

TIME-KEEPING SYSTEM FOR REGATTA COURSES

... information from one source

Time-keeping software

Software for time keeping and results calculation of intermediate and finish times.

- Collection of intermediate times
- Collection of finish times with photo finish camera
- Simultaneous data gathering of several competitions on the same course
- Variable course configuration
- Results data export
- Import of master data
- Backup PC
- Optional: scoreboard control software



Accessories integrated in a weather-proof case

Master Terminal

- Collection of intermediate timing data and syn-chronization of intermediate time keeping terminals
- Communication with Timing PC
- LCD graphics display, integrated rechargeable battery, 35 keys
- Interfaces: external trigger inputs, several serial interfaces, CAN bus interface
- Each individual time-keeping station collects times, assigns them to the corresponding lane and transmits to the time-keeping PC

Terminals for intermediate time-keeping

5 input terminals for intermediate times and finish

- Collection of intermediate time and subsequent lane assignment (manual input)
- Real time transmission of data via CAN bus to the Master Terminal
- External time synchronization by means of CAN bus
- LCD text display (4 lines, 16 characters)
- 16 keys, integrated rechargeable battery
- External impulse inputs, CAN bus interface

Incl. integrated time-keeping software with following features:

- Communication with master terminal and intermediate time-keeping terminal via CAN bus
- Internal time basis, regular synchronization via bus
- External impulse inputs for timekeeping
- Live and post-event input of lanes and boat numbers
- Independent transmission of times and lanes
- Push buttons, electronically and actively debounced
- Headset with microphone for communication
- Amplifier and connection adapter for headset

Photo Finish System

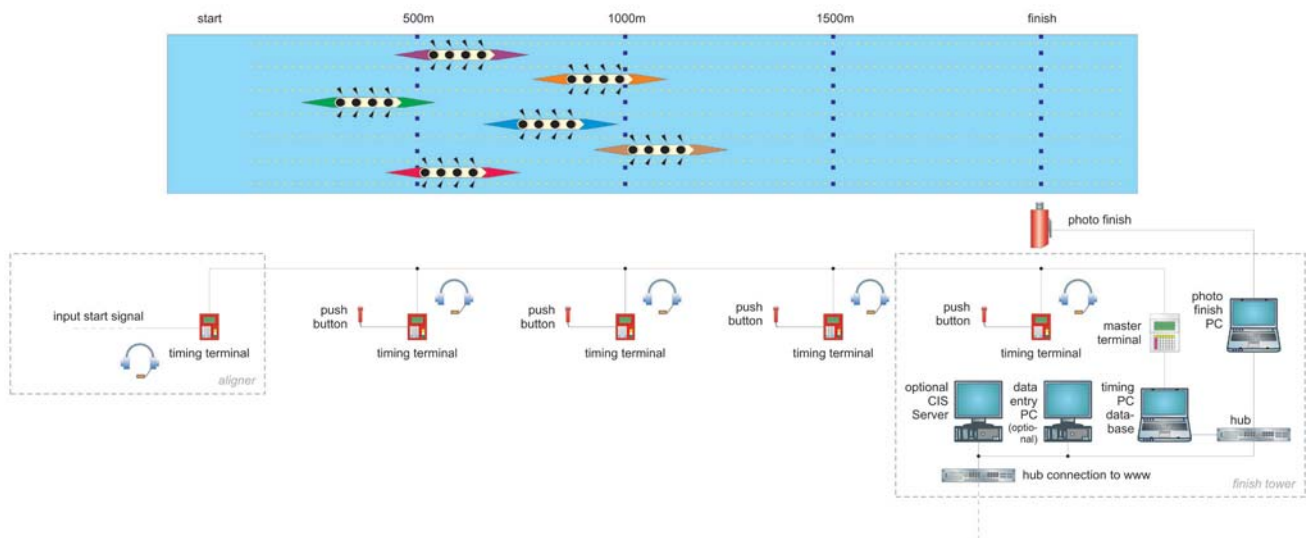
The Photo Finish System is used to evaluate finish line pictures and to collect finish times of boats reaching the finish line almost simultaneously. The computer-based finish line camera system allows the collection of exact finish times. External synchronization by master clock.

Option

- Radio data transmission

Note:

Upon request, we design specific interfaces to software solutions not provided by ST INNOVATION. In addition we implement interfaces to different photo finish cameras.



START ANALYSIS SYSTEM FOR REGATTA COURSES

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Light System

The light system serves to control the start procedure and to indicate false starts. It consists of 10 start lights (8 lanes, 2 starter/aligner). The light comes with a red and green light as well as an acoustic signal device.

Technical Specification

- Operation voltage: 24 V, LED light, horn
- Metal frame to securely mount the lights at the start
- Power supply with weather-proof plastic casing
- Power: 2x 300 W, Input voltage: 110 V / 230 V/AC, Light operating voltage: 28 V DC

Starter Unit

The starter unit is used to control the start light, pre-start and false start signaling.

Technical Specification

- Light signals to indicate aligner status
- Integrated microphone and speaker for use as intercom with aligner unit
- Internal clock, single-line LCD display to indicate the time
- File tray may be integrated
- Control interfaces: day time display, alignment status display, data connection to start and aligner unit, output for start impulse



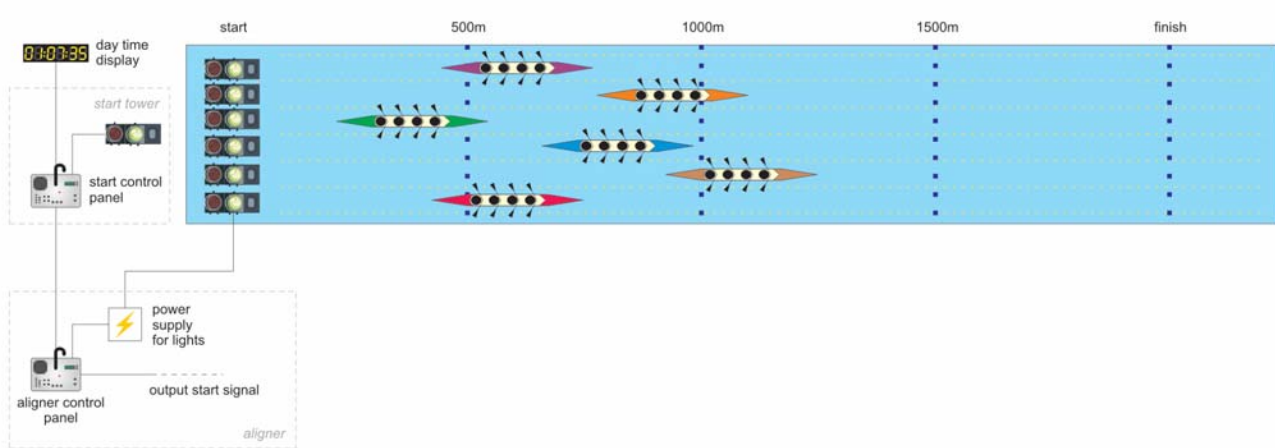
Light system



Starter unit



Day-time display



Day Time Indication

- Display with 6 double-sided, reflective segments for day-time indication in hh:mm:ss format.
- Character size: 15 cm
- Character color: yellow
- Interface: RS422
- Weather-proof casing

Aligner Unit

The aligner unit is used to control the start status display (aligner status) as well as the false start indication.

Technical Specification

- Light signals to indicate aligner status
- Integrated microphone and speaker for use as intercom with starter unit
- Internal clock, single-line LCD display to indicate the time
- Control interfaces: day time display, start status display, data connection to start and aligner unit, start trigger

Aligner Status Indication

- 2 signal lights (red and white) to indicate the aligner status
- red: alignment necessary
- white: alignment completed, ready to start

False Start Detection

Our false start detection system is based on state-of-the-art video technology. It allows the user to continuously observe the start line. The video picture taken at the start is frozen to detect a false start. The system is easy to use and allows the user to control and manage numerous starts.

System PC

- Panel PC with an integrated display
- Incl. frame grabber card featuring: PCI/AGP Bus 8 MB SGRAM video frame buffer
- High-quality capture of PAL video signals
- Non-destructive color
- External inputs: TTL trigger inputs
- 12 volt DC output for camera power supply
- Hardware pan and zoom (max. 4x)

Start Control software to detect false starts

- Display of the video picture taken by the camera
- Picture Freeze at start, triggered via external start impulse input
- Draw of a virtual start line
- Saving, opening and printing of frozen start pictures incl. the corresponding race number

Video Camera

- S-VHS CCD video camera incl. camera lens
- 1/2" CCD converter
- Minimum light: 0.5 Lux
- Video output: Y/C, FBAS incl. cabling set for Composite and Y/C video