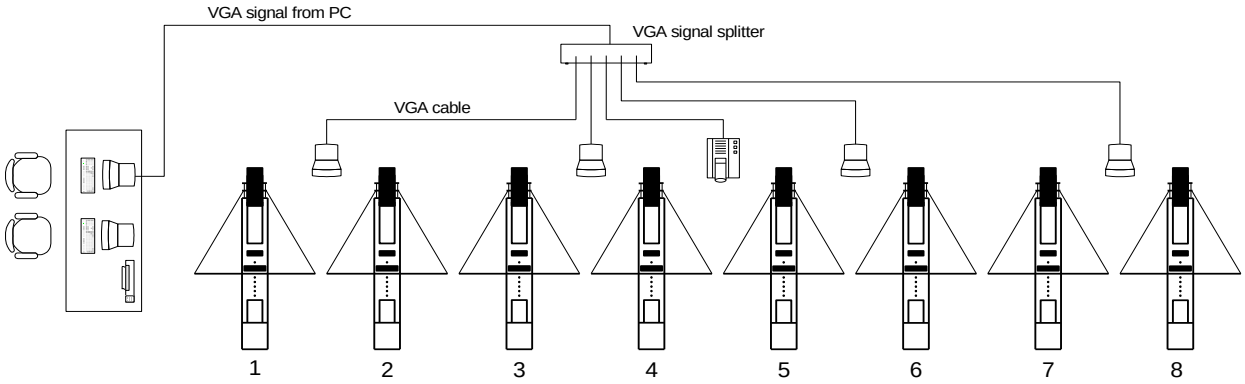

Fig. 4 – VGA monitor setup

Power

There is a lot of equipment that needs to be powered. To best way is to place a power strip with at least 3 outlets at the front of every second ergometer and a power outlet at the laptops. Connect all the equipment to the power outlets.

Secure all the cables to make sure that no one stumbles over them.

Lane number setup

The lane number is set on each ergo computer. Each ergo computer must have a unique lane number.

Fig. 5 – Lane number

Software

Installation

Run the window installation file: "Dansprint Virtual Race.msi" and follow the instructions. This will install the application in the start menu and on the desktop.

Virtual Race

Running application

When running the application the window shown below will appear. In this window you can setup the race and see the status of the connection to the ergo computer.

The status is displayed with collared circles.

- Green – Computer is connected.
- Red – Computer is not connected.
- Blue – Two or more computers have the same lane number.

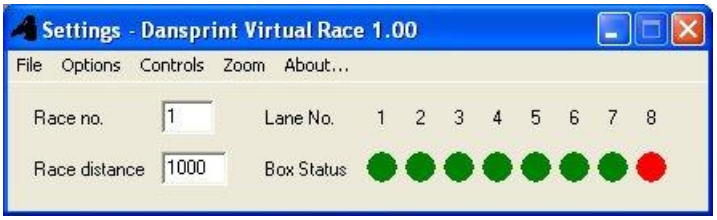

Fig. 6 – Settings window

Init Race

After the setup is completed the application is ready for the virtual race. Select “New Race” or press F5 to show the race window. The window will appear as shown in Fig. 7, but without displaying the kayaks and weights.

When the “RST” key on the ergo computer is pressed the kayak and weight setting, will appear for the regarding lane. You can choose whether or not to display the weight on the monitors, in the “Options” menu. The weight is set manually on each ergo computer.

The Lane number will be red, if the corresponding ergo computer is not connected.

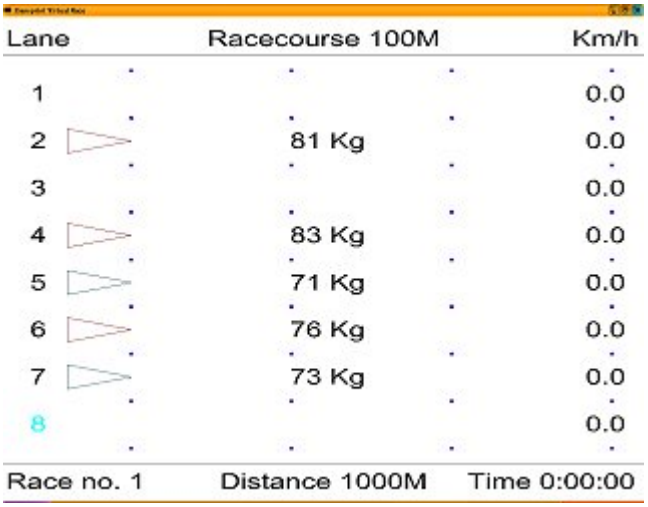

Fig. 7 – Race window

The distance between each buoy is always 25 meter, independent of the length of the racecourse.

Start race

Start the race, when all the paddlers are ready and their kayaks appear on the display. This is done in the control menu or by pressing F9. The start procedure is automated with the following commands.

Stop paddling

The paddlers are told to stop paddling when the race is started.

Start position

When the fans are turning slowly, the paddlers are told to go into their start position. The paddlers must not move the “paddle” when they have reached the start position

Start within 10 seconds

The command, start within 10 seconds will be given, when all the fans stops rotating.

False start

If one or more paddlers start paddling before the go, they will all get a false start. If the paddlers make a false start again they will be excluded from the race.

The race will start automatically again after the false start.

Go

The go command will be given after 2-3 seconds. The period in between this interval is randomly decided.

All the commands are said in the loud speakers and displayed on the monitors.

Racing

During the race you can zoom in and out. If anything unexpected happens, you can restart the race. If one or more paddlers do not finish the race you can finish the race manually. This is done, in the settings window menu in "Controls" and "Zoom".

Results

When the race is finished the result will be shown on the monitor and the projector. The results are always saved in the result folder, "C:\dansprint\results\" and "C:\dansprint\results_excel\"

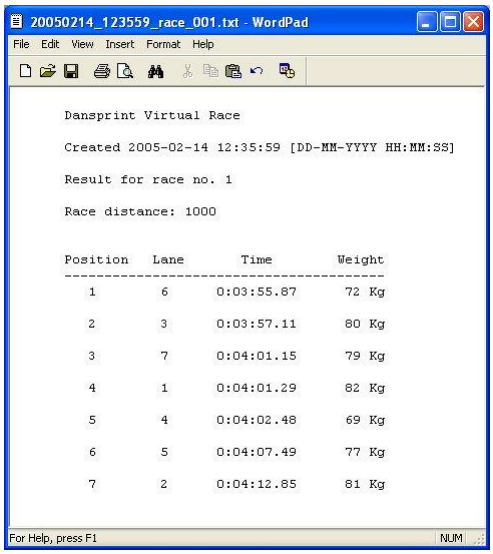

Fig. 8 – Result file

When arranging virtual race competitions you need two computers. One computer manages the race and the other manages the results and start lists. The best way to manager the results, is to make a network between two computers. The result computer should be able to see the results on the race computer.

Another way is to print out the results from the race computer. If you choose "Print Result After Race" in the file menu, the results are printed every time a race is finished.

Preparing for the next race

If the race distance is the same, you can simply start the race again by pressing F5. The application will automatically add one to the race number. Otherwise you must make the changes in the control window.

Ergo computer

During the race the ergo computer, shows the leader of the race in the top of the pacer window. The bottom of the pacer window shows the current ergometer.

Testing setup

After everything is setup and the application is running, it is good idea to test the setup. First you can do a visual check to see that everything is powered and running.

Second you can test that the lane number is set in the right order. Start the software application and choose “New Race” (or press F5). A clear race window is now displayed. Press the “RST” button on the ergo computer on lane 1 and verify that it corresponds to the lane number on the monitor. Repeat this for the rest of the lanes.

At last you can make a test race to check the ergometers, loud speakers and printer.

Race controls

Zoom in (F1)

This function decreases the window display length. The minimum display length is 12.5 meters.

Zoom out (F2)

This function increases the window display length. The maximum display length is 3200 meters. The display length cannot exceed the race distance.

Init race (F5)

Choose this to initialise the race display. All the kayaks will be cleared. When the "RST" key on the ergo computer is pressed the kayak will appear for the regarding lane.

Type the race distance and race number in the control window before initialising the race for the first time. The race number is automatically increased each time a race is finished.

Start race (F9)

Start the race, when all the paddlers are ready and their kayaks appear on the display. The start procedure is automated.

Restart race (Ctrl + Alt + R)

Restart the race if any unexpected happens. This function, will init the race, but the kayaks will not be cleared.

End race (Ctrl + Alt + E)

If one or more paddlers stop during the race, you must finish the race with this function. The result window will appear afterwards.

Activate lane (shift + 1-8)

Before starting the race the lanes with the paddlers must be activated. This can also be done by pressing RST and the ergometer computer.

Deactivate lane (Ctrl + 1-8)