



Scoring & Timing Solution for Archery



1. Introduction

This is a standard solution for LED scoreboard display in archery competition.

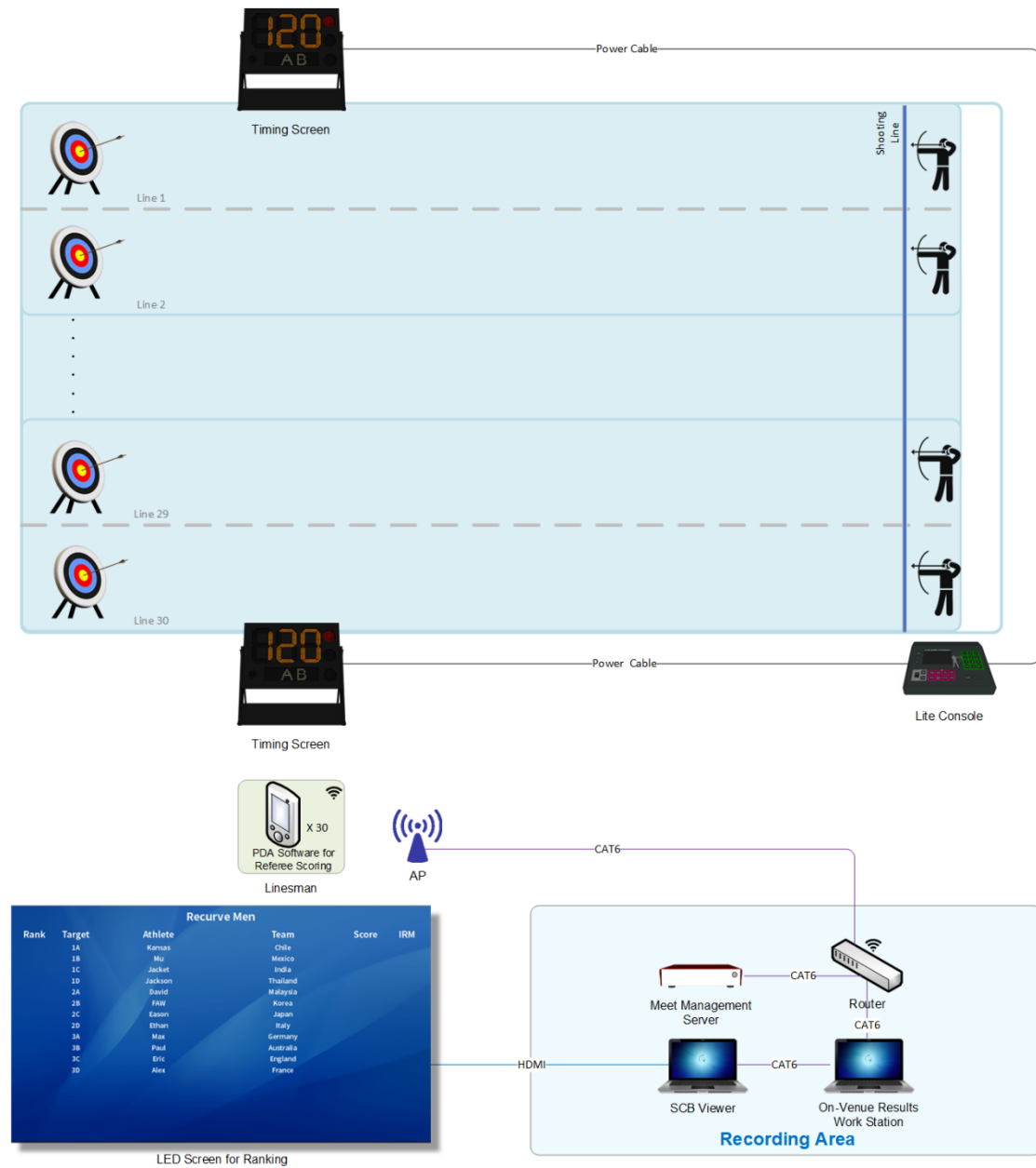
Through the collaboration of the scoring & timing system and meet management system, multiple functions can be completed, including game scheduling, on-site timing and scoring operation and display, player and referee information display, result reports and point ranking query output, advertising and temporary notification insertion, making it an ideal choice for many sports venues.

2021, Super Nova Games

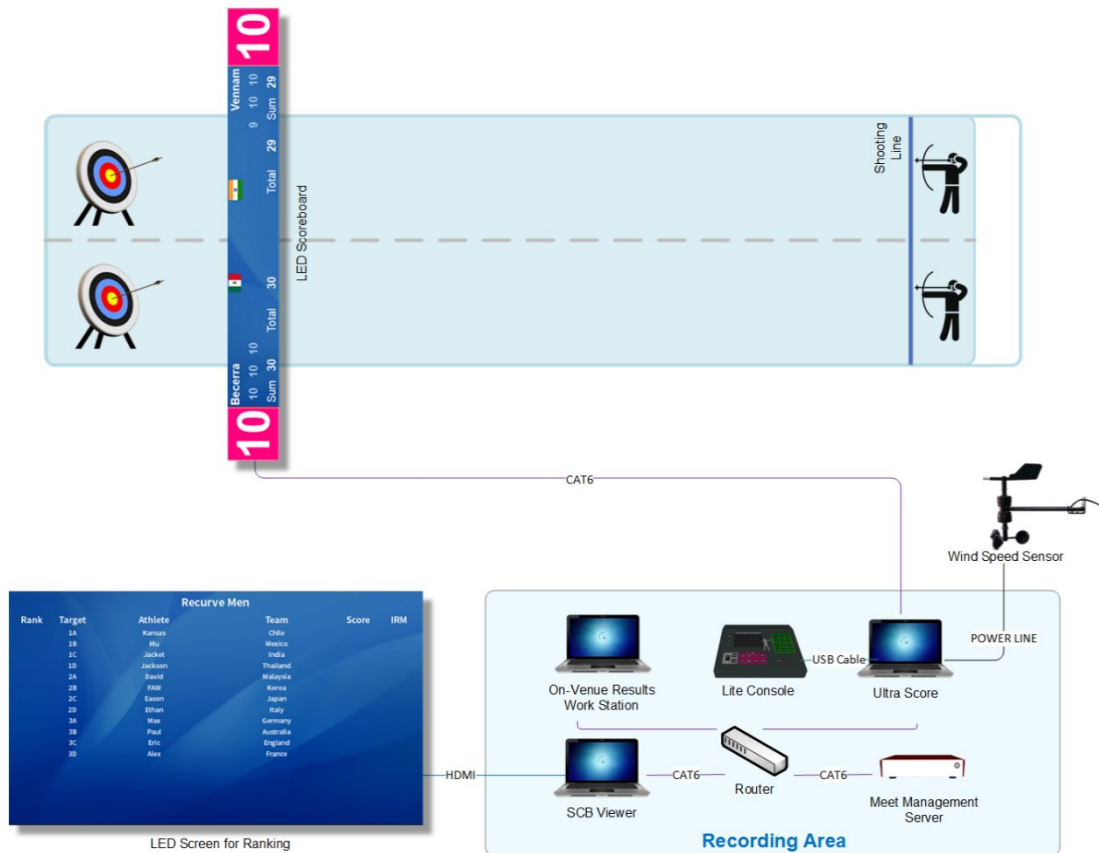


1.1 System Introduction

1.1.1 System Chart for Qualifying



1.1.2 System Chart for Knockout



System Description

- 1) **LAN:** A LAN is set up on the court, connecting the LED control PC, Ultra Score Terminal PC, Scoring & Timing Host, Referee Score Terminal, Meet Management Server, On-Venue Results Workstation and Printer to the LAN.
- 2) **LED Screen:** One or two LED screens are controlled by a PC which runs SCBVIWER software to show the results and ranking.
- 3) **Ultra Score Terminal PC:** It is set on the referee's table which is a core scoring & timing device used for referee timing and scoring operations.
- 4) **Lite Console:** Set on the referee's table, connected to Ultra Score Terminal PC via a USB cable, facilitating referee timing operations. It can be linked with the whole scoring & timing system as well as work independently to control the archery timing screens.
- 5) **Meet Management Server:** It is the core data processing equipment which is set on the Technical Table and connected to the LAN by network cable.
- 6) **Archery Timing Screen:** Connected to the Lite Console through a cable and used to display the game timing and indicate the game status during qualifying match.
- 7) **Archery LED Scoreboard:** Controlled by timing and scoring software, it is used to display competition timing, athlete information, scores, wind speed, wind direction, and other competition informations during the final match.

1.2 Functions

Event arrangement

- One key to import and to input the players' information are both available.
- To draw lots.
- To generate, export and print the bracket.
- To generate, export and print the order form.

Scoring & timing operation

- Supported match rules includes: Individual qualifying, Individual knockout, Team knockout, and Combination match.
- To display countdown in a real time.
- To manage the match states.
- To manage the match round.
- To make a point.

Results treatment

- Quick printing and exporting the result form.
- Quick printing and exporting player rankings list.
- Quick printing and exporting the form of referee operations.

System advantages

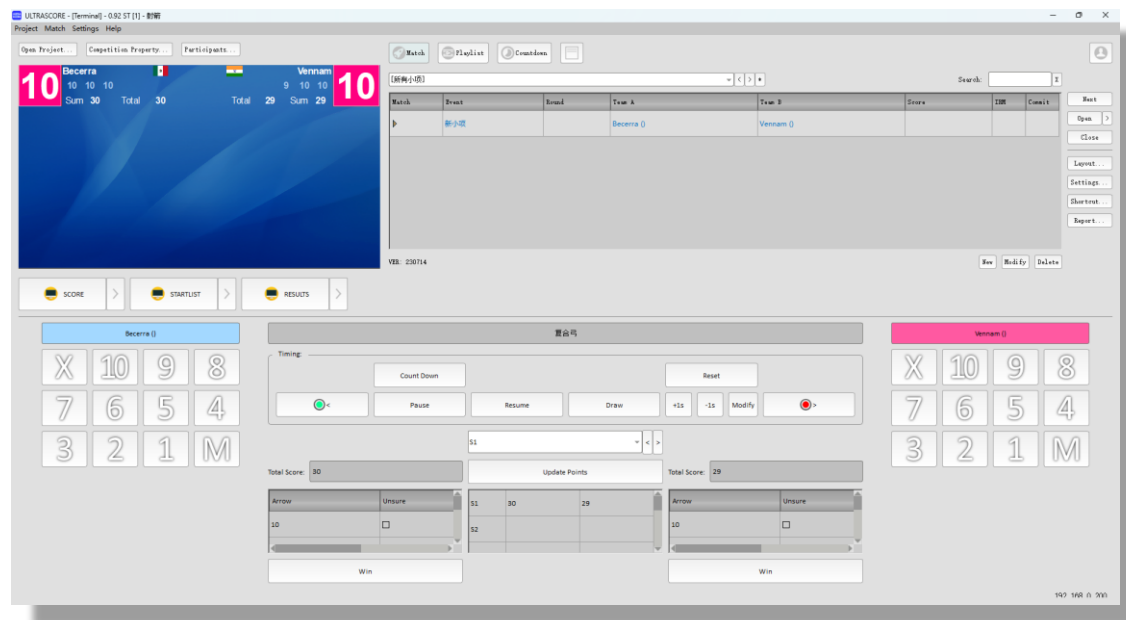
- Information will be saved automatically in case of power out and other emergency situations.
- Providing free software upgrading service in lifetime.

2. Match Scoring System

2.1 Ultra Score Software

Products	Details
Standalone Edition	<ul style="list-style-type: none"> ◆ Support: Archery Individual qualifying, Individual knockout, Team knockout ◆ Installed on one PC. ◆ Supports: Archery ◆ English version ◆ Including 1 dongle ◆ Suitable for on-site scoring & timing in archery competitions ◆ Support single venue score entry and real-time on-screen display. ◆ Can display the current score, game score, team and player information on the LED.

Arrangement interface for archery:



Scoring and timing display for archery:



2.2 Score Display Software

Products	Detail
Score Display Software	<p>Model: SCB VIEWER Support: Archery</p> <p>Functions:</p> <ul style="list-style-type: none"> ◆ Layout of scoreboard can meet international game rules. ◆ All contents on the scoreboard including fonts, color and layout can be modified to meet clients' needs. ◆ Used for displaying player information, score and bureau score of a single court. ◆ Used for displaying player information, score and bureau score of multiple sites. ◆ The summary display screen can automatically adjust the display layout according to the competition process. ◆ The picture is updated in real time according to the referee's operation. ◆ Automatic data backup. In case of computer failure or power failure, the previous screen will be restored after restart.

Recurve Men					
Rank	Target	Athlete	Team	Score	IRM
	1A	Kansas	Chile		
	1B	Mu	Mexico		
	1C	Jacket	India		
	1D	Jackson	Thailand		
	2A	David	Malaysia		
	2B	FAW	Korea		
	2C	Eason	Japan		
	2D	Ethan	Italy		
	3A	Max	Germany		
	3B	Paul	Australia		
	3C	Eric	England		
	3D	Alex	France		

2.3 Lite Console

Item	Details
Lite Console	<p>Model: KS-GC15-AR Size: 265x220x100 (mm) Used with the Ultra score software Communication: USB, RS485 With 4.3" color LCD screen Material: Iron + Plastic Support: Archery</p> <p>◆ Functions: ◆ Scoring, control the match timer, group and individual ranking, group and individual knockout, etc.</p>



2.4 Timing Screen

Item	Details
Timing Screen	<p>Model: KS-AR10 Size: 1190x827x80(mm) Material: Aluminum box, outdoor waterproof Color: Black Net weight: 30kg Buzzer: 110dB Support: Archery Communication: RS485 Functions:</p> <ul style="list-style-type: none">◆ Supports individual elimination matches◆ Real time countdown display◆ Control timing status◆ Can be used independently with Lite Console◆ Simultaneously supporting game timing and scoring software linkage.





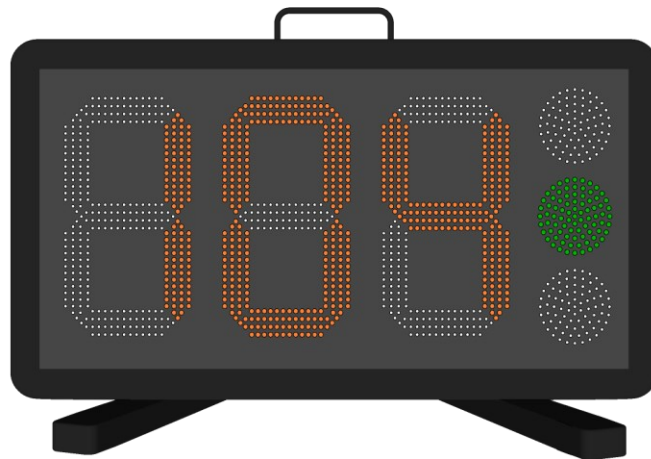
2.5 Flight case for Timing Screen

Item	Details
Flight case for Timing Screen	Model: KS-FLCASE-12906851080 Size: 1290*685*1080(mm) Functions: ◆ Easy to store and transport the screen.



2.6 Archery Mini Timing Screen

Item	Details
Archery Mini Timing Screen	<p>Model: KS-AR10-mini Size: 630x350x60(mm) Used with the Ultra score system. Material: Aluminum cabinet Waterproof: IP65 Support: Archery Net weight: 6kg Functions: ◆ display match timer; support series connection; real time display</p>



2.7 Communication Spool

Item	Details
Communication Spool	Model: KS-AR-W ◆ Size: 365x240x415 (mm) ◆ Material: Iron ◆ Cable: 100M



2.8 Wind Speed Sensor

Products	Details
Wind Speed Sensor	<p>Model: KS-WSP-Sensor Power: 0.9W Weight: 0.5KG Start wind speed: ≤ 0.5m/s Accuracy: Wind speed: $\pm(0.3+0.03V)$ m/s Direction: $\pm 3^\circ$ Resolution: Wind speed: 0.1m/s Direction: 1° Level of protection: IP64 Cable grade: Rated voltage(300V 80°C) Measuring range: Wind speed: 0~45m/s (electricity & voltage output), 0~70m/s (impulse, 485, 232 output) Direction: 0~359° Functions: ◆ Must be used together with Archery Scoring Software. ◆ Gather the wind speed on the court, and display on the scoreboard.</p>



2.9 LED Scoreboard for Archery

Products	Detail
LED Scoreboard for Archery	<p>Module: P5 Outdoor Full Color Cabinet: Outdoor waterproof die cast aluminum Color: Black Single box size: 640*640mm Number of boxes: 9 Total screen size: 5760*640mm Total pixels: W1152*H128 Composition: Display screen*9, bracket*9, flight case*3 Display content: Wind speed and direction display, team and team member information, team emblem, national flag, logo display White balance brightness (nits) ≥ 4500 Color temperature (K) 3000-15000 adjustable Horizontal viewing angle (°) 160 Vertical viewing angle (°) 140 Deviation from the center of the luminous spot < 3% Brightness uniformity $\geq 97\%$ Contrast 5000:1 Peak power consumption (W/m²) ≤ 900 Average power consumption (W/m²) ≤ 300 Power supply requirement (V) DC: 4.5 Drive mode: Constant current drive for 8S Frame switching frequency (Hz) 50&60 Refresh rate (Hz) $\geq 3840/\geq 1920$ optional Lifetime typical value (hs) 100000 Working temperature range (°C) -20-40 Storage temperature range (°C) -20-60 Working humidity range (RH) 10--80% without condensation Storage humidity range (RH) 10-85% without condensation</p>

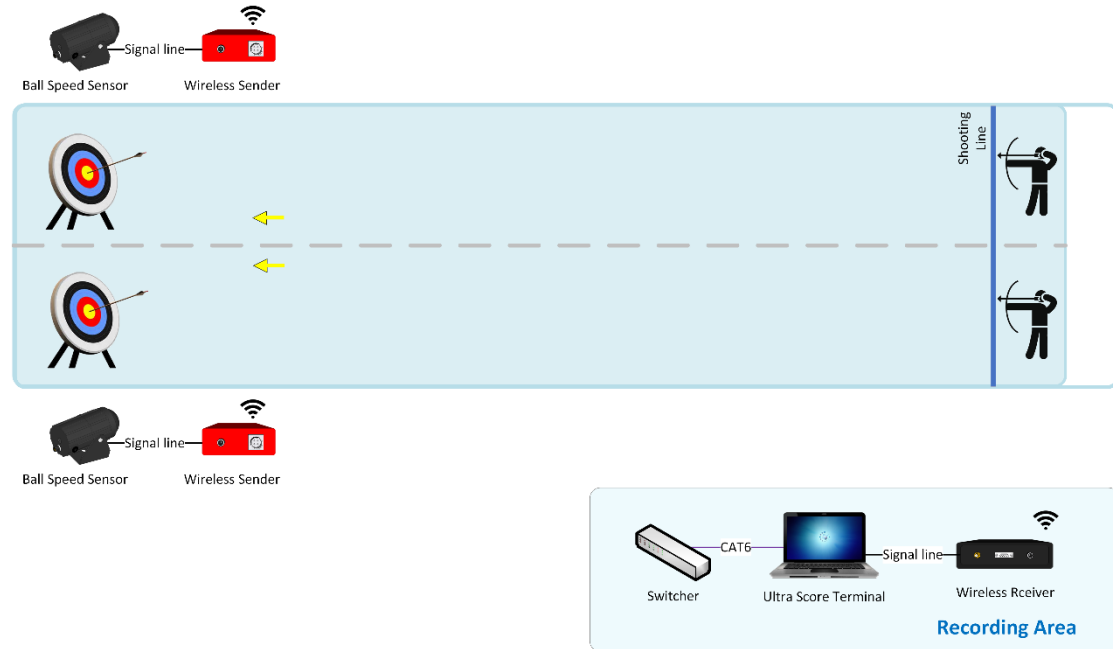




2.10 Arrow Speed Measurement System

It can be used for real-time measurement and display of athletes' arrow speed in the final stage.

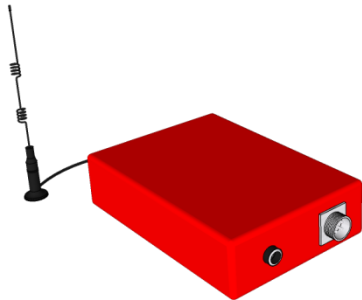
System Chart



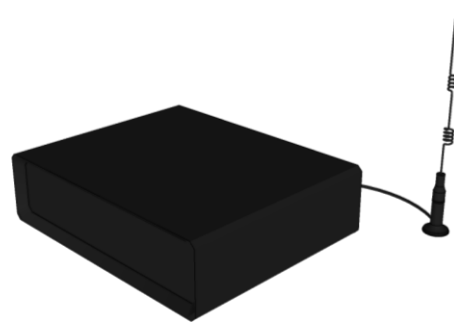
2.10.1 Wireless Host for Arrow Speed Sensor

Products	Detail
Wireless Host	<p>Model: KS-BSPD</p> <p>Wireless Sender Size: 150x100x35 (mm)</p> <p>Wireless Receiver Size: 150x100x35 (mm)</p> <p>Communication: 433MHz</p> <p>Function:</p> <ul style="list-style-type: none">◆ System: Must be used together with Ultra score software.◆ Communication Setting: allow to customize the communication frequency band.◆ Communication distance: 20m

Wireless Sender



Wireless Receiver



2.10.2 Arrow Speed Sensor

Item	Details
Arrow speed sensor	<p>Model: KS-BSP-Sensor</p> <ul style="list-style-type: none">◆ Speed Range: 5-890MPH◆ Accuracy: +/-0.1 MPH◆ Max Distances: 300 feet◆ Support: Archery◆ Compatible with Ultra score software.◆ Track arrow speed on serves and returns from courtside.

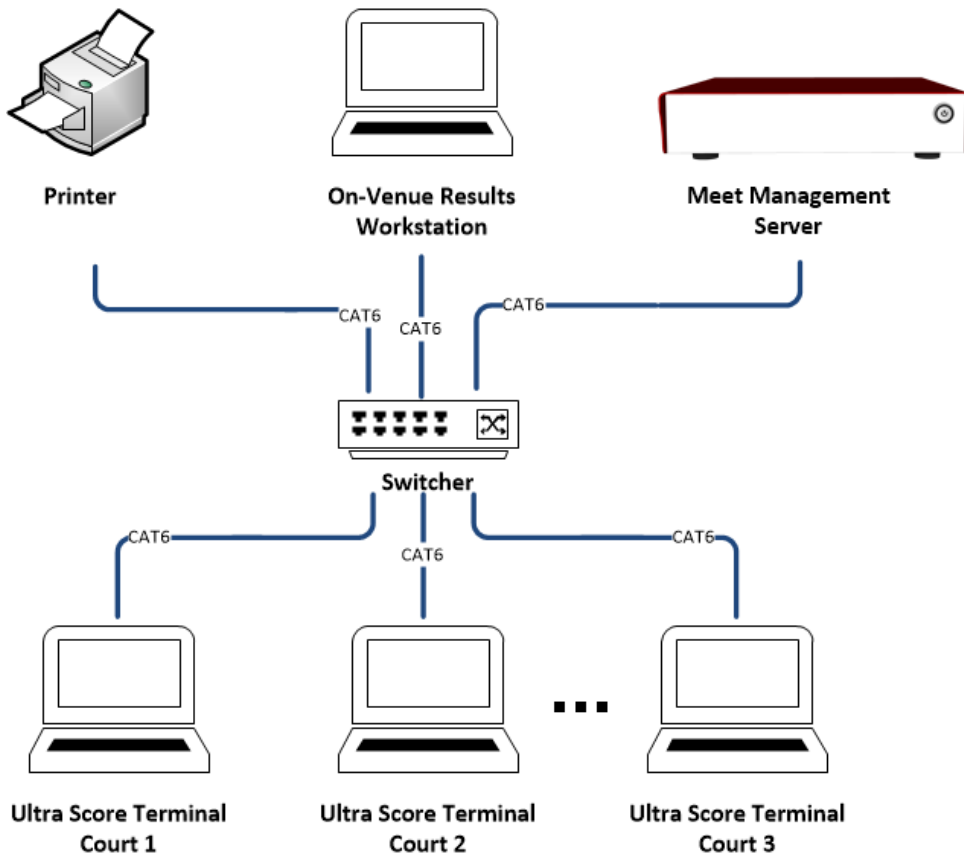


3. Meet Management System

It is composed of Meet Management Server, On-Venue Results Workstation, Printer, etc. Linking with Online Registration System, Match Scoring System and Basketball Stats System, it can realize:

- 1) **Participants Management:** Information management of players, teams and referees. Both import and input registration form are available. And auto generate the order form.
- 2) **Match Schedule:** Auto draw the players' lots. Multi-project arrangement makes the schedule more smoothly. Auto generate the bracket, order form and round form.
- 3) **Result Management:** Receive or record the results. Determine the players' rank, admission or elimination at each stage. Print the results announcement and send to the LED display system, TV broadcasting system and comprehensive meet manage system.
- 4) **Technical Statistics Arrangement:** Combine with the basketball stats software, it can summarize the info of teams' score, teams' timeout, teams' foul, players' substitution, players' foul, players' comprehensive results, and generate the integrated report.

3.1 System Diagram



3.2 Meet Management Server

Products	Details
Meet Management Server	<p>Model: KS-MMS-MINI</p> <p>Size: 260x135x35 (mm)</p> <p>Weight: 1.0 KG</p> <p>Features:</p> <ul style="list-style-type: none">● 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.

