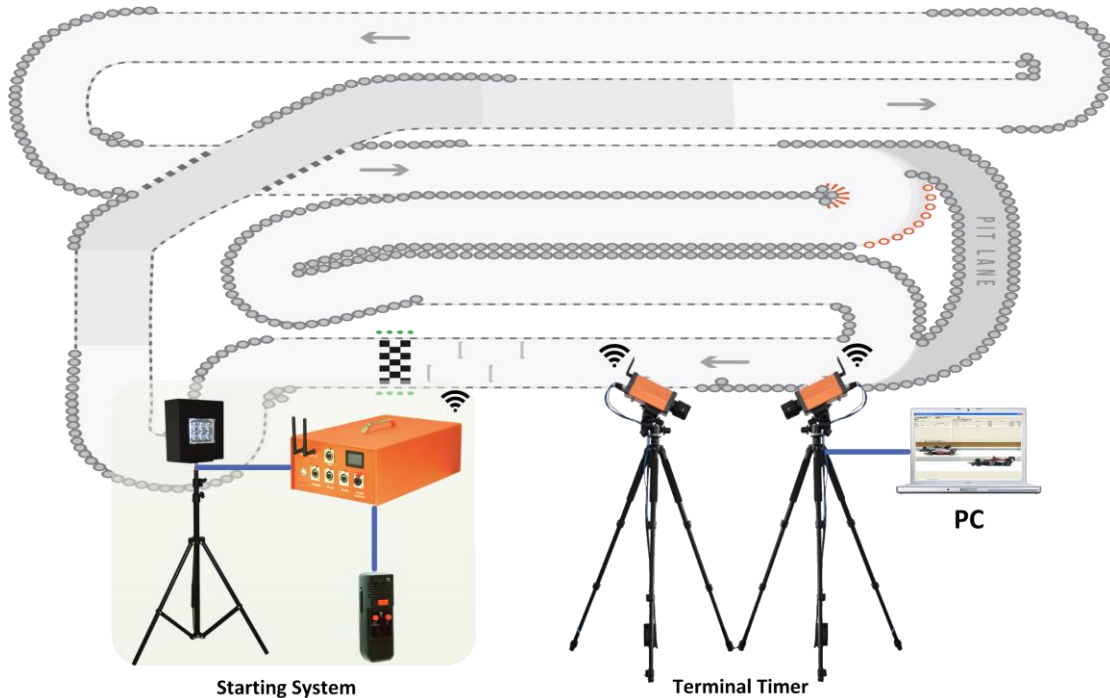# Timing & Scoring System
for Karting

Karting Timing System is an automatic timing system, which combines the software and hardware and uses high-speed color CCD digital camera. It can realize the automation of the measurement process, so as to ensure the fairness of the process and outcome of the match.

1. System Chart

Starting System   Terminal Timer   PC

1.1 System Structure Description

Karting timing and scoring system consists of auto starting system, terminal timing system and karting timing software.

1） Starting system: the starting host installed in the starting position and communicate with terminal timer through wireless signals.

2） Terminal timing system: terminal timer set up on the extension line of the finish line. It will collect the moment images when the athletes sprint to the end.

3） Karting timing software: installed in the PC for match scheduling, acquisition of result data, storage of the image, auto ranking and result printing.

1.2 Products Features

Safe and reliable

- Starting system provides synchronous flash start signal and clear shots without special starting gun.
- Equipped with Internal battery, it can work without external power.

Easy installation

- Starting system is compatible with wired and wireless trigger. And no wiring in the field is available.
- Attractive appearance and easy to carry.

Precise timing

- Terminal timer using CCD wide-angle viewfinder and fully extending the lens angle.
- With independent time system, unaffected by temporary power.
- Disk image interpretation and data processing can be any time in working state.
- Results output accuracy: 0.0001s ~ 1s.

1.3 Main Functions

Starting system

1) High precision startup device: auto start the terminal timer when the gun goes off via the wireless startup device.
2) Provide synchronous starting signal, clear shots simulation and analog voice, such as on your mark, get set.
3) Wireless communication distance up to 500m.
4) Support multiple starting and storing trigger records.

Terminal timing system

1) Timing accuracy: 0.25ms; results release unit: 0.01s/0.001s
2) Shooting speed: 2000 frame/s
3) Terminal timer using CCD wide-angle viewfinder and the resolution can up to 2048P.
4) 100m high speed Ethernet connection.
5) Terminal timer comes with full color LCD display which can directly see the working state and equipment information.
6) Wide angle shooting adapts to various width of venue without changing the lens.
7) Pitch angle, brightness and contrast of images on terminal timer are adjustable via programs.
8) Quickly and accurately judge the results and ranks.

Karting timing software

1) Support parallel operation on shooting, memory interpretation and file interpretation.
2) Preview images and quickly locate the target image for results interpretation.
3) Restart the software can recovery timing from the computer crashes

4) Results output accuracy: 0.0001s ~ 1s
5) With simple choreography function for adjusting the match grouping table.
6) Open communication protocol interface for easy integration with the third-party management system.
7) Print transcripts on-site and generate result documents in multiple formats.
8) Support cloud service and wide area network performance.
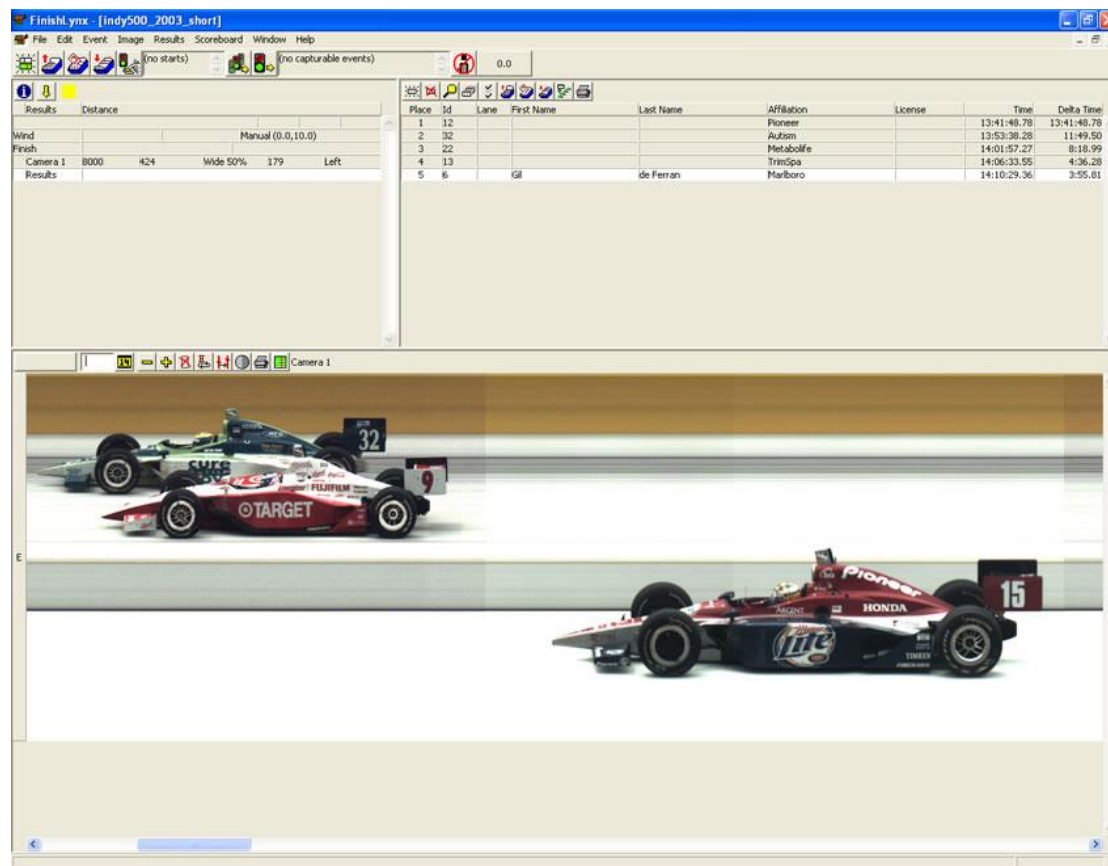
1.4 Product Configuration

No.	Products	Type	Qt.	Notes
1	Starting host	KS-PT110	1	
2	Starting handle	KS-PT100/A	1	
3	Flash indicator	KS-PT100/S	1	
4	Terminal timer	KS-PT210	1	
5	Lens	Nikon	1	
6	Shooting button	KS-PT200/A	1	
7	3D head	KS-PT200/S	1	
8	Karting timing software	KS-PT100	1	
Auxiliary equipment				
9	PC	/	1	500G hard disk, 2G memory
10	Laser printer	/	1	

2. Specification for products

2.1 Karting Timing Software

Products	Details
Karting Timing Software	Type: KS-PT100 ◆ Referee operations on the control computer. ◆ Support: Karting ◆ Support simultaneous operation of shooting and score interpretation. ◆ Restart the software can recovery timing from the computer crashes. ◆ Results output accuracy: 0.0001s ~ 1s ◆ Print transcripts on-site and generate result documents in multiple formats.

Software interface:

Kazo Vision
WEB: http://www.kazovision.com   MAIL: sales@kazovision.com

2.2 Starting Host

Products	Details
Starting Host	Type: KS-PT110 Communication: Wireless ◆ Wireless communication distance up to 500m. ◆ Provide synchronous and clear shots starting simulation. ◆ Provide analog voice, such as on your mark, get set.

2.3 Starting Handle

Products	Details
Starting Handle	Type: KS-PT100/A ◆ Communication: Wired ◆ Support multiple starting.

2.4 Flash Indicator

Products	Details
Flash Indicator	Type: KS-PT100/S ◆ Communication: Wired ◆ Provide synchronous starting signal.

2.5 Terminal Timer

Products	Details
Terminal Timer	Type: KS-PT210 Size: 230x125x110(mm) Weight: 2.25KG Power: 12V (±10%) DC Display: 320x240 LCD Communication Interface: 100M Ethernet ● Connected to the software and camera independently. ● Shooting speed: 2000 frame/s ● Timing accuracy: 0.25ms ● Resolution: 2048P ● Sensor: CCD ● Color: 8 bit black and white picture / full color picture