

Virtual Trainer 2.0 Aqvaspeed User manual

Version 2.0 / October 2012



**Copyright© by AQVATECH ENGINEERING S.R.L.
all rights reserved.**

No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language or computer language, in any form or by any means, electronic, mechanical, magnetic, optical, chemical, manual or otherwise, without the prior written permission of this Company .

This company makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties, merchantability or fitness for any particular purpose. Any software described in this manual is sold or licensed “as is”. Should the programs prove defective following their purchase, the buyer (and not this company, its distributor, or its dealer) assumes the entire cost of all necessary servicing, repair, and any incidental or consequential damages resulting from any defect in the software. Further, this company reserves the right to revise this publication and to make changes from time to time in the contents hereof without obligation to notify any person of such revision or changes.

The product you have purchased and the setup screen may appear slightly different from those shown in this QIG. The software and specifications are subject to change without notice. Please visit our web site **www.aqvatech.com** for the update. All rights reserved including all brand and product names mentioned in this manual are trademarks and/or registered trademarks of their respective holders.

**Virtual Trainer system is a PCT PATENT PENDING
(Aqvatech Engineering S.r.l property)**



Summary

Chapter I: System Setup Information	4
System and Network Setup	4
Windows XP IP address setup	5
Windows Vista / Windows 7 IP address setup	6
Software Installation on the PC	6
Chapter 2: LED Stripe installation in swimming pool	7
Installation procedure on the pool bottom	8
Installation procedure on lane markers	8
Chapter 3: Power, data and network setup	9
Package Contents	9
Power	11
Connecting the components	12
Network Setup	13
Chapter 4: Software user interface	14
Flash drive	14
Configuration	15
Single lane training	16
Multi-lane training	17
Safety regulations regarding electrical systems in swimming pools	18
Product Sheet	19



Chapter I: System setup installation



If you have bought a Virtual Trainer kit including a netbook, please refer directly to chapter 2.

Otherwise, if your kit does not include a netbook, refer to the following information.

System Requirements

The Software Virtual Trainer requires a PC Windows based LAN or Wi-Fi connection.



Netbook with preinstalled Software "Virtual Trainer"

System and Network Setup

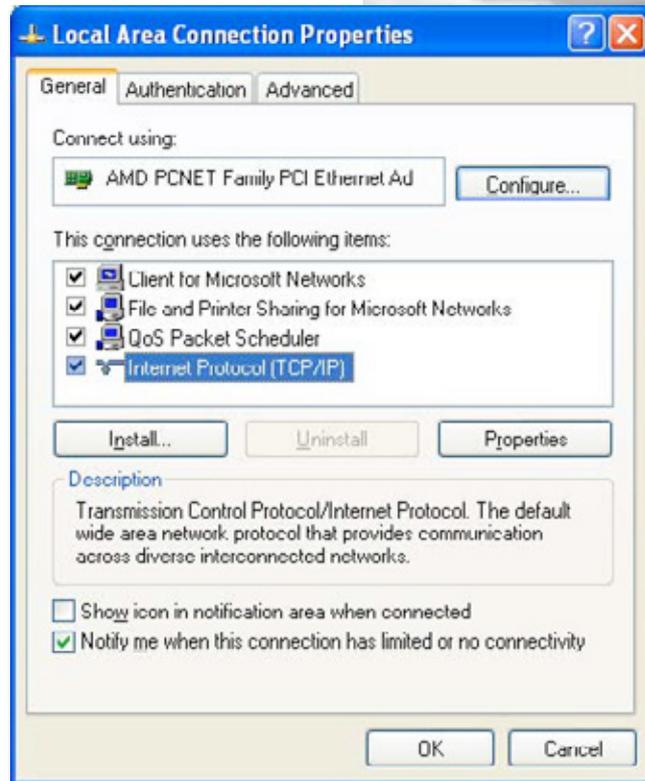
Establish network connection

Before you can connect to the router and start configuration procedures, your computer must be able to get an IP address automatically (use dynamic IP address). If it's set to use static IP address, or you're unsure, please follow the following instructions to configure your computer to use dynamic IP address.

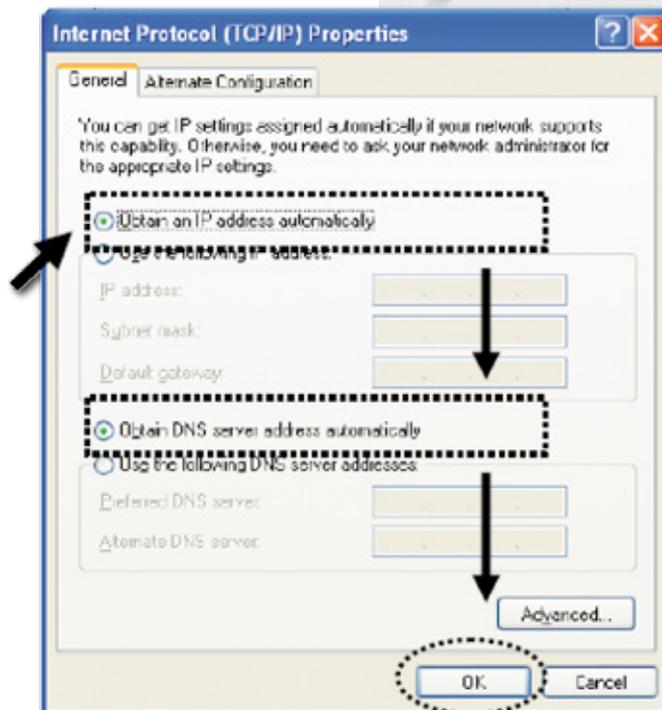
Setup client computers to obtain IP address automatically

Windows XP IP address setup

- 1 Click **'Start'** button (it should be located at lower-left corner of your desktop), then click control panel. Double-click **Network and Internet Connections** icon, click **Network Connections**, then double-click **Local Area Connection**, **Local Area Connection Status** window will appear, and then click **'Properties'**.



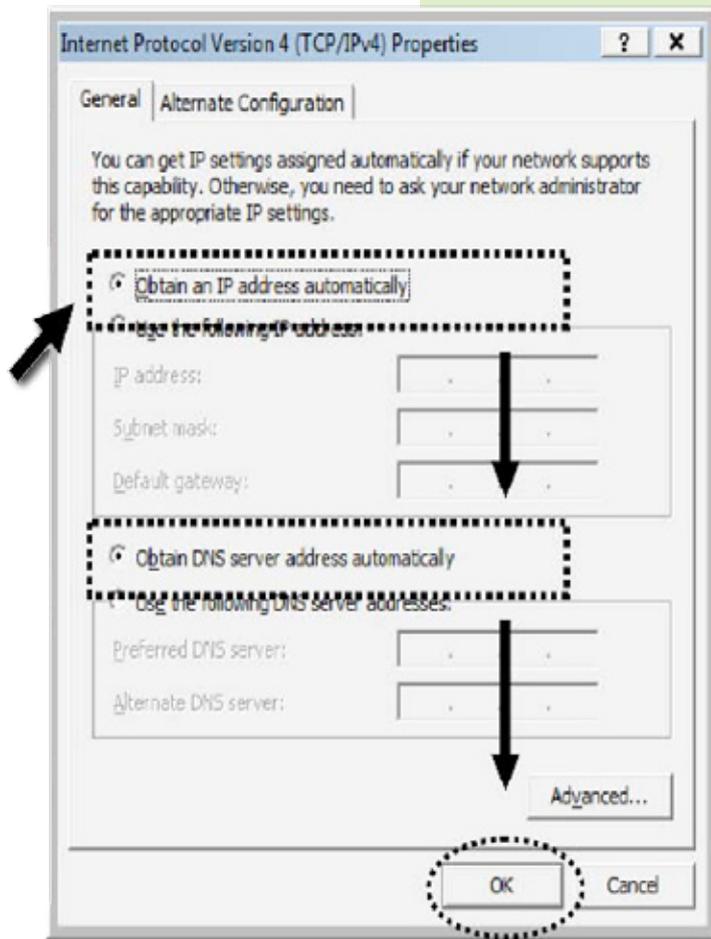
- 2 Select **'Obtain an IP address automatically'** and **'Obtain DNS server address automatically'**, then click **'OK'**.



Windows Vista / Windows 7 IP address setup

1 Click 'Start' button (it should be located in the lower-left corner of your computer), then click control panel. Click **View Network Status and Tasks**, then click **Manage Network Connections..** Right-click **Local Area Network**, then select '**Properties**'. The **Local Area Connection Properties** window will appear, select '**Internet Protocol Version 4 (TCP / IPv4)**', and then click '**Properties**'.

3 Select '**Obtain an IP address automatically**' and '**Obtain DNS server address automatically**', then click '**OK**'.



Software Installation on the PC

Copy the "**Aqvatech.exe**" file from the CD or USB onto the desktop on your PC.

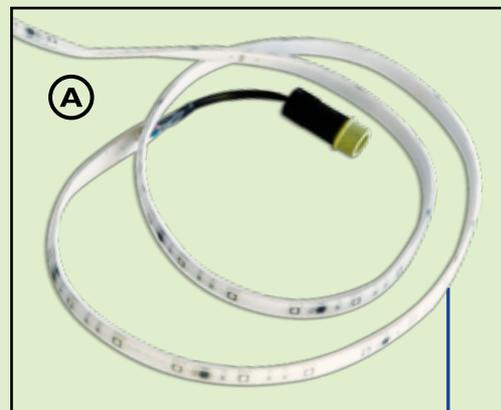
Run the SW using double click on the **Aqvatech.exe** icon.



Pendrive containing the executable and instructions

Chapter 2: LED Stripe installation in swimming pool

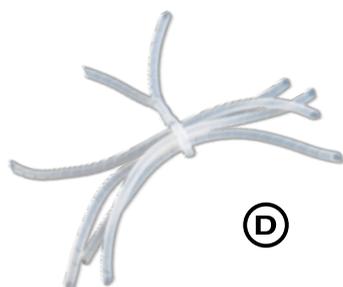
- Ⓐ LED stripe to be placed on the bottom of the swimming pool or along the lane markers.
- Ⓑ Power cord and led stripe controller cable.
- Ⓒ 2 kg and 0,5 kg Weights
- Ⓓ Fixing wrappers (for attaching the LED stripe to the lane markers)



Ensure that the electrical voltage of the appliance corresponds with that of your electric network.

If the power cord is damaged it must be replaced by either the manufacturer or by a technical service centre, or a person with similar qualification in order to prevent any risk.

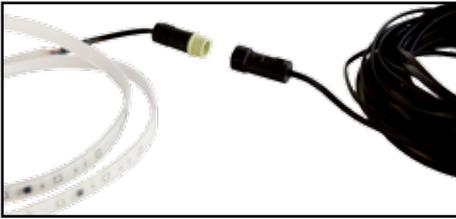
This appliance conforms to CEI EN Directive 60598-2-18 concerning electricity in swimming pools.





Warning!

When testing and installing the long led strip, please be very careful, be shure to handle it carefully, do not bend or distort the strip, do not put pressure on it.



Make sure of the accurancy and the precision of the connection before placing the product into water.



Warning !

After use the LED stripe has to be rinsed out in non-chlorinated water.

Before disconnecting the power cord, rinse out the LED stripe as described above.

Installation procedure on the pool bottom

Step 1 - Connect the power cord and controller with the LED stripe.

Step 2 - Place the LED stripe on the bottom of the swimming pool in the center of the lane or on the T.

Step 3 - Fix the two ends of the Led stripe using the 1kg weights ().

Installation procedure on lane markers

Step 1 - Connect the power cord and controller with the LED stripe.

Step 2 - Place the LED stripe in the pool along the lane markers.

Step 3 - Fix the LED stripe to the lane markers in several places, using the fixing wrappers ().

Chapter 3: Power, data and network setup

Package Contents

The package case is composed of:

- Ⓕ Package Case
- Ⓖ Net plug



- ⓐ Data controller
- ⓑ Battery 12V
- ⓒ Charger battery
- ⓓ Power supply 12 V SELV IP66
- ⓔ Access point



ⓔ



ⓐ



ⓑ



ⓒ



ⓓ



Only the original charger should be used for recharging the battery. During charging the package case must be left open.

You will find the right power supply according to the voltage of your country.

Power



Connection to **electric network**



Battery charger connection



Fuse and fuse carrier



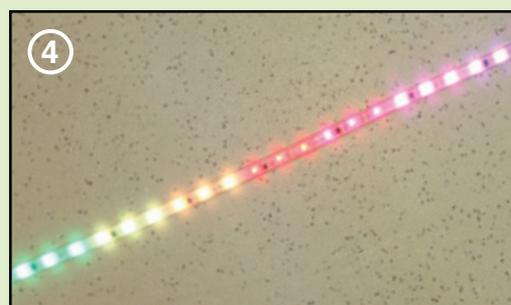
In case of lacking startup of the system, please verify the integrity of the fuse and if necessary, replace it.



Warning: in the U.S.A. electric power is set at 110 Volts and 60 cycles: you will need a current transformer to change the voltage from 110 volts to 220 volts.

Connection of the components

1. Open the **case** (Ⓕ).
2. Choose between **battery** (Ⓖ) or **power supply** (Ⓜ).
3. Connect the **multifunctional cable** to **data port 1**, found on the side.
4. The **LED stripe** (Ⓐ) starts to work in **demo mode** to verify proper operation.
5. In case of **wireless connectivity issues**, please use the **net cable**.
6. Connect one of the **yellow slots of the router** (Ⓝ) to the PC's net slot, using the net cable.





By using the ON-OFF switch, the access point is also automatically activated, in the kits that include the netbook, verify that the preinstalled wifi connection is properly configured. Otherwise, if your kit does not include a netbook, proceed as follows.



Ensure that the electrical voltage of the appliance equals that of your electric network.

If the power cord is damaged it must be replaced by either the manufacturer or by a technical service centre, or a person with similar qualification in order to prevent any risk.

This appliance conforms to CEI EN Directive 60598-2-18 concerning electricity in swimming pools.

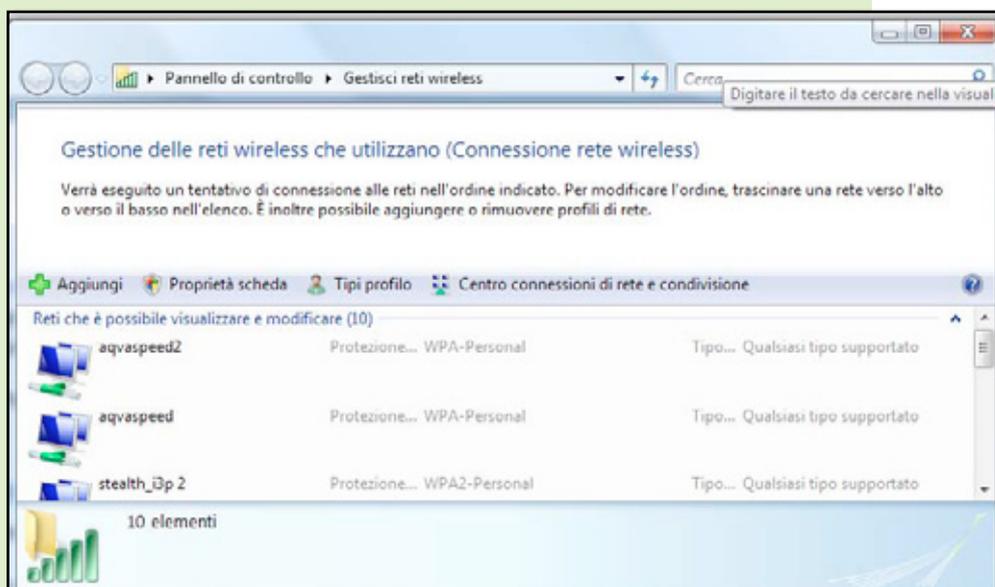
Network Setup

Establish network connection

Before you can connect to the router and start configuration procedures, your computer must be able to get an IP address automatically (use **dynamic IP address**). If it's set to use static IP address, or you're unsure, please follow the following instructions to configure your computer to use **dynamic IP address**.

Wireless connection

After turning on the system search in your PC the wireless network called "**aqvaspeed**" and use the security code "**aqvatech**".



Check that the selector behind the battery charger is placed on 12 V.



After this procedure is completed, the PC is ready to run the "Virtual Trainer" software.

Chapter 4: Software user interface



Keep the flash drive safe. The system will only work when it is inserted. If you try to use the program without the flash drive, an error will pop up.



Flash drive



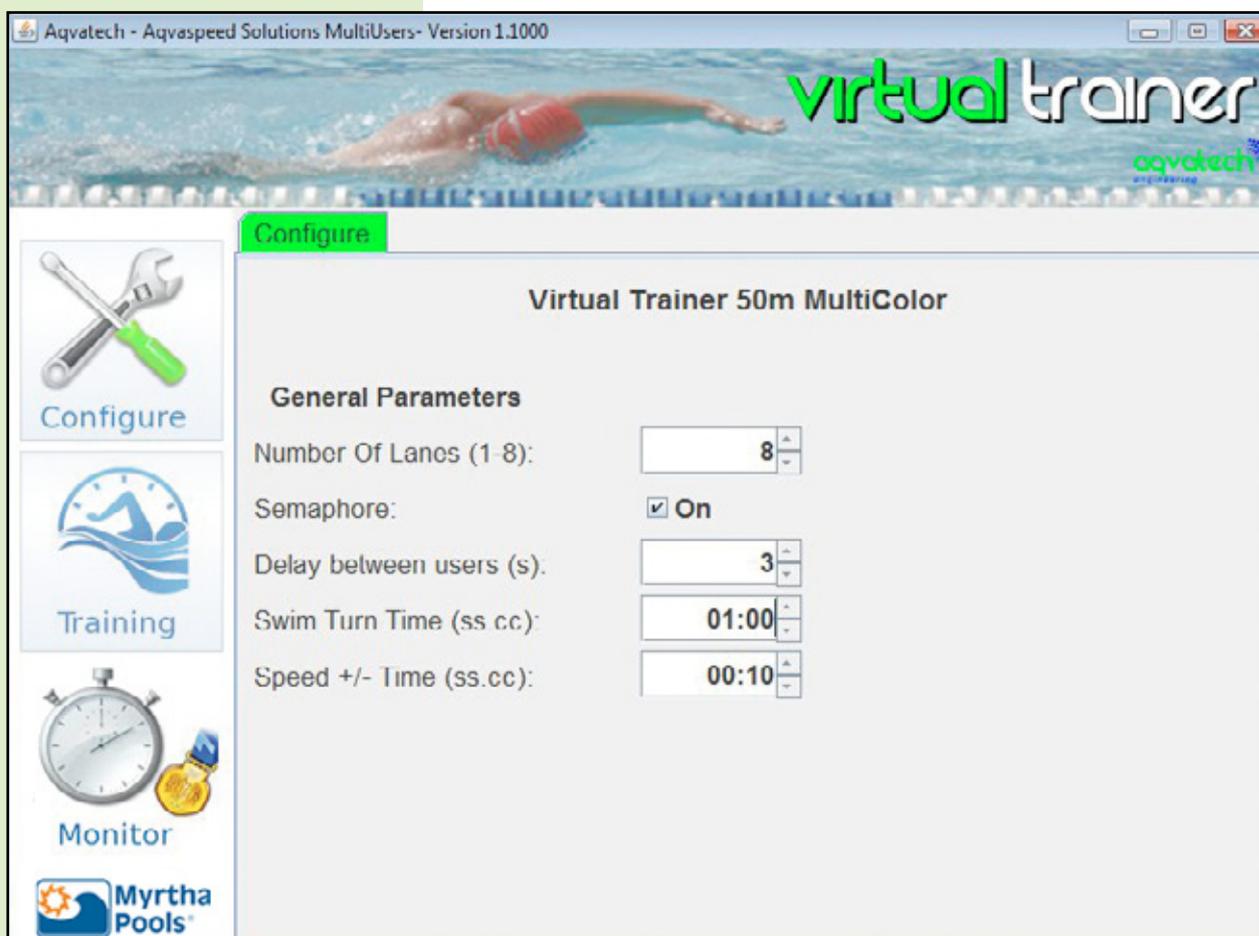
Insert the Flash drive hw into a USB slot on your computer.



Use the software to program your training.

Configuration

You will find your Virtual Trainer version as a header on this screen.



Number Of Lanes

The number of lanes depends on the number of led stripes connected to the controller.

Semaphore

the semaphore function allows the athlete to get ready to dive. At 3, 2 or 1 second before Virtual Trainer starts, a light signal, of different colours, alerts the swimmer.

Delay between users

Number of seconds that pass between the start of one swimmer and the other in the same lane.

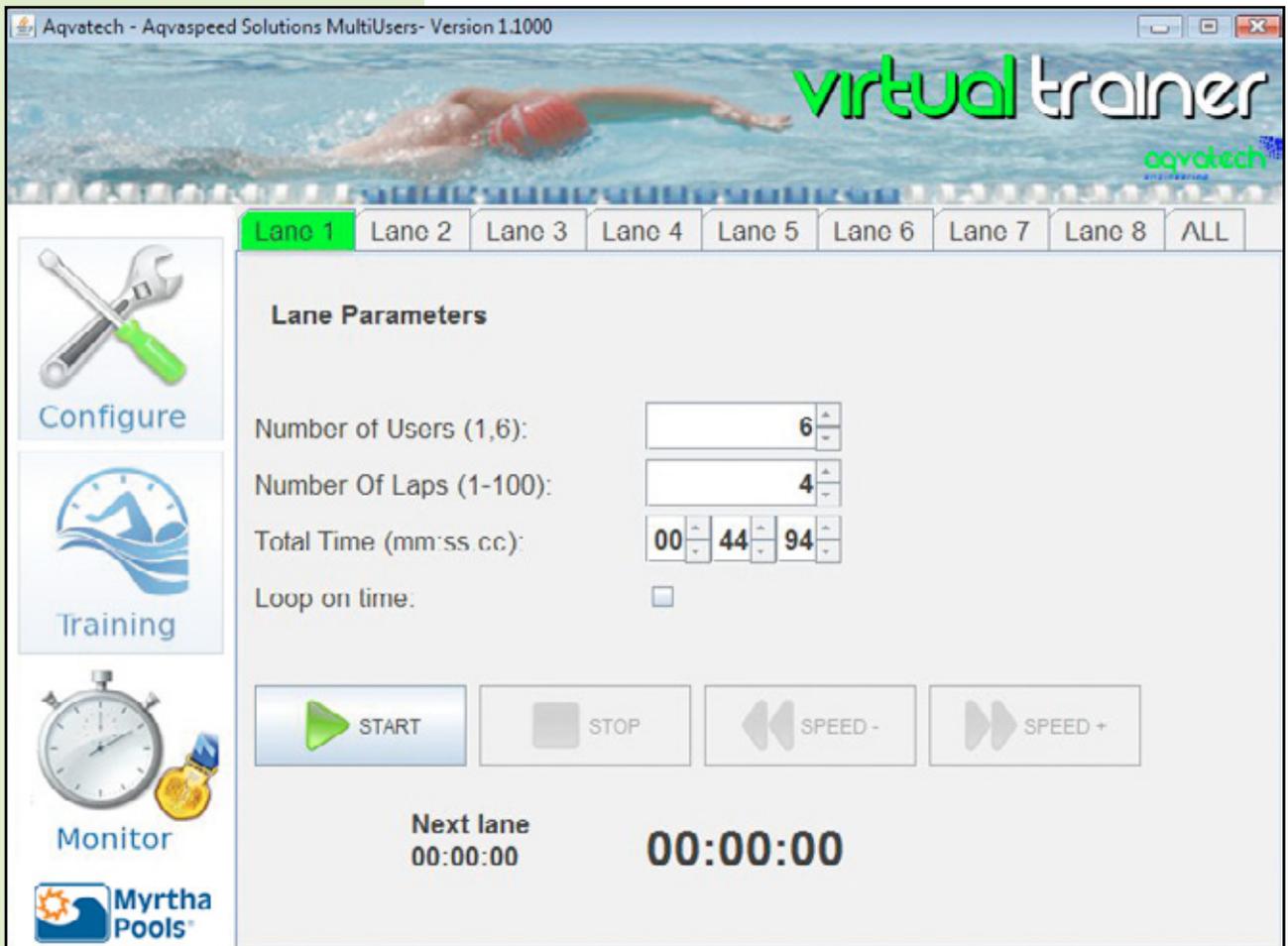
Swim Turn Time

Programmable time to upto a hundredth of a second, during which the Virtual Trainer allows the swimmer to turn.

Speed +/- time

Programmable time to upto a hundredth of a second, the +/-buttons allows to increase or decrease the pace during the training session. Each click corresponds to the time previously set.

Single Lane Training



Lane Parameters

This interface allows you to program every single lane training.

Number of Users

Number of athletes in the same lane.

Number Of Laps

Number of laps set for the training session

Total Timet

Total programmable time of the training session, in minutes, seconds and hundredths of a second. Lap time will be automatically calculated, dividing the total time by the number of laps programmed.

Loop on Time

This function allows to continue the training, using the chosen lap time for an infinite number of laps.

Start

Turns the Virtual Trainer on.

Stop

Turns the Virtual Trainer off.

Speed <<

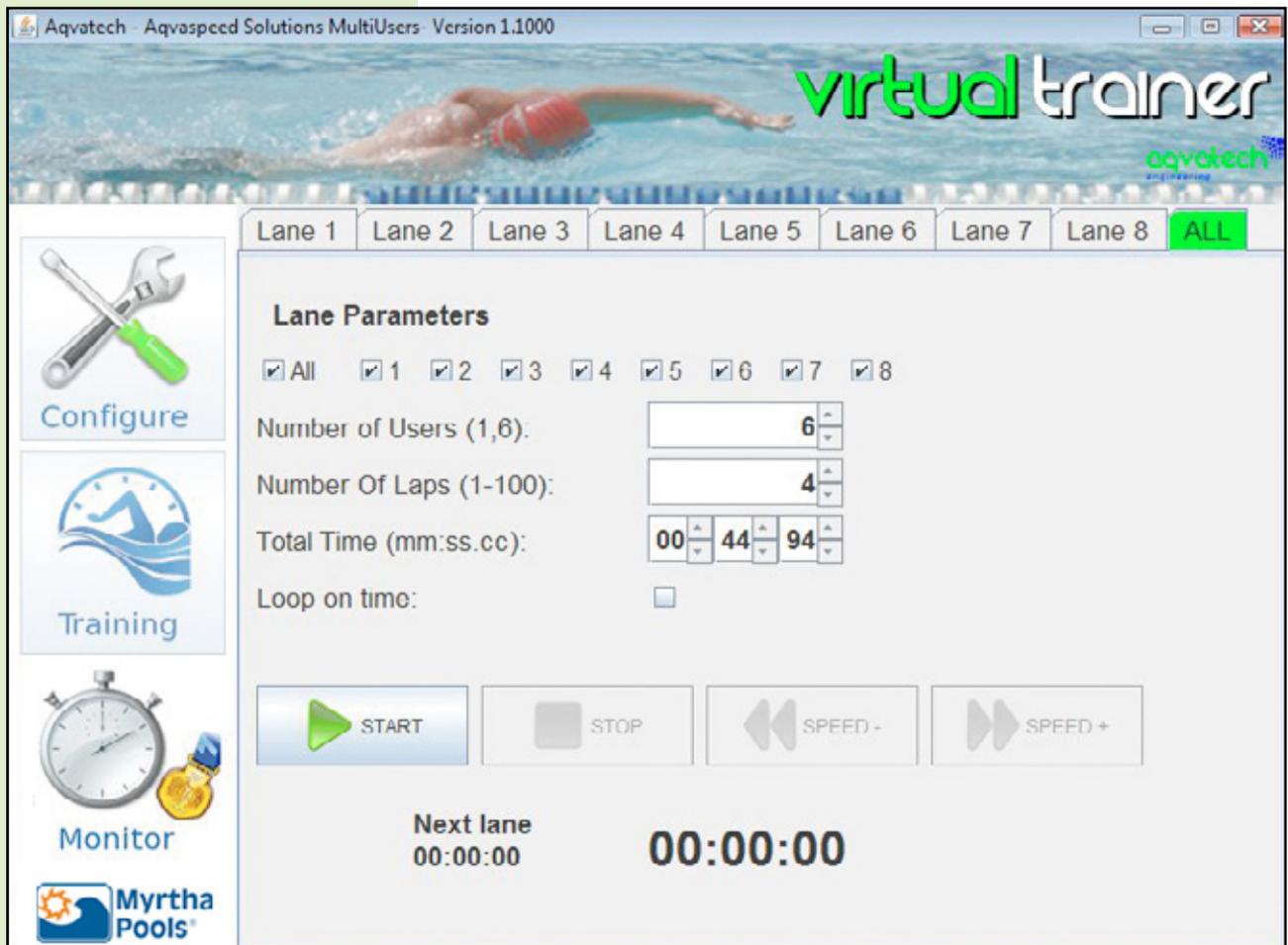
Speed >>

Every click increases or decreases the programmed pace.

Next lane

During constant time training, it shows the lap time; Otherwise, it shows the next lap time increased or decreased as wanted.

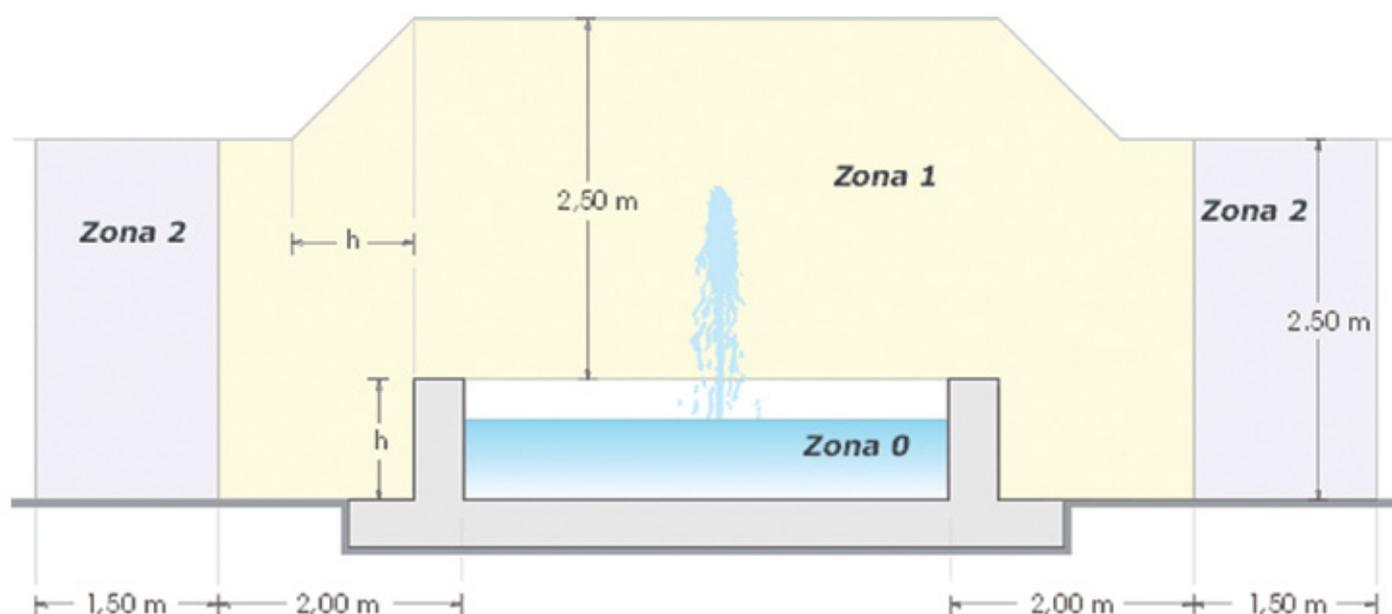
Multi-lane Training ALL



ALL

This function allows to start all the active lanes at the same time, programmed in that session.

Safety regulations regarding electrical systems in swimming pools



All international safety regulations and standards regarding electrical equipment in swimming pools were followed and applied to every component of Virtual Trainer. Resulting in a completely safe and reliable product.

The LED stripe covered in **Epoxy Resin** guarantees complete insulation from water and thus, complete safety. The **IP68** Connector prevents the exposure of dangerous parts and offers complete safety from permeation of both solid and liquid matter.

The **SELV IP66** Power supply may be placed close to the pool (within 2 metres from the pool rim, in the so-called 1-zone)

The battery charger (for 12V lead batteries) prevents reverse polarity and short circuit, no voltage output in the event of reverse polarity.



The connection between components must be completed in a dry environment, away from splashes. It's recommended to use the case and controller in zone 2.



All the information contained in the technical reports is based on professional and laboratory experiences, they are considered overall indications and do not represent any formal warranty. The producer denies any responsibility concerning negative results due to wrong usage. Only qualified staff can provide technical assistance for this product.

Product Sheet

Virtual Trainer Kit by Aqvatech



The Virtual Trainer kit consist of:

- **1 Software** for programming the CPU controller
- **1 CPU controller** able to drive 8 led line length 50 m
- **1 Wi-Fi Access point** type b/g/n for wireless control
- **1 Power supply** 110/220 AC Volt to 12 Volt CC , power 60 W , max current 5 A
- **1 Lead acid battery** 12 Volt , capacity 7 Ah, 7h endurance (1 lane line 50m), 10 hours charge
- **1 Battery charger**
- **1 Netbook PC** with windows 7 starter edition, preinstalled software



Led stripe technical specification:

Power 12 Volt
Angle view 120°
40 lumens each led
750 RGB led every 25 meters
Water proof IP 68 certified



Power supply specification:

IN 110/220 Volt AC
OUT 12 Volt CC
Power 60 W
MAX currenxy 5 A
Type SELV
IP 66 water resistant

For further information please contact:

www.aqvatech.com
info@aqvatech.com

Aqvatech Engineering srl
c/o I3P Incubatore Imprese Innovative Politecnico di Torino
Corso Castelfidardo, 30/a - 10129 TORINO

