Timing Solution for Dragon Boat
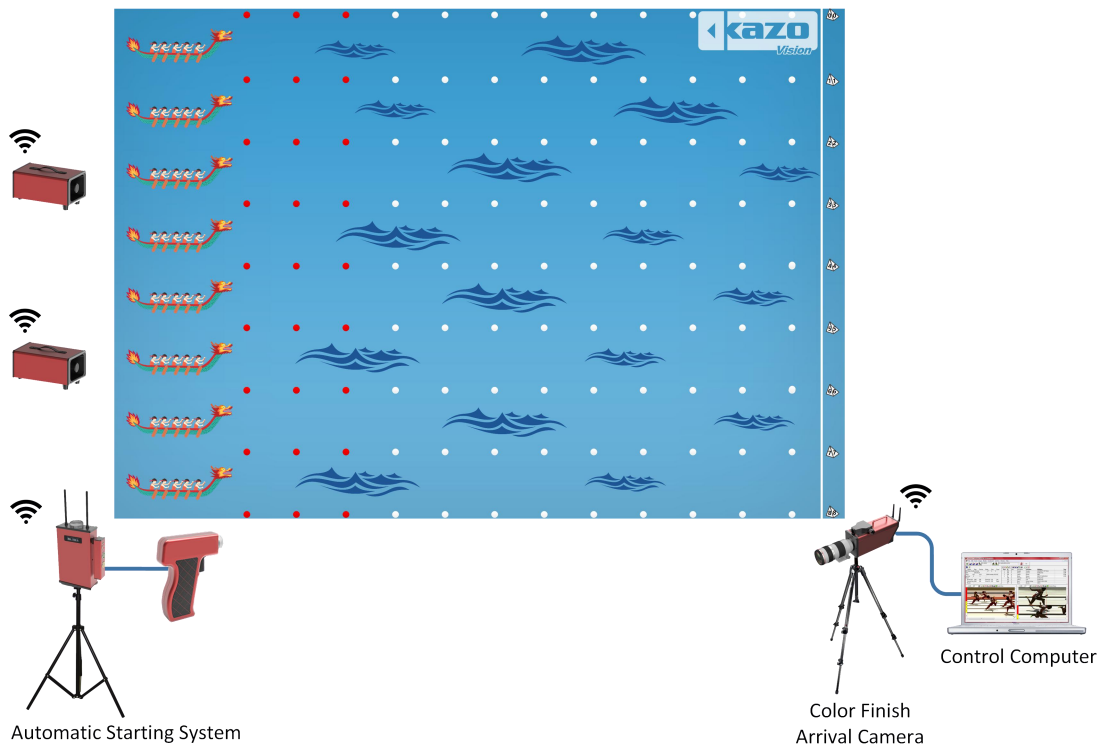
1．Introduction

This is a professional timing program for Dragon Boat.

Through the cooperation of Timing Software, Automatic Starting System, Photo Finish Camera and other systems, using high-speed color CCD digital camera and advanced image data processing technology, the timing accuracy of the equipment meets the requirements of professional competitions, with high timing accuracy, fast and accurate interpretation, strong stability It has the characteristics of simple operation, convenient carrying and installation, and less consumables.

The system realizes the automation of the measurement process, thus ensuring the fairness and justice of the competition process and results.

1.1 System Chart

System Description
1) **LAN:** A LAN is set up in the stadium. Connect the Control Computer to the LAN.
2) **Automatic Starting System:** It supports an electronic starting gun with a maximum starting distance of 1000 meters and a wireless starting button.
3) **Color Finish Arrival Camera:** Installed at the end point for shooting at the end point, with real-time interpretation function, shooting and interpretation can be carried out at the same time
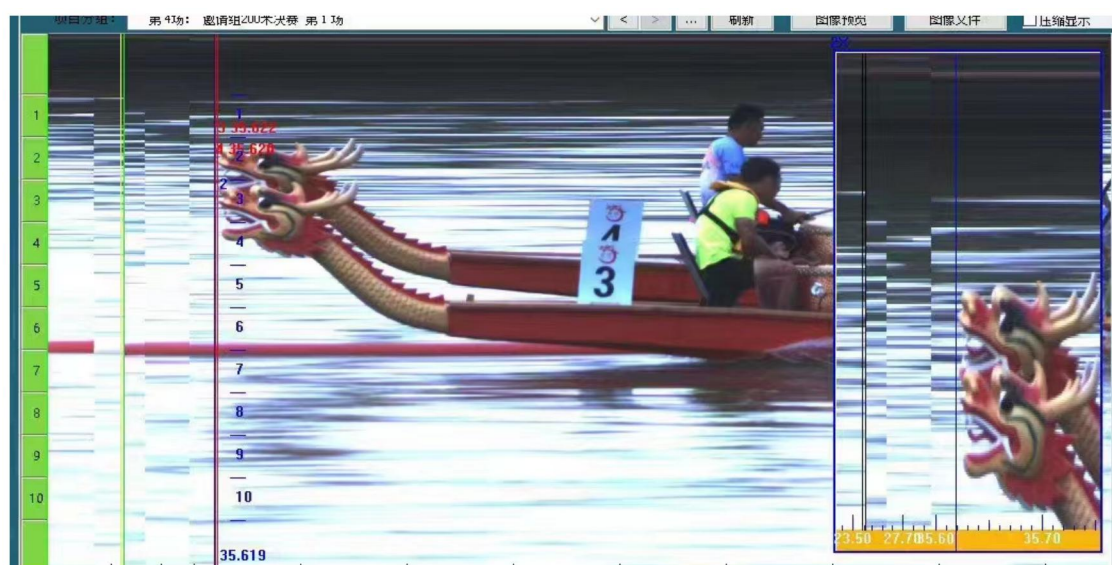
1.3 Product Configuration

Products	Type	Number
Match Timing Software	ULTRASCORE STANDALONE	1
Automatic Starting System	KS-STM100	1
Colorful Photo Finish Camera	KS-PHFC10	1
Meet Management Server	KS-MMS-MINI	1
PC	/	2
Network Cable	/	1
Router	/	1

2．Specification for products
2.1 Match Timing Software

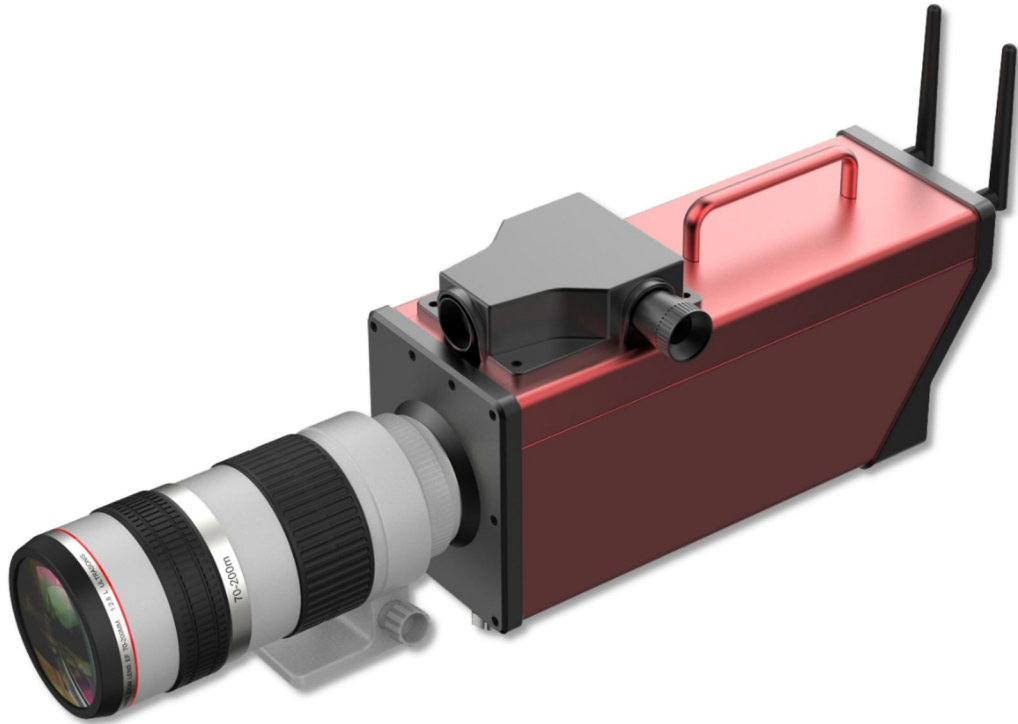| Products	Details
Match Timing Software	Operating system: support win7, 10, 32 / 64 bit systems Function: Support the simultaneous operation of shooting and score interpretation; When the computer crashes and the software is restarted, the timing can be restored with one click; The accuracy of score output is 0.0001s ~ 1s; multiple orders and reset the order time; ◆ Support zero time calibration function; ◆ Support stop timing to continue shooting; ◆ Support automatic image clipping and filtering redundant images; ◆ Support large screen display of scores and images; ◆ Support automatic scoring; ◆ Support the printing of transcripts and the generation of Excel sheets and TXT documents; ◆ Support selecting wrong groups and associating images with corresponding groups after the competition.

2.2 Automatic Starting System

Products	Details
Automatic Starting System	Supporting items: Dragon Boat, Rowing, Track and Field, Kayak, Horse Racing, Dog Racing, Bicycle, Racing, UAV, Short Track Speed Skating, Long Track Speed Skating, Skiing and other competitions.
	Including starting host*1, electronic starting gun*1, wireless speaker*2, safety box*1.
	Size of starting host: 23*13.5*5.5(cm), weight: 1.5kg
	Size of speaker: 31*26* 33(cm), weight: 7kg
	Function:
	◆ Support electronic starting gun;
	◆ The starting distance is up to 1000 meters;
	◆ Support wireless start button;
	◆ Support microphone voice input;
	◆ Voice and starting shot dual output;
	◆ The host can work continuously for 8 hours without external power;
	◆ The sound can work continuously for 8 hours without external power;
	◆ Support zero calibration of electric meter;
	◆ Support multiple orders and multiple trigger record storage.

Kazo Vision

2.3 Colorful Photo Finish Camera

Products	Details
Colorful Photo Finish Camera	Supporting items: Dragon Boat, Rowing, Track and Field, Horse Racing, Dog Racing, Bicycle, Racing, UAV Frame rate: 1000 frames /s, 2000 frames /s, 5000 frames /s. Timing accuracy: 0.001 second, 0.0005 second, 0.0002 second System error: < 0.0002s Cumulative error: 0.5ppm Image display resolution: 1024 × 1024 Color: full color image Host size: 29.8*14*15.6(cm) Weight: 2kg Power adapter: 14.8-16.8v/1-2a Communication interface: Gigabit Ethernet port Wireless sending transmission distance: < = 1000m Battery type: lithium battery Battery life: 4 hours at full power Operating environment: Ambient temperature range: - 10 ℃ ~ 60 ℃, relative humidity range: 10% ~ 80% Storage conditions: Temperature range: 0 ℃ ~ 40 ℃, humidity range: 10% ~ 60% Closure length of tripod: 61cm Maximum height of tripod: 170cm Net weight of tripod: 2.5kg Size of safety box: 64.2*37.9*23(cm) Functions: ◆ Support image automatic exposure processing; ◆ Support positioning athlete sprint image; ◆ Support front capture sprinter chest number cloth; ◆ Support multiple orders and reset the order time; ◆ Support zero time calibration function; ◆ Support stop timing to continue shooting; ◆ Support image local magnification function; ◆ Automatic image clipping to filter redundant images; ◆ Support remote interpretation: one computer for shooting and another computer for interpretation; ◆ Support thumbnail display to quickly locate athletes; ◆ Support video playback; ◆ Support PNG and BMP image generation.

2.4 Meet Management Server

Products	Details
Meet Management Server	Type：KS-MMS-MINI Size: 170x150x35 (mm) Weight: 1.0 KG Features: ◆ Multi-court arrangement, auto generate the order form. ◆ Multi-project arrangement, make the schedule more smoothly. ◆ Monitor the status of each court in real time, including the ◆ current field, rotation and player info. ◆ Court adjustment, can manually modify the match court and ◆ session info. ◆ Summary and print integrated report.

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