BOREAS 2 SIDES

USER'S MANUAL

3436.505.02 l Version 1.0 l September 2023

A COMPANY OF THE **SWATCH GROUP**
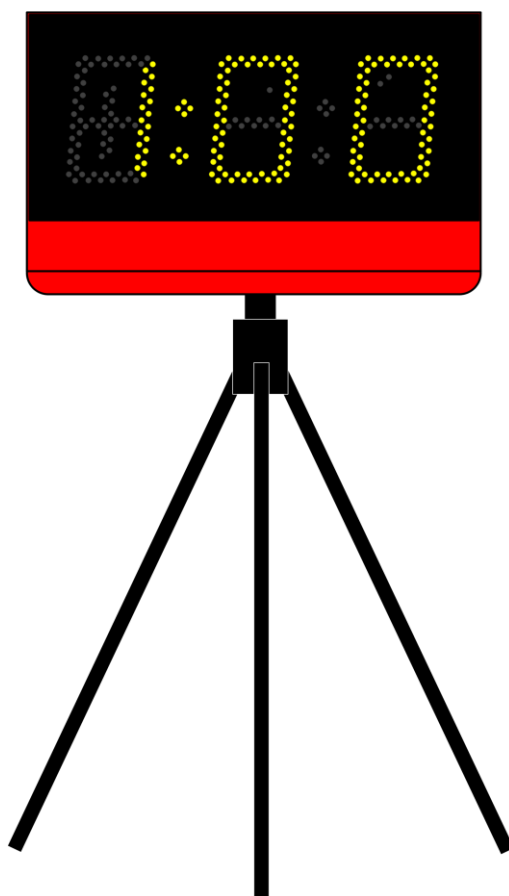
Caution and safety precautions

- 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.

Documentation Updates
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Environment

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 BOREAS display is a concentration clock and when connected to a SIROCCO wind gauge will display the wind speed.

When connected to a SCAN'O'VISION photofinish camera, the wind speed can be automatically measured and displayed (without field operator).

The BOREAS can also be used as a lap counter which makes it a real all-in-one compact field display.
The BOREAS 150 (double side clock) has 15 cm digits (viewing distance up to 80m).

A light sensor automatically adapts the display brightness to the ambient light conditions to provide the optimum readability.
The brightness can also be manually chosen within 15 steps.

An internal battery provides 8 hours of autonomy.

An internal horn provides sound at intermediate time and at end of concentration clock.
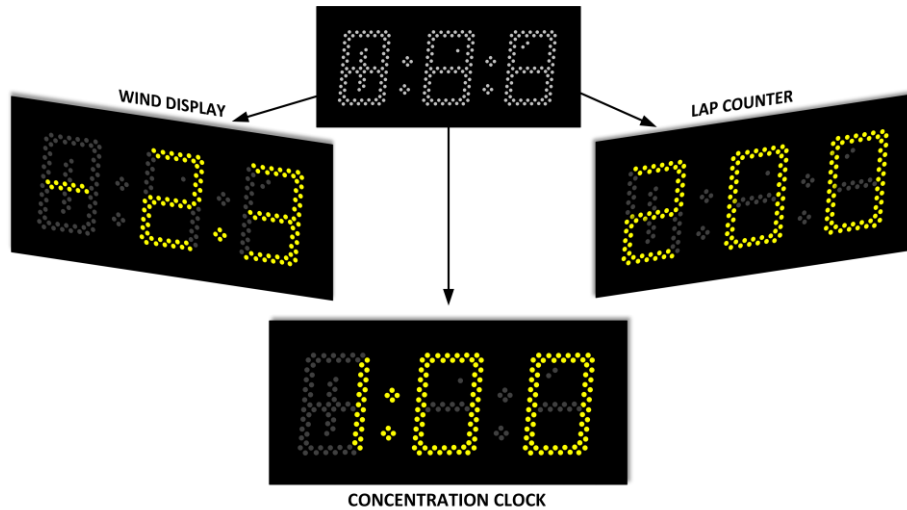
2 GENERAL VIEW

2.1 Display

Figure 1 – Display features

2.2 Connections
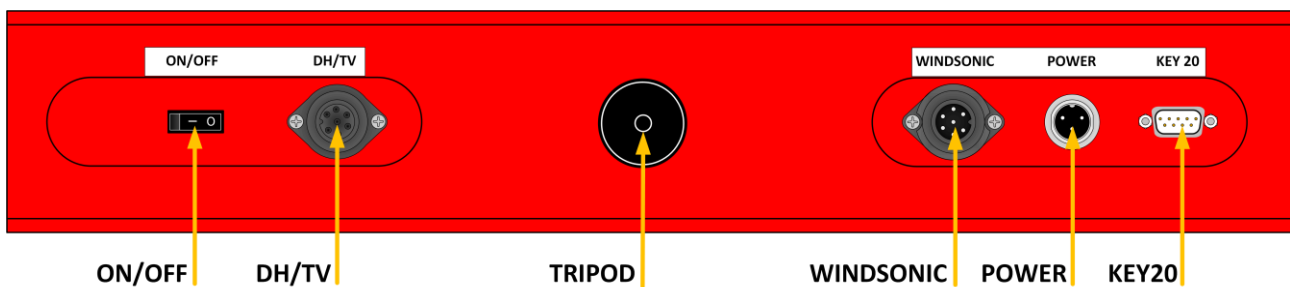
Figure 2 – Bottom view

	Description
ON/OFF	On / Off switch
DH/TV	RS422 serial transmission
TRIPOD	Tripod fixing
WINDSONIC	SIROCCO wind sensor connection
POWER	Battery charger connection
KEY 20	Controller connection

2.3 Installation instruction

The BOREAS double sided can be installed on a tripod (3/8" UNC thread).

3   GETTING STARTED

3.1   Charging the battery

A battery charger can be plugged to **POWER** connector.
The BOREAS doesn't need to be switched on for charging to take place, but it is possible to charge the BOREAS during its use.
The charger also acts as external power when the BOREAS is in use.
If the BOREAS is switched off and the battery is completely discharged, a complete charge lasts about 7 hours.

3.2   Power ON

- Connect the keyboard console to **KEY20** connector on the scoreboard.
- Switch on the scoreboard by pressing the **ON/OFF** button ('I' position).
- As soon as the scoreboard is powered, the keyboard displays the software version of the keyboard and the scoreboard:

```
KBD VER xx.xx
SCB VER xx.xx
```

- After a few seconds, the main menu is automatically displayed.

```
1=CC/W 2=T 3=LC
Enter=Settings
```

4 OPERATION

4.1 Countdown / Wind Mode

- In the main menu, press the "1" key to enter the Countdown mode.

```
1:00               10
_:__              ____
```

If you want to modify the default settings, press the "Enter" key at main menu

- The value of the countdown is displayed on keyboard (left) and on scoreboard.
  The value of countdown can be changed by using the numeric keys (the new value is displayed on the 2nd line of the screen) and validated by the "Enter" key.

- The value of the duration of wind acquisition is displayed on keyboard (right).
  The value of the duration of wind acquisition can be changed by entering in Settings on the main menu.

- Press the "Start/Stop" key to start the countdown and press again on this key to stop the countdown.
- Press the "Start Wind" key to start the acquisition of the wind and after 10 seconds the value of the wind will be displayed on keyboard and on scoreboard.
- When the countdown comes to 15s, the internal horn sounds quickly 3 times (yellow flag).
- When the countdown comes to 0s, the internal horn sounds longer 1 time (red flag).
- Press the "Shift + ESC" keys to return back to main menu.

4.2 Lap counter Mode

- In the main menu, press the "3" key to enter the Lap Counter mode.

```
000 LAP COUNTER
_
```

If you want to modify the default settings, press the "Enter" key at main menu

- The number of laps to go is displayed on keyboard and on scoreboard.
- Press the "▲" key to increase the number of laps.
- Press the "▼" key to decrease the number of laps.
- The number of laps can be introduced by using the numeric keys (the new value is displayed on the 2nd line of the screen) and validated by the "Enter" key.
- While being in the concentration or lap counter mode, it is possible to modify the scoreboard luminosity:
- Press Shift + "▲" to increase the scoreboard luminosity or "Shift" + "▼" to decrease the scoreboard luminosity.
- The luminosity can be selected from 1 (lowest) to 15 (highest). If the luminosity is set to 0 (= AUTO), it is automatically adjusted according to the light sensor.
- Press the "Shift + ESC" keys to return back to main menu.

5   SETTINGS

In the main menu, press the "Enter" key to enter the Settings of the scoreboard.

```
1=CC/1:00        L=0
2=W/10      3=LC/000
```

5.1   CONCENTRATION DEFINTION

Press the "1" key to enter the Countdown settings and use "▼▲" keys to switch between different settings.
The default values are set in brackets ().

5.1.1   Concentration time definition

The value of the duration of concentration time can be changed using the numeric pad on keyboard and validated by the "Enter" key.

```
Conc. time def.
_:__      (1:00)
```

5.1.2   Concentration time mode

The mode of concentration time (count down or count up) can be changed using the "Mode" key on keyboard and validated by the "Enter" key.

```
Conc. time mode
(down)    mode->UP
```

5.1.3   Yellow flag (remaining time)

The value of the remaining time can be changed using the numeric keys on keyboard and validated by the "Enter" key.

```
Yellow Flag
_:__      (0:15)
```

5.1.4   Yellow flag with or without horn

The mode with or without horn of the remaining time can be changed using the "Mode" key on keyboard and validated by the "Enter" key.

```
Buzzer   ---    Yflag
 Yes    (mode)    Yes
```

5.1.5   Duration of red flag horn (end time)

The value of the duration of red flag horn can be changed using the numeric keys on keyboard and validated by the "Enter" key.

```
Buzzer   on     Rflag
_:__   (3.0s)  0=off
```

5.1.6 Displaying Time Wind

The duration of displaying wind value can be changed using the numeric keys on keyboard and validated by the "Enter" key.

```
Clr Wind after
_:__  (0:15)  0=No
```

5.2 WIND DEFINITION

Press the "2" key to enter the wind definition settings.

```
Wind def.      1=5s
2=10s / 3=15s
```

The value of the duration of wind acquisition can be changed using the numeric keys on keyboard and validated by the "Enter" key.

5.3 LAP COUNTER DEFINITION

Press the "3" key to enter the lap counter definition settings.

```
LAP COUNTER DEF.
___       (000)
```

The value of the number of the laps can be changed using the numeric keys on keyboard and validated by the "Enter" key.

5.4 DEFAULT SETTINGS

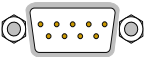| Settings		Autorised values	Default values
Concentration / Wind (1)	Concentration time definition	0 – 9.99 min	1.00 min
	Concentration time mode	UP - DOWN	DOWN
	Yellow flag (remaining time)	0 – 9.99 min	15.0 s
	Yellow flag and Horn	BUZZER --- Yflag yes yes no yes no no	Yes / Yes
	Red flag (end time) and Horn	0 – 9.99 min	3.0 s
	Displaying time wind	0 – 9.99 min	15.0 s
Wind defintion (2)		1=5 s 2=10 s 3=15 s	2
Lap counter (3)	Number of laps	0 – 999	0

6   ELECTRICAL PROPERTIES

6.1   Power supply

The BOREAS two sided contains 12V PB battery.
For the recharge, only use the charger provided (universal entry 100 to 240VAC, 50-60Hz).

6.2   BOREAS Connectors pinning

Connector	*Pinning*	
POWER 3PMT DIN	**1 : +12 VDC** 2 : NC **3 : GND**	
KEYBOARD 9PMT SUB-D	1 : NC **2 : Rx** **3 : Tx** 4 : NC **5 : GND** 6 : NC 7 : NC 8 : NC **9 : VCC**	
DH/TV 7PFT TUCHEL	1 : NC **2 : VCC** **3 : Tx-** **4 : Tx+** **5 : Rx-** **6 : Rx+** **E : GND**	
WINDSONIC 7PMT TUCHEL	**1 : VCC** 2 : NC **3 : Rx-** **4 : Rx+** **5 : Tx-** **6 : Tx+** **E : GND**	

7 SPECIFICATIONS

BOREAS 150

Article number:	3436.725
Dimensions:	640 x 380 x 160mm
Weight :	13 kg
Display (amber LEDs) :	15 cm digits
Viewing distance :	80 m
Material :	Aluminium
Power Supply	Charger 12 VDC
Power consumption	2.5A max
Battery autonomy	8 hours
Operating temperature	0 to +50°C
Storage temperature	-25 to +70°C
Protection	IP54

8 APPENDICE

8.1 Index figures

8.2 Version history

Version	Modifications since last version
1.0	Initial version

NOTES