



CYCLING TRACK SALES CONSULTING

Overview

The diversity of events in Cycling Track makes the sport one of the most complex for timekeeping. Quite different timing methods are required for the various types of races.

This document explains the different aspects of this discipline as well as the high requirements of the configuration and the installation of the specific timing equipment, which demands a precision to the 1,000th of a second.





TRUST SWISS TIMING!

Cycling has been contested at every Summer Olympic Games since the birth of the modern Olympic movement in 1896, at which a road race and five track events were held. Mountain bike racing entered the Olympic programme in 1996, followed by BMX racing in 2008.

Cycling has been part of Tissot and Swiss Timing's sports commitment for more than 25 years, and over the course of its involvement, Tissot has been the Official Timekeeper and Sponsor of the following major events:

- Tour de France
- Tour de Suisse
- La Vuelta d'Espagna
- UCI* Mountain Bike and Rack World Cups
- UCI Cycling World Championships
- Track World Championships
- Road World Championships
- Mountain Bike World Championships

HIGH PERFORMANCE TIMING & SCORING EQUIPMENT FOR VARIOUS TYPES OF RACES

Events such as the Sprint qualification, Individual and Team Pursuits, Time Trials and the Team Sprint require very high-precision devices to provide the required precision to the 1,000th of a second as the rider crosses the line(s). The entire width of the start, finish and pursuit lines are active sensors, sending signals to the timing system whenever a wheel passes over it.

The Keirin, Sprint, Points Race and Madison use the photo finish concept to indisputably establish the rankings. It is also used to verify points allocation in Madison, points races and Scratch.

A starting system is integrated into the timing system for certain races. The starting gate uses brake pads similar to a street bicycle to hold the rider on the start line.

Our innovation, certified by the UCI, automates the entire process beginning with a 50-second countdown displayed in front of the rider(s). At "0", hydraulics release the rider and the timing starts.

The countdown displays the "laps to go" for the riders. In the case of pursuit races, red and green lamps on the display will illuminate as the riders cross the pursuit lines, visually indicating the order of passage and thus, who's got the lead.

Swiss Timing technicians install transponders on the bicycles for all events. The data collected from these, enhances and speeds up detailed race statistics, provides additional security to the timing and can aid UCI officials resolve race disputes.

All this technology connects and integrates with our high-performance IT system, which is at the heart of data processing for major competitions.

VALUABLE PARTNERSHIP WITH UCI

Swiss Timing is very proud of its relationship with the main International Sports Federations and especially with the UCI. For many years, Swiss Timing, along with Tissot, have been key partners to UCI, enhancing our innovation in developing new timing systems.

Essential to mention that, in addition to cycling systems, Swiss Timing also provides services such as timing & scoring, on-venue results and broadcast solutions for major sporting events throughout the world. Today, Swiss Timing is composed of more than 400 employees spread over three companies located in Europe.

More information at www.swisstiming.com

*UCI: International Cycling Union

REFERENCES - EVENTS SERVICED BY SWISS TIMING

	EVENTS SERVICED BY SWISS TIMING		T&S*	OVR**	TV GRAPHICS	VIRTUAL GRAPHICS	CIS***
CYCLING TRACK	IOC	SUMMER OLYMPIC GAMES	●	●	●		
	IPC	SUMMER PARALYMPIC GAMES	●	●	●		
	FISU	SUMMER UNIVERSIADE	●	●	●		●
	OCA	ASIAN GAMES	●	●	●		●
	CGF	COMMONWEALTH GAMES	●	●	●		●
	UCI	WORLD CHAMPIONSHIPS	●	●	●		●
		WORLD CUP	●	●	●		●
	ASIAN WORLD CHAMPIONSHIPS	●	●	●		●	
CYCLING MOUNTAIN BIKE	IOC	SUMMER OLYMPIC GAMES	●	●	●		
		SUMMER YOUTH OLYMPIC GAMES	●	●	●		
	FISU	SUMMER UNIVERSIADE	●	●	●		●
	OCA	ASIAN GAMES	●	●	●		●
	CGF	COMMONWEALTH GAMES	●	●	●		●
	UCI	WORLD CHAMPIONSHIPS	●	●	●		●
		WORLD CUP	●	●	●		●
EOC	EUROPEAN GAMES	●	●	●		●	
CYCLING ROAD	IOC	SUMMER OLYMPIC GAMES	●	●	●		
		SUMMER YOUTH OLYMPIC GAMES	●	●	●		
	IPC	SUMMER PARALYMPIC GAMES	●	●	●		●
	FISU	SUMMER UNIVERSIADE	●	●	●		●
	OCA	ASIAN GAMES	●	●	●		●
	CGF	COMMONWEALTH GAMES	●	●	●		●
	UCI	WORLD CHAMPIONSHIPS	●	●	●		●
		TOUR DE FRANCE	●	●			
		VUELTA	●	●			
		TOURS (PARIS-NICE, DAUPHINÉ, ETC...)	●	●			
EOC	EUROPEAN GAMES	●	●	●		●	
CYCLING BMX	IOC	SUMMER OLYMPIC GAMES	●	●	●		
		SUMMER YOUTH OLYMPIC GAMES	●	●	●		
	FISU	SUMMER UNIVERSIADE	●	●	●		●
	UCI	WORLD CHAMPIONSHIPS	●	●	●		●
	EOC	EUROPEAN GAMES	●	●	●		●

* T&S: Timing & Scoring

** OVR: On-Venue Results

*** CIS: Commentator Information System



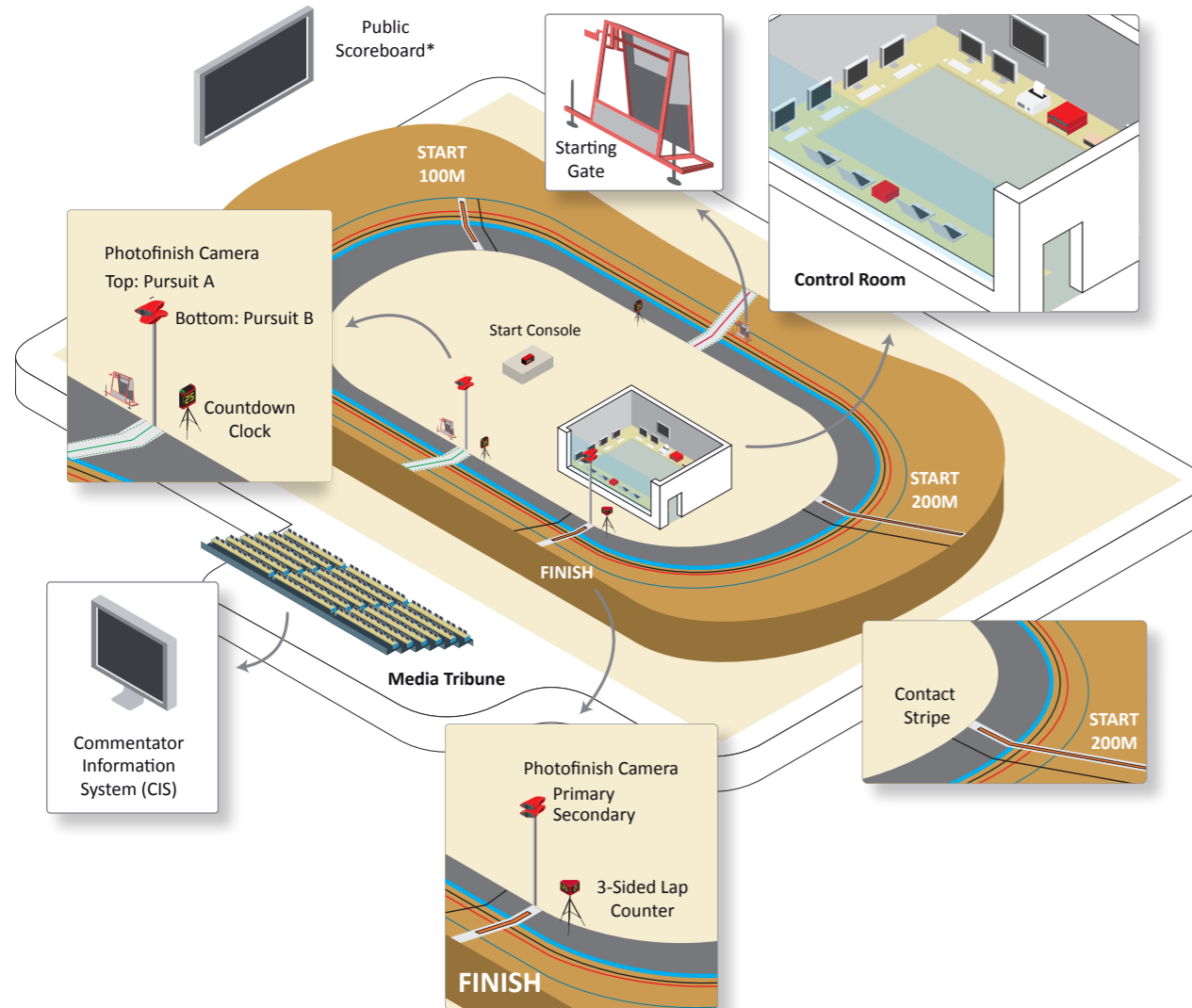
CYCLING TRACK



CHOOSE THE BEST EQUIPMENT

SPECIFICATIONS

- Lockable room
- Temperature: 20-23°
- Power supply: 110/240V 50-60Hz



KEY POINTS OF THE VELODROME

- Track length: 200m, 250m or 333m
- According to the UCI norms, the track must measure min. 250m in order to host the World Championships or the Olympic Games.
- Pursuit A/Pursuit B: start and finish line for pursuit races with a standing start.
- Intermediate point: intermediate measurement point for sprint races.
- 200m: white line across the entire width of the track, placed at 200m from the finish. It triggers the timer for the last 200m of the race.
- Finish: sprint finish line.

SCAN'O'VISION MYRIA CAMERA



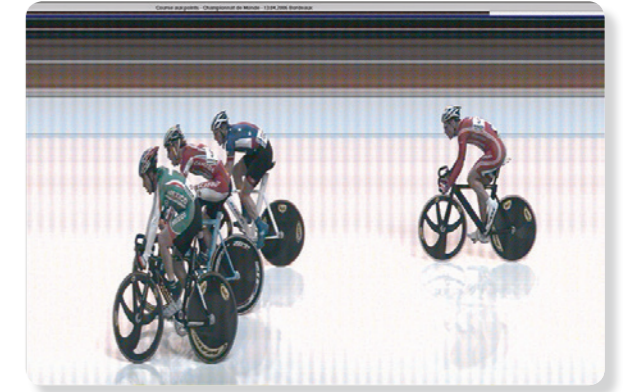
TOP FEATURES

- High resolution with all acquisition speeds
- Exclusive patented Spatial Alignment System
- 2D image for easier camera alignment
- One Ethernet cable for camera control, image transmission and power
- Photofinish template generator
- Automatic control of the HD Front Camera
- Integrated zoom lens, fully remote controlled

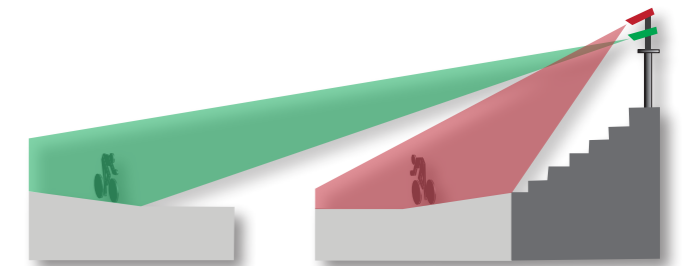
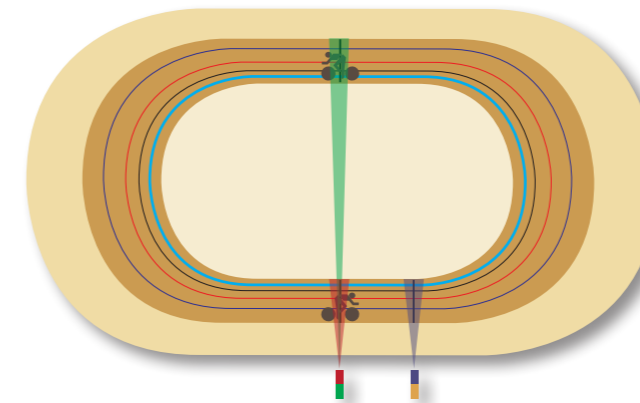
The **Scan'O'Vision Myria camera** measures the times at the finish line in thousandths of seconds. It takes up to 10,000 shots per second at a high resolution of 2,048 pixel vertical lines, and the corresponding time is displayed on each picture.



The exclusive patented Spatial Alignment System allows the camera to be easily aligned on any finish line. The Myria camera is self-contained. The computer connection is made through a standard Ethernet (1Gb/s) cable; the camera has connections to the track (start, ready and finish).



CAMERAS INSTALLED OUTSIDE THE TRACK



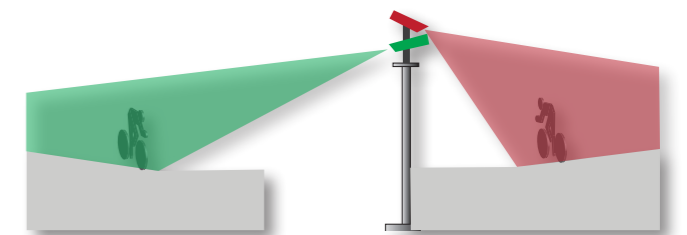
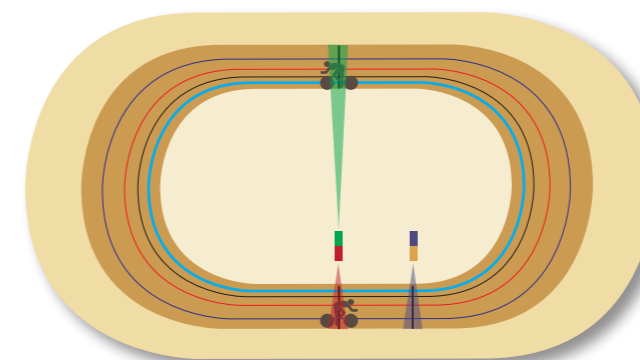
Camera Sprint

Camera Pursuit

- Primary
- Secondary

- Pursuit A
- Pursuit B

CAMERAS INSTALLED INSIDE THE TRACK



QUANTUM CT TIMER

KEY PRODUCT

TOP FEATURES

- Primary and Secondary solution
- Inter-connection with transponder „Easy Timing“
- High precision of 1/1,000,000s
- Display of an MS Excel interface to get the results
- Can be used for timing (with operator) and for training
- Full UCI compliance
- Can manage up to 5 transponder decoders

The **Quantum** is a high performance timer used for Cycling Track. This device is interconnected with the transponders' system to allow and simplify data handling.



To ensure the security of the results, the Quantum offers primary and secondary solutions. To be used in such way, two timing computers are necessary.

Primary & Secondary Quantum timers provide high precision (1/1,000,000s). All information and pulses entering in Quantum are always received by Primary & Secondary timers.

In terms of data handling, this system allows

- the easy use of a start list file
- the display of an excel interface to get the results

Contact strips are placed on the Pursuit A, Pursuit B, 200m, 100m and finish lines. When the rider passes on the contact strip, this gives an impulse and sends the timing data to the Quantum timer. This information is used for the official and intermediate times.

STARTING GATE

KEY PRODUCT

TOP FEATURES

- A-Shape support ensuring security and stability
- Quick and easy removal after the start
- Adjustable feet to suit the track angle
- Designed to suit any type and size of bicycle

This system has been designed and developed by Swiss Timing in collaboration with the UCI.

It is used at cycling events such as Individual and Team Pursuit, 500m time trial, kilometre time trial and team sprint.

The **Starting Gate** may be used as a stand-alone training unit, where a pushbutton manually triggers the opening and closing of the actuators. When used in a pair, it is linked to the Tracker pursuit clocks with a dedicated controller, providing a fully automated start sequence, and a perfect synchronisation of the opening of both gates.



TRACKER

KEY PRODUCT

TOP FEATURES

- Countdown display & sound
- Lap counter
- Red & green semaphore (signalling)
- Integrated keyboard
- Manual rotation
- Integrated battery

The **Tracker** is used to show the start countdown sequence. During the start phase, the Tracker displays a 50-second countdown programmable with sounds at 30s, 10s and at the last 5s. Another sound is generated at the start (0s), as required by the UCI rules.

As soon as both Starting Gates are opened, the timing starts and the Tracker automatically switches to "Lap Counter" mode after 5 seconds. The number of laps are entered at the Main Judge Controller prior to the race.

When connected to the timing system, red and green lights are displayed during the race to indicate who is the leader.

The Tracker is also used during the elimination race to show the number of the eliminated competitor.



3-SIDED LAP COUNTER

KEY PRODUCT

TOP FEATURES

- 360° visibility
- User-friendly
- Automatic adjustment to ambient luminosity
- Great stability

The **Lap Counter** features a design with 3 faces, which make the display visible at 360 degrees, and at distances of up to 130 m. The lap counter can display numbers from 0 to 199.

The luminosity automatically adjusts to ambient light conditions thanks to an integrated sensor.



GEMINI

TOP FEATURES

- Viewing distance up to 120 m
- Optimized contrast and brightness
- Indoor and outdoor use
- Wide viewing angle up to 100/110°
- A wide range of supports for 1 to 3 lines
- Can be mounted on walls, stands or other supports

The **Gemini** displays the running time, intermediate and gap time during the competition.



It is a numerical display using 7-segment-amber-LED-digits for optimal contrast. This scoreboard is available in modules of 9 digits. Full compliance with other Swiss Timing devices is guaranteed.

Numerical displays are clearly visible at distances of up to 130 m. An integrated sensor automatically adapts the brightness to the ambient light conditions.

TRANSPONDER AND ANTENNA SYSTEMS

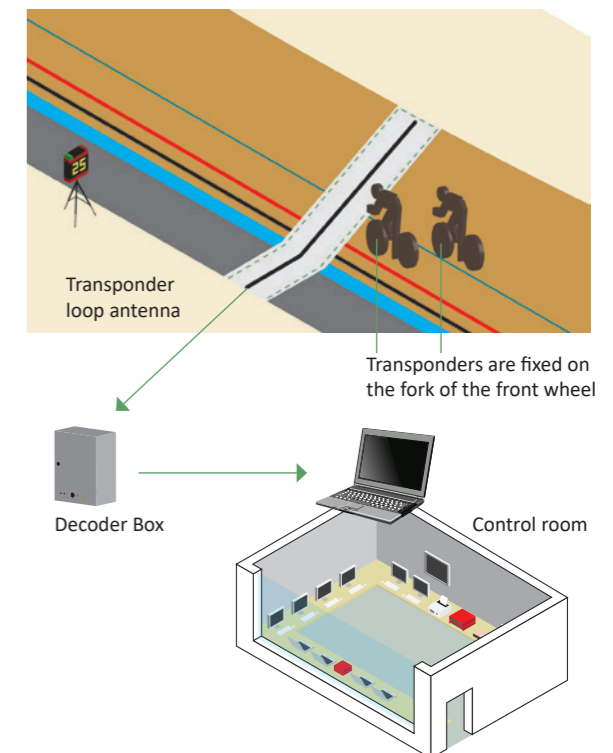
A **transponder** is fixed on each bike, more specifically on the front wheel (on the fork). The transponder emits a unique code, broadcasted by radiofrequency (RFID), and which is detected by an antenna and radio receivers placed under the track.

One of the main advantages of the transponder system is that one can use it for timing (with operator) and also for training (without operator).



Data transmitted to the Quantum system are used to:

- locate an athlete in a group
- count the number of laps
- determine the time order at an intermediate point
- provide quick results (photofinish required for the ranking and to homologate records)



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