LED DISPLAYBOARDS

THE NEW MICROGATE LED DISPLAY BOARDS: **A REVOLUTION OF LIGHT.**

Ideal for every situation, functional, precise, and bright. This is what the new Microgate display boards offer: an ultimate concentration of technology and modularity for all necessities in races, as well as information display and advertisements.

MICROGATE
TIMING AND SPORT

MICROGRAPH

A potentially infinite wall of light

MicroGraph is the ideal choice for all display necessities. In stand-alone mode it ensures already great flexibility. The modular configuration enhances its performances, creating a display board of the required dimensions and with multiple potentialities, being portable at the same time. The simple and fast assembling system allows connecting modules vertically and horizontally maintaining a constant LED pitch and creating one big display board without interruptions (gapless) between the display boards.

Each module measuring 128x32x15 cm has a matrix of 128 x 32 LEDs. MicroGraph can display various font types, with a height of 9-32 cm. It is therefore possible to display up to 3 lines of characters.

If connected with Microgate chronometers or a PC, the modules can display the following information:

- names (athletes, horses, boats, etc.)
- nationality
- times
- speed
- penalties and scores
- weather information
- time and date
- monochromatic bitmap images

In combination with Linkgate radio transmission systems the following information can be received:

- timing pulses sent by EncRadio and Polifemo photocells
- display information from Racetime2 and Rei2 chronometers, PCs and LYNX photo-finish.

20 preset programs are available, which can be selected directly by the user, ensuring a very flexible use (see program table).

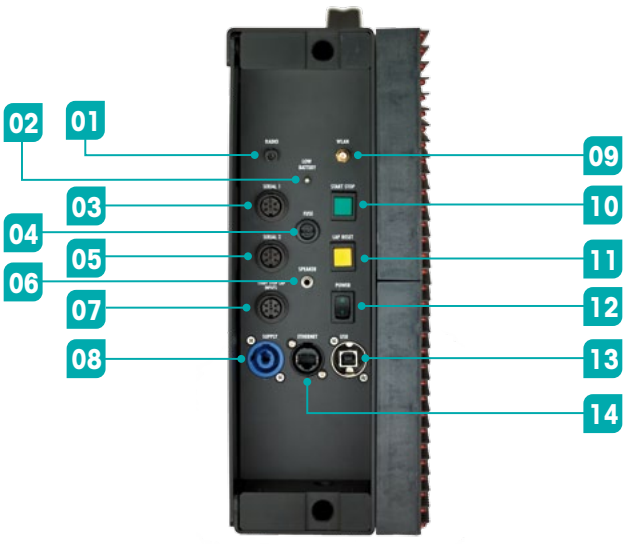
It is also possible to store messages, texts, images, etc. to display them as required (refer to the paragraph on .netBoards for further information).

The display boards can be equipped with plug-ins such as:

- internal battery
- wireless network card
- GPS sensor for perfect time synchronization
- GSM modem (control via mobile phone, SMS, PC)
- 12/48 V switch for external battery connection

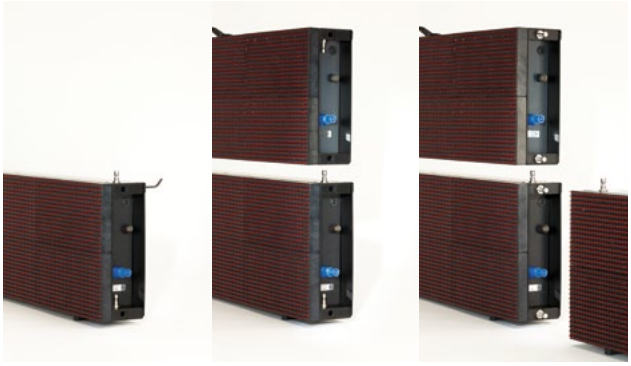
(for further information refer to the plug-ins paragraph)

DATA	MICROGRAPH
Weight	~ 17 kg (without batteries)
Dimensions	128 x 32 x 15 cm
Matrix	128 x 32 led
Operationg Temperature	-20°C / +40°C
Average Autonomy (at 20°C)	8 hours



01 **Radio:** 5-pole Nucletron connector for Linkgate radio system connection
02 **Low Battery:** Battery status signal LED.
03 **Serial 1:** 6-pole Amphenol connector for serial input/output
04 **Fuse:** Fuse cavity
05 **Serial 2:** 6-pole Amphenol connector for serial input/output
06 **Speaker:** Jack connector for external speaker connection
07 **Start / Stop Lap Inputs:** 6-pole Amphenol connector for START, STOP, and LAP signals
08 **Supply:** Neutrik connector for external power supply and battery charging (if used)
09 **Wlan:** WiFi aerial connector (optional)
10 **Start / Stop:** Green START STOP button used for manual START and STOP signals and for modifying values in program settings
11 **Lap Reset:** Yellow LAP RESET button used for manual LAP signals and for confirming program settings
12 **Power:** On/Off switch
13 **USB:** USB cable connector for firmware updating
14 **Ethernet:** Ethernet network cable connector

Single Display Board



Assembling Lines and Columns

6 display boards (3 lines, 2 columns)); other configurations and display examples for various sports available on the Microgate website.

MICROTAB

Comprehensiveness and Simplicity

MicroTab LED is the ideal choice for those looking for a single display board, but with numerous capabilities. And for more complex display tasks, it can be connected very easily with other modules. The light-weight and compact chassis make it easy to transport and install.

Controlled via Microgate chronometers or via PC, MicroTab guarantees full compatibility with the mayor chronometers available on the market. .

In connection with timing equipment and pre-installed programs (see program table), MicroTab can display the following:

- names (athletes, horses, boats, etc.)
- nationality
- times
- speed
- penalties and scores
- weather information
- time and date
- pre-stored fix or running texts, thanks to the use of the .net-Boards software (refer to the relevant paragraph for further information).

In combination with Linkgate radio transmission systems the following information can be received:

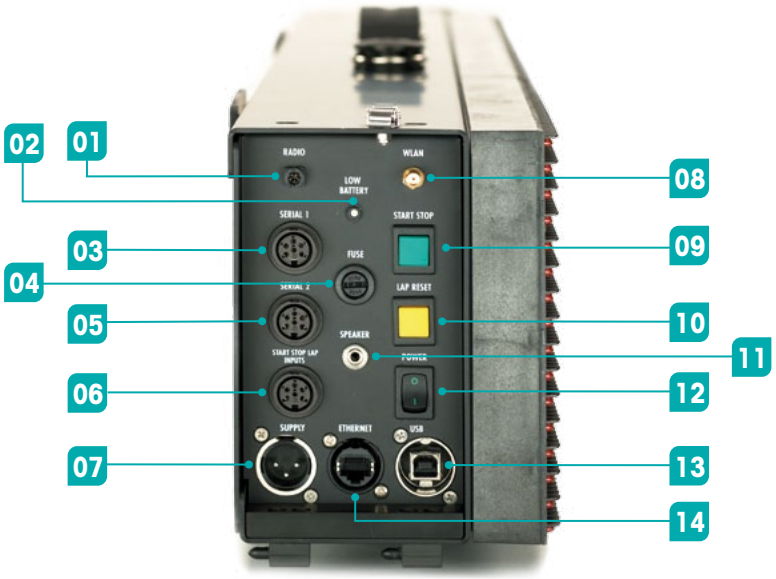
- timing pulses sent by EncRadio and Polifemo photocells
- display information from Racetime2 and Rei2 chronometers, PCs and LYNX photo-finish.

The display boards can be equipped with plug-ins such as:

- internal battery
- wireless network card
- GPS sensor for perfect time synchronization
- GSM modem (control via mobile phone, SMS, PC)
- 12/48 V switch for external battery connection

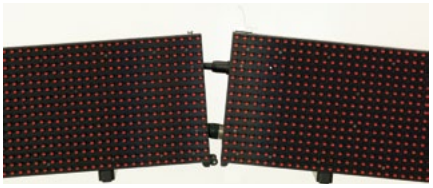
(for further information refer to the plug-ins paragraph)

DATA	MICROTAB
Weight	~7 kg (without batteries)
Dimensions	96 x 16 x 15 cm
Matrix	96 x 16 led
Operationg Temperature	-20°C / +40°C
Average Autonomy (at 20°C)	11 hours



01 Radio: 5-pole Nucletron connector for Linkgate radio system connection
02 Low Battery: Battery status signal LED.
03 Serial 1: 6-pole Amphenol connector for serial input/output
04 Fuse: Fuse cavity
05 Serial 2: 6-pole Amphenol connector for serial input/output
06 Start / Stop Lap Inputs: 6-pole Amphenol connector for START, STOP, and LAP signals
07 Supply: Neutrik connector for external power supply and battery charging (if used)
08 Wlan: WiFi aerial connector (optional)
09 Start / Stop: Green START STOP button used for manual START and STOP signals and for modifying values in program settings
10 Lap Reset: Yellow LAP RESET button used for manual LAP signals and for confirming program settings
11 Speaker: Jack connector for external speaker connection
12 Power: On/Off switch
13 USB: USB cable connector for firmware updating
14 Ethernet: Ethernet network cable connector

Single Display Board



Assembling

4 display boards (2 lines, 2 columns)

6 display boards (3 lines, 2 columns)

MICROTAB LIGHT

Time at Hand

MicroTab Light has been developed expressly for numerical applications, combining easiness of use, portability, and profitability. It can be installed for example on the roof of a race car for bicycle competitions or marathons, and has five programs:

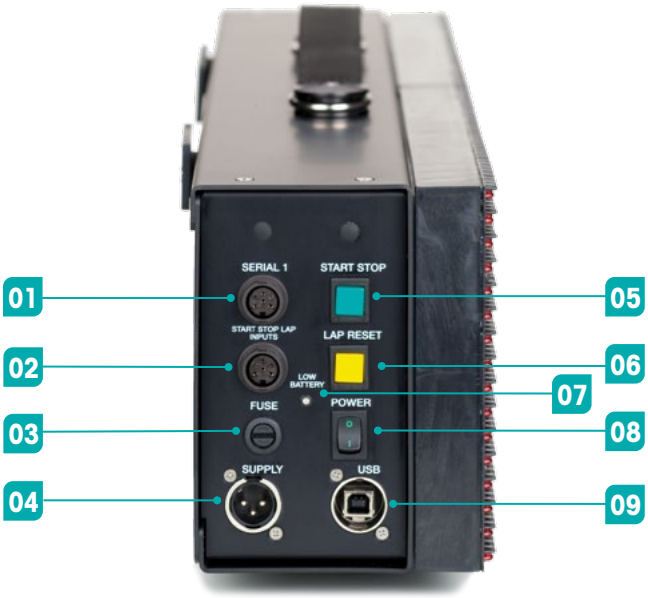
MicroTab Light can display:

- race times, if connected with a Microgate chronometer or other chronometers
- time
- running time thanks to the internal chronometer

The display boards can be equipped with plug-ins such as:

- internal battery
- GPS sensor for perfect time synchronization
- GSM modem (control via mobile phone, SMS, PC)
- 12/48 V switch for external battery connection

(for further information refer to the plug-ins paragraph)



DATA	MICROTAB LIGHT
Weight	~ 5 kg (without batteries)
Dimensions	64 x 16 x 15 cm
Matrix	64 x 16 led
Operationg Temperature	-20°C / +40°C
Average Autonomy (at 20°C)	10 hours

01 **Serial 1:** 6-pole Amphenol connector for serial input/output
02 **Start / Stop Lap Inputs:** 6-pole Amphenol connector for START, STOP, and LAP signals
03 **Speaker:** Jack connector for external speaker connection
04 **Supply:** Neutrik connector for external power supply and battery charging (if used)
05 **Start / Stop:** Green START STOP button used for manual START and STOP signals and for modifying values in program settings
06 **Lap Reset:** Yellow LAP RESET button used for manual LAP signals and for confirming program settings
07 **Low Battery:** Battery status signal LED.
08 **Power:** On/Off switch
09 **USB:** USB cable connector for firmware updating

LAPCOUNTER

The LapCounter display board, which can display information on three sides, is the ideal solution for lap counting, scores, concentration clock / countdown for various sport disciplines. Furthermore, it can display the wind speed, if connected with an anemometer.

The keyboard provided with the display board allows to:

- increase/decrease the number of laps (in lap counting mode)
- activate/deactivate the countdown and restart it (concentration clock)
- increase or decrease displayed scores
- display the wind speed (if connected with an anemometer)

ROTATING DISPLAY BOARDS

The rotating displayboards use Microgate's motorized supports that guarantee optimal rotation speed combined with smooth functioning and absence of vibrations. Using the serial connection, it is possible to set starting and stopping of movement, the extent in degrees of rotation, the stopping point and the number of rotations to make.

DOUBLE-FACE DISPLAYBOARDS

All the Microgate displayboards are also available in double-face format. The creation of a special frame makes it possible to have double-face displayboards of a thickness not much greater than that of a normal displayboard, while guaranteeing maximum solidity of the whole. The lightness of the double-face displayboards means they can be mounted on the roof of a normal motor vehicle ensuring optimal visibility. The MicroGraph/MicroTab double-face displayboards can be managed via cable or via radio, using the Microgate LinkGate system.

URBAN INSTALLATIONS

Best performance, even in traffic.

Microgate display boards have been developed for sport applications but, thanks to their wide range of functionalities and available programs, they are also an ideal solution for applications in the civil sector. Modern cities have an increasing need for solutions updated in real-time and displaying various types of information to the citizens. Microgate display boards are used more and more in municipalities and localities for displaying traffic information and information on road conditions, mountain passes, or general information to the citizens by the municipality. MicroGraph, MicroTab, and MicroTab Light are characterized by high brightness and can be used with fix or mobile outdoor installations, equipped with integrated Wi-Fi or GSM module. Thanks to these technologies, the displayed information can be changed in real-time using a complete remote control and, if necessary, by an external operator (such as e.g. a policeman) sending an SMS from his mobile phone.

The following information can be displayed:

- tourist information
- service information (chains required, road closed, etc.)
- fix or running texts, bitmap images (e.g. no vehicular traffic, arrows, and indication of direction)
- hotel vacancies and parking information
- other

.NETBOARDS

Command everything you want with a click

.netBOARDS is the innovative software by Microgate for user-friendly management of led or pixel-based MicroTab and Micro-Graph display boards. Developed using cutting-edge software technologies, .netBOARDS features an ultramodern graphical user interface and is composed of the three main modules:

LAYOUT DESIGNER

Create and design whatever you want

The Layout Designer allows to create graphical elements, such as strings, scrolling texts, images, dates, times, and many more, positioning them freely on the virtual software display board before sending the created layout to the real display board.

Furthermore it allows an easy and fast configuration of all general and program parameters (e.g. line and column addresses, parameters for serial/Ethernet/Wi-Fi/radio connections, brightness settings, internal clock setting, etc.).

SEQUENCE EDITOR

Configuring sequences

Thanks to the Sequence Editor you can create a timeline of various layouts to display information previously created with the Layout Designer in the required sequence and at predefined intervals. For example it is possible to create alternating advertisements and ranking or timing information and send it at given times and with loop/goto functions.

PROGRAM EDITOR

Saving programs

The Program Editor allows to create a display program (with pauses, resets, cycles, and/or jumping to other spots) and send it directly to the display board. The created program is stored as `internal program' (Program 2) in the display board ROM and can run automatically without the need to connect a PC.

DATA COLLECTOR & PREVIEW MODULE

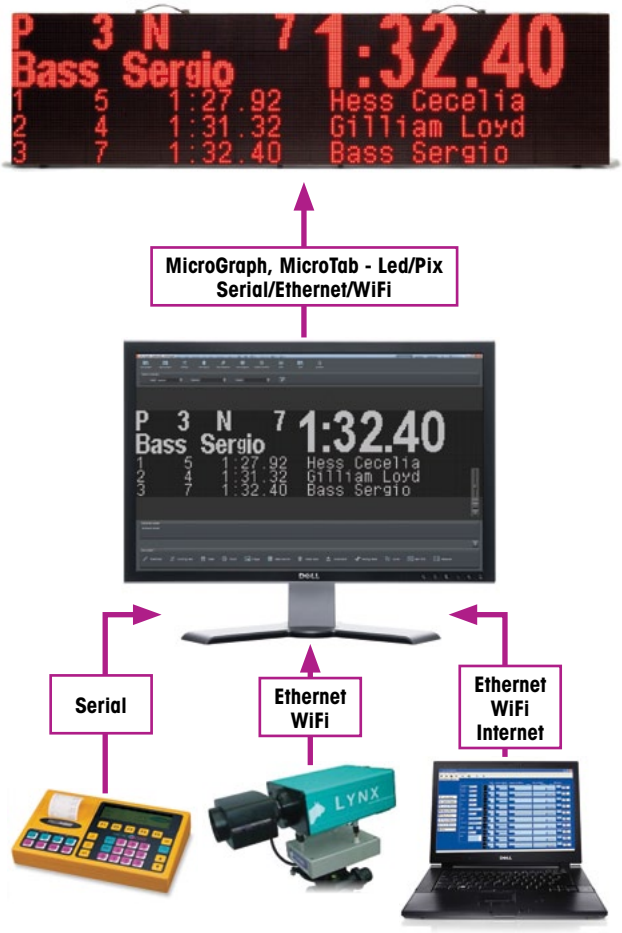
A further possibility offered by the software is to act as a collector of data from devices such as timers, photofinish, other PCs with race management programs or any other device `communicating' with the Microgate protocol. Thanks to the Preview Module, .netBOARDS becomes a `server' receiving dynamic information (times, names, positions) from several sources.

These data can be previewed and/or simultaneously sent to the display board with other `static' layout elements.

PLUG-INS

Thanks to a series of additional plug-ins developed especially for specific sports (e.g. hockey, basket, volley, etc.), .netBOARDS can be used as a sports event management tool allowing the timer or referee to interact with preconfigured objects such as scores, penalty countdown, timers, as well as fix information like names of teams, athletes, etc.

Upon specific request custom plug-ins are available, for example for reading and displaying information from analog or digital inputs (e.g. anemometers, temperature / air humidity / snow probes, pH measurement devices for swimming pools, etc.).



PLUG-INS

Battery

All Microgate display boards with LED technology are equipped with Li/Ion batteries with 7-10 hours continuous operation depending on the display board type, the average brightness, and its use (displaying type, environmental temperature).
It is also possible to use external batteries using a 12/48 V converter matching the required criteria.

Wi-Fi

The Microgate Wi-Fi module can be installed on MicroTab and MicroGraph display boards.
The network card allows the remote communication between display boards and other pieces of equipment with wireless transmission in 'WLAN' and 'ad-hoc' mode.

GPS

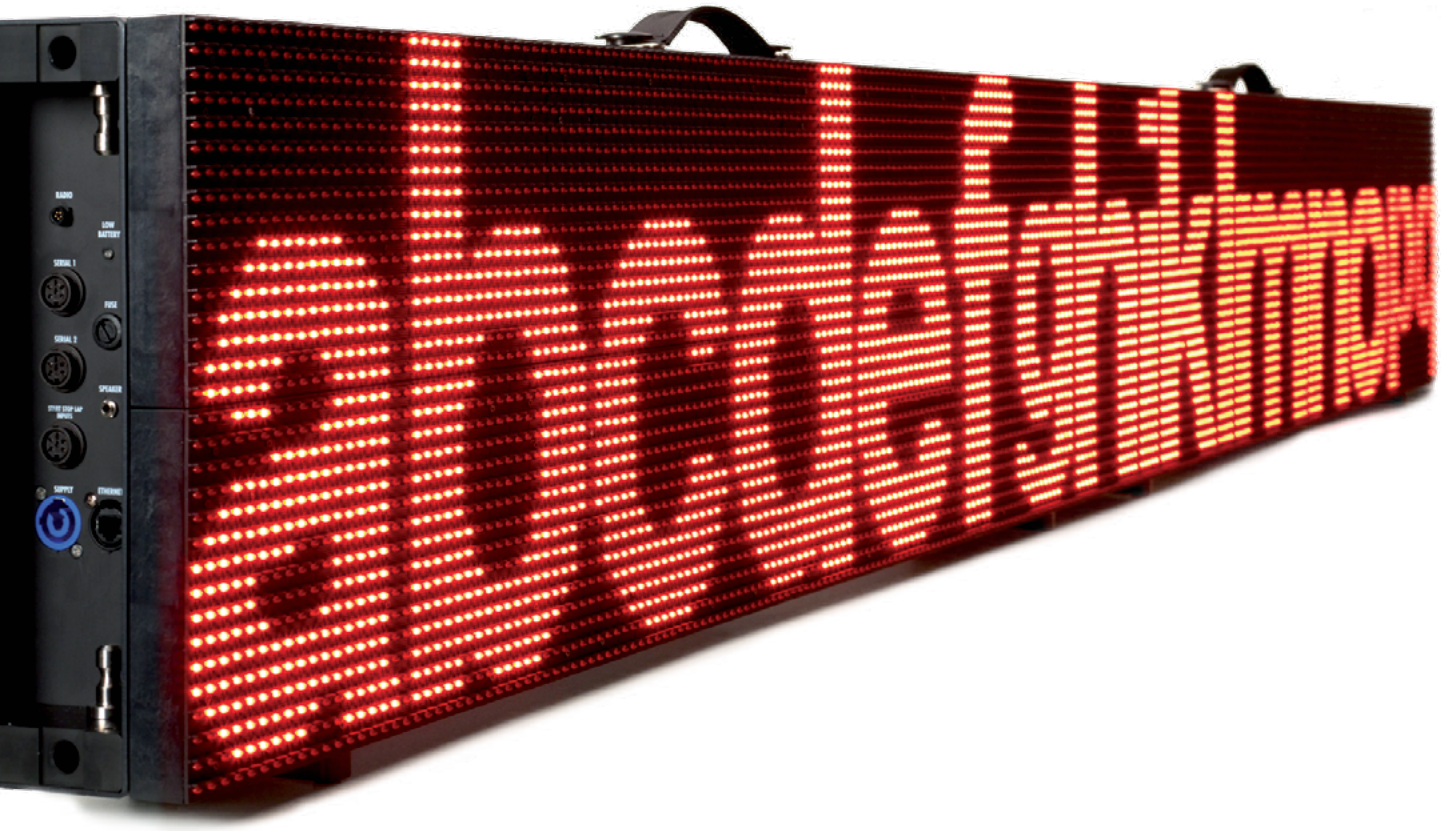
The GPS time base consists of an additional chip which can be inserted into the display board and ensures exact time displaying in perfect synchronization with other appliances using GPS technology.

GSM modem

The GSM modem can connect various devices (PC, chronometer, mobile phones, etc.) with the display boards for data transmission and remote control operation. Thanks to this technology it is possible to communicate also at very long distances.

PROGRAM TABLE

NAME	DESCRIPTION	MICROGRAPH	MICROTAB	MICROTAB LIGHT
Base program	Waits for commands via serial cable or IP (Ethernet/WiFi)	✓	✓	✓
Internal program	Automatically executes the stored program.	✓	✓	
Timer	Works like a normal 1/100 second precision chronometer.	✓	✓	✓
Speedmeter	Measures the speed based on any length.	✓	✓	
Countdown	Displays various countdown types.	✓	✓	
Clock	Displays the time of the internal clock of the display board.	✓	✓	✓
Date & clock	Displays date and time of the internal clock of the display board.	✓	✓	✓
Lap Timer	Timing of lap times.	✓	✓	
Test Led	Checks that the LEDs work correctly.	✓	✓	✓
Self Timer	Manages a Self-Timing course (with token machine and optional printer).	✓	✓	
Self Timer Parallel	Manages a Self-Timing parallel course.	✓	✓	
OSM6	Connection with Omega OSM6 chronometer.	✓	✓	
Powertime	Connection with Powertime chronometer.	✓	✓	
Alge	Connection with Alge chronometer.	✓	✓	
Omega	Connection with Omega chronometer.	✓	✓	
Stalker	Connection with Stalker speedmeter	✓	✓	
Jugs	Connection with Jugs speedmeter	✓	✓	
Athletic	Program for cycle-racing and athletics tracks.	✓	✓	
Gill Windsonic	Connection with the GIll anemometer	✓	✓	
Parallel Timer	Timing for parallel races	✓	✓	



THE NEW MARKET QUALITY STANDARD

- **Incredible brightness** ensures perfect displaying results even in outdoor installations and in full sunlight. Thanks to photo detectors, the display board brightness is automatically adjusted for perfect visibility in every environmental condition.

- The 10 mm **pitch** (the actual LED distance) allows for optimal resolution also when displaying precise moving graphics.

- In order to prevent flickering video recordings and disappearing characters or image parts, Microgate's display boards feature static LED driving, thanks to which LEDs are always on.

- **Reliability** even under extreme environmental conditions. High-quality electronics allow for a wide-range application: -20°-+40°.

- **Internal batteries** are available upon request for using the display boards without a power supply connection.

- **Modularity** (available on MicroGraph and MicroTab). The display boards can be assembled very easily creating LED walls of the required dimensions. This is possible thanks to the exclusive Microgate assembly system ensuring the same LED distance between display boards.

- **Connectivity**. Microgate display boards are equipped with various communication interfaces: 2 serial ports, USB, Ethernet, and Wi-Fi (optional). Furthermore, all modules can be connected with the Linkgate pulse radio transmission system (optional for MicroTab Light).

- **Compatibility**. The display boards are compatible with Omega, Alge, Digitech, and other chronometers. It is also possible to display information from other instruments, such as anemometers, thermometers, and speed measurement systems.

VIA STRADIVARI, 4 · BOLZANO · ITALY · TEL. +39 0471 501532 · FAX +39 0471 501524 · INFO@MICROGATE.IT · WWW.MICROGATE.IT