



## Scoring & Timing Solution for Korfball



## 1. Introduction

This is a professional solution for LED scoreboard display in Korfbal stadiums.

Mainly for large-scale Korfbal matches which held in professional sports venues.

The system functions conform to IKF rules.

Match arrangement, real-time scoring & timing display, players' & referees' info display, rank statistics export & print, and advertising display can be realized through the coordination of Match Scoring System, Meet Management System, etc.

It is an ideal choice for most of smart and professional stadiums.

### 1.1 System Architecture

The whole system is composed of several subsystems, including: Match Scoring System and Meet Management System.

Each subsystem can not only work independently, but also work together to share the data.

It is flexible for customers to configure according to the actual application.

- **Match Scoring System**

Match Scoring System named ULTRA SCORE is composed of Ultra Score Software, Match Scoring & Timing Host, Referee Scoring & Timing Terminal, Shot Clock, etc.

It is mainly operated by the referees to realize the scoring and timing work and real-time scoreboard display.

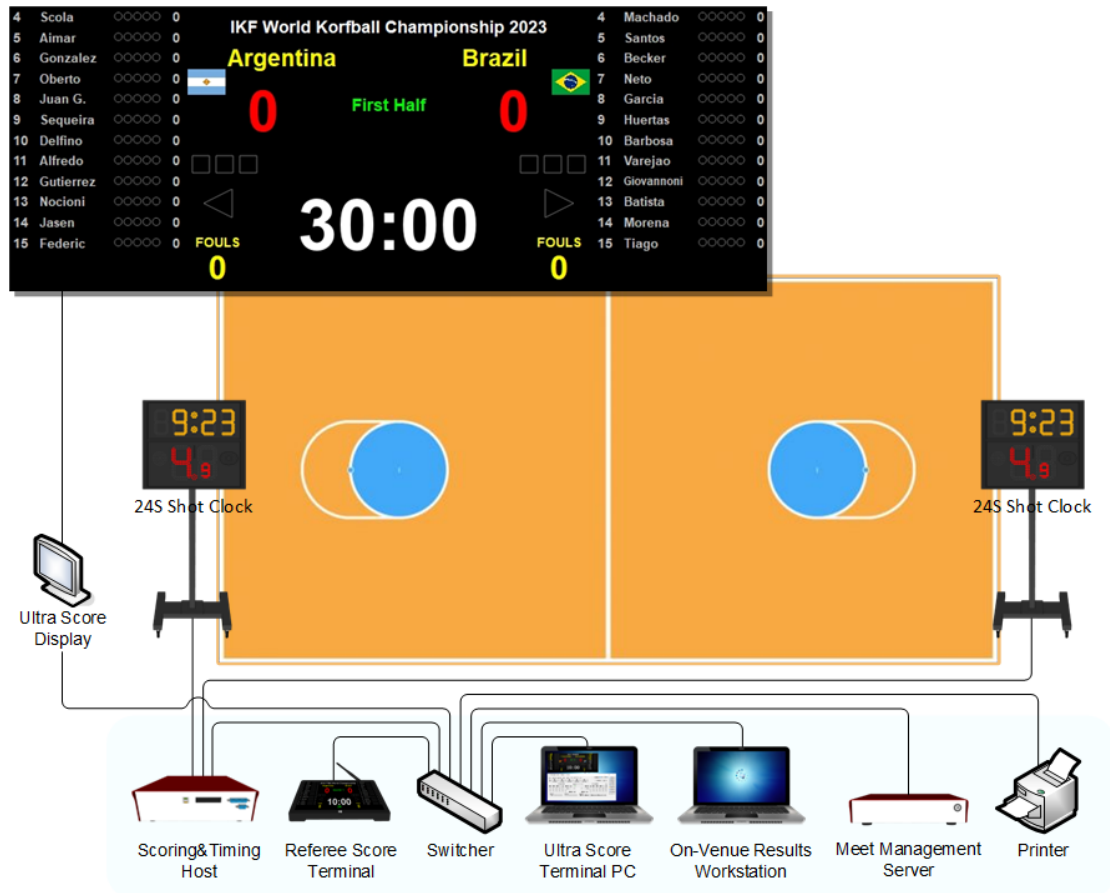
The system functions conform to IKF rules.

- **Meet Management System**

It is composed of Meet Management Server, On-Venue Results Workstation, Printer, etc.

Linking with Online Registration System and Match Scoring System, it can realize: participants management, match schedule, result management, technical statistics, court arrangement, rank statistics, etc.

## 1.2 System Chart



### System Description

- 1) **LAN:** A LAN is set up in the stadium. Connect the LED control PC, Ultra Score Terminal PC, Match Scoring & Timing Host, Referee Scoring & Timing Terminal, Basketball Stats Workstation, Meet Management Server, On-Venue Results Workstation and Printer to the LAN.
- 2) **LED Screen:** One or two LED screens are controlled by separate computers which connect with LED sending cards. Both of the LED screens can show the same contents or different contents as required.
- 3) **Match Scoring & Timing Host:** It is the core scoring & timing equipment which is installed in the Officials Table and has the function of hot backup. Use the special cables to connect the Shot Clock to the host.
- 4) **Shot Clock:** Two shot clocks installed on both sides of the site and connect with Match Scoring & Timing Host with 5-core cables or through wireless communication.
- 5) **Referee Scoring & Timing Terminal:** Installed in the Officials Table for referee's operation of score and penalty. It can be connected to the LAN through network cable or WIFI.
- 6) **Meet Management Server:** It is the core data processing equipment which is installed in the Technical Table and connected to the LAN by network cable.

## 2. Specification for products

### 2.1 Ultra Score Software

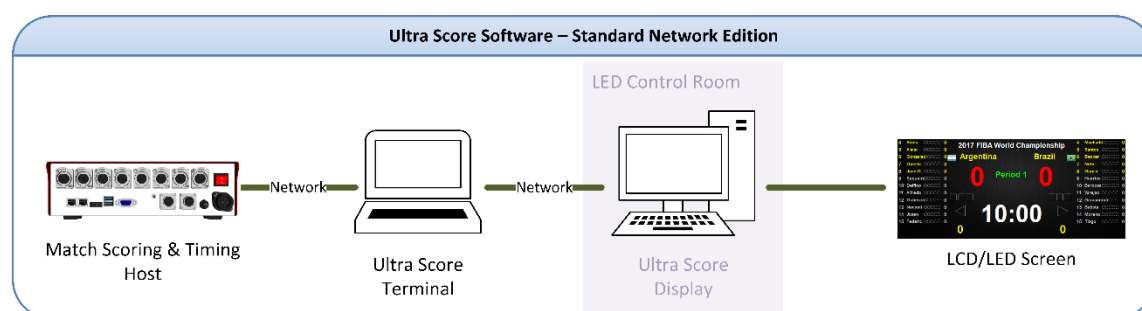
Products	Details
Standard network edition	<ul style="list-style-type: none"> <li>◆ Terminal + 1 Display</li> <li>◆ Supports: Korfball</li> <li>◆ Including 1 dongle</li> </ul>
Professional network edition	<ul style="list-style-type: none"> <li>◆ Terminal + Referee + 2 Display</li> <li>◆ Supports: Korfball</li> <li>◆ Including 1 dongle</li> </ul>

#### Difference:

##### Standard Network Edition:

Score terminal and media player functions can be installed on 2 PCs respectively. So that one independent PC can be setup on the courtside special for referee's operation, the other PC running as media player to manage the LED display.

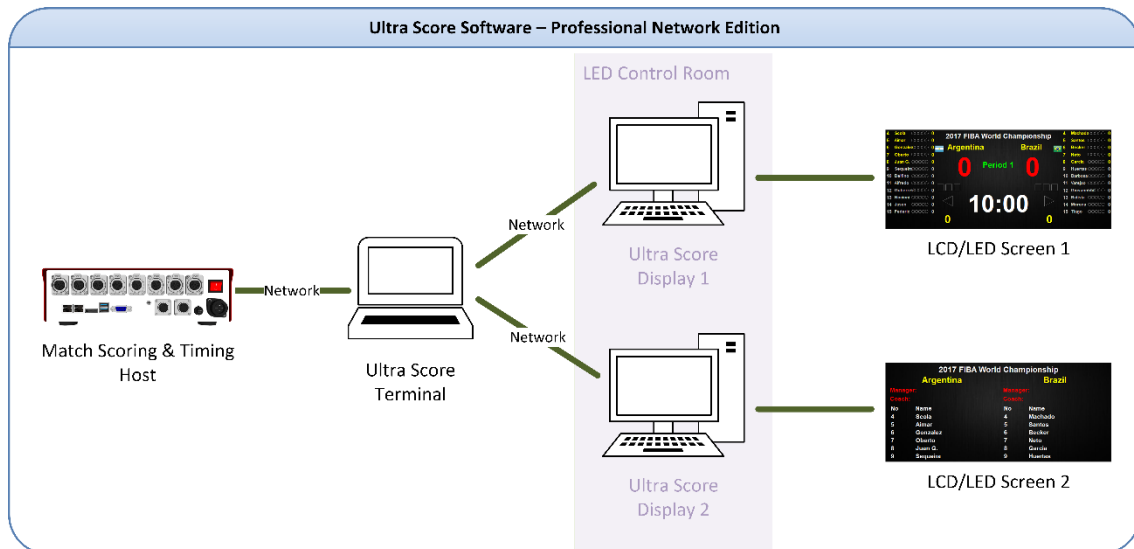
- It is suitable for the stadium where has one screen, needs to do the scoring and timing on the courtside.



##### Professional Network Edition:

Except the function of score terminal, 1-3 media players can be equipped on PCs separately, in order to display different contents on several LED screens.

- It is suitable for the stadium where has more than 2 screens where referee need to do scoring on the courtside and LED screens need to display different contents separately. (For example, one LED screen is for scoreboard and another is for advertising or player info).



### Features:

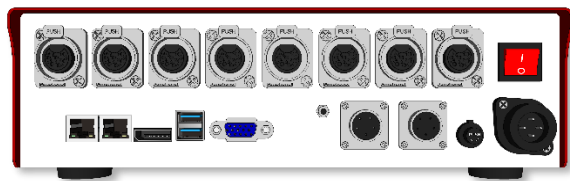
- (1) Professional scoreboard display: Scoring and timing operation, layout of scoreboard can meet international game rules.
- (2) Match management: Information of match, team, team members and coaches can be saved in advance. And referee's scoring operation during the match can be recorded and output.
- (3) Scoring functions: Include operation and display of teams' and players' points, fouls and substitutions.
- (4) Timing functions: Include operation and display of game time, pause, break time, count down time and system time.
- (5) Convenient operation feeling: Referees can do operation on a special score console as well as by using shortcuts on the keyboard.
- (6) Powerful media player: Kinds of media formats are supported. It is easy to switch between scoreboard and video.
- (7) Notification: Rolling to display short notice on the screen which allows to set the speed, colors, fonts freely.
- (8) Customization: All contents on the scoreboard including fonts, color and layout can be modified to meet clients' needs.
- (9) Self-adaptation: With easy configuration, score information can be displayed on kinds of LED and LCD screen by using this system which can adjust the layout to meet any sizes of screen.
- (10) Security: Auto backup function will help you recover the match immediately from the computer fault.

Display effects:

**IKF World Korfball Championship 2023**

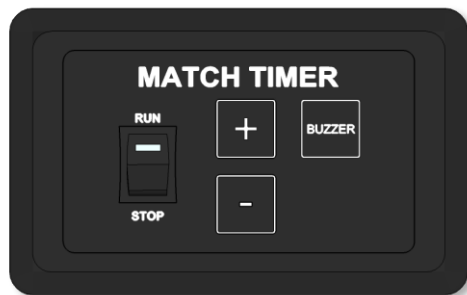
4 Scola ○○○○○ 0 5 Aimar ○○○○○ 0 6 Gonzalez ○○○○○ 0 7 Oberto ○○○○○ 0 8 Juan G. ○○○○○ 0 9 Sequeira ○○○○○ 0 10 Delfino ○○○○○ 0 11 Alfredo ○○○○○ 0 12 Gutierrez ○○○○○ 0 13 Nocioni ○○○○○ 0 14 Jasen ○○○○○ 0 15 Federic ○○○○○ 0	<div style="display: flex; justify-content: space-between;"><div style="text-align: center;"> <b>Argentina</b> <b>0</b></div><div style="text-align: center;"><b>First Half</b></div><div style="text-align: center;"> <b>Brazil</b> <b>0</b></div></div> <div style="display: flex; justify-content: space-between; margin-top: 20px;"><div style="text-align: center;">□ □ □ ◀</div><div style="text-align: center; font-size: 2em;"><b>30:00</b></div><div style="text-align: center;">▶ □ □ □</div></div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"><div style="text-align: center;"><b>FOULS</b> <b>0</b></div><div style="text-align: center;"><b>FOULS</b> <b>0</b></div></div>	4 Machado ○○○○○ 0 5 Santos ○○○○○ 0 6 Becker ○○○○○ 0 7 Neto ○○○○○ 0 8 Garcia ○○○○○ 0 9 Huertas ○○○○○ 0 10 Barbosa ○○○○○ 0 11 Varejao ○○○○○ 0 12 Giovannoni ○○○○○ 0 13 Batista ○○○○○ 0 14 Morena ○○○○○ 0 15 Tiago ○○○○○ 0
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## 2.1.2 Match Scoring & Timing Host



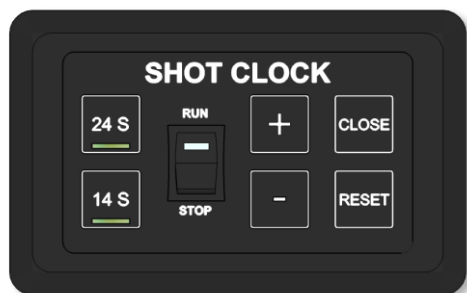
### Match Scoring & Timing Host

Model	KS-MONSTER
Size	260 x 280 x 80 (mm)
Support	Korfball
Other	Supports hot switching between the main and backup system.



### Match Timer Handheld

Model	KS-G-MT
Size	120x80x25(mm)
Communication	Wired
Function	Match timer start, pause, adjustment and buzzer control.



### Shot Clock Handheld

Model	KS-G-ST
Size	120x80x25(mm)
Communication	Wired
Function	Shot Clock Timer start, pause, adjustment, close and reset.

Item	Details	Item	Details
Product	Match Scoring & Timing Host	Model	KS-MONSTER
Size	260 x 280 x 80 (mm)	Net Weight	3 KG
Material	Iron	Power	60W
CPU	Intel J3160	RAM	8GB
Communication	RJ45×2	Hard Disk	64GB
Video Output	VGA×1, DP×1	Input Voltage	AC 100~240V
Working Temp	0-60°C	Relative Humidity	5%-95%, non-condensing
Language	English	Timing Accuracy	<=10ms
Port	G-Port×8, Shot Clock port×2, Audio×1, USB×2, Serial port×1		
Accessories	Match Timer Handheld *1, Shot Clock Handheld *1		
Supporting Games	Korfbal		
Functions	<ol style="list-style-type: none"> <li>1. Timer functions: Timing in minute, second, tenth of a second, 25S and timing in count up and count down, start, pause, reset, correct are available.</li> <li>2. Scoring functions: Modify the score of the team and player.</li> <li>3. Penalty functions: Team foul control, Player foul control, Player penalty time control, Substitution control, yellow/red card control, etc.</li> <li>4. Supports match rule setup.</li> <li>5. Synchronous control of Shot Clock.</li> <li>6. Adjust the brightness of Shot Clock.</li> <li>7. Provides buzzer sound output, which can be connected to the venue's public address system or speakers.</li> <li>8. Supports hot switching of the main and backup servers. In case of the main server fails, just manually switch to the backup server to ensure the data intact. And in case of power failure, the previous screen will be restored after restarting.</li> <li>9. Supports the post-match celebration mode.</li> <li>10. Supports real-time data output, which can be used for live broadcast.</li> <li>11. Monitoring the status of scoring devices, providing convenient fault diagnosis (with a separate monitor).</li> <li>12. Anti-loose port ensures the safety of match data.</li> </ol>		



### 2.1.3 Referee Timing & Scoring Terminal



#### Detailed parameters

Item	Details	Item	Details
Product	Referee Timing & Scoring Terminal	Model	KS-GC18
Size	281 x 173 x 39 (mm)	Material	PVC + Metal
Touch LCD	11.6 inch	Resolution	1920*1080
OS	WIN 10	Battery	No Built-in Battery
Communication	LAN / WLAN	Hard Disk	SSD 180GB
Video Output	HDMI*1	RAM	8GB
Functions	<ol style="list-style-type: none"> <li>1. Timer: Includes minute, second, deci-second, 25S timing function. And also have count up, count down, start/pause/reset/correct timing functions.</li> <li>2. Scoring function: Modify the score of the team and player.</li> <li>3. Penalty function: Team foul control, Player individual foul control, Player Penalty control, Substitution control, Player yellow/red card control, etc.</li> </ol>		

## 2.1.4 Basketball Shot clock



### Shot Clock

Model:	KS-BASH-C/S
Size:	710x610x60 (mm)
Display	Single Side

### Detailed parameters

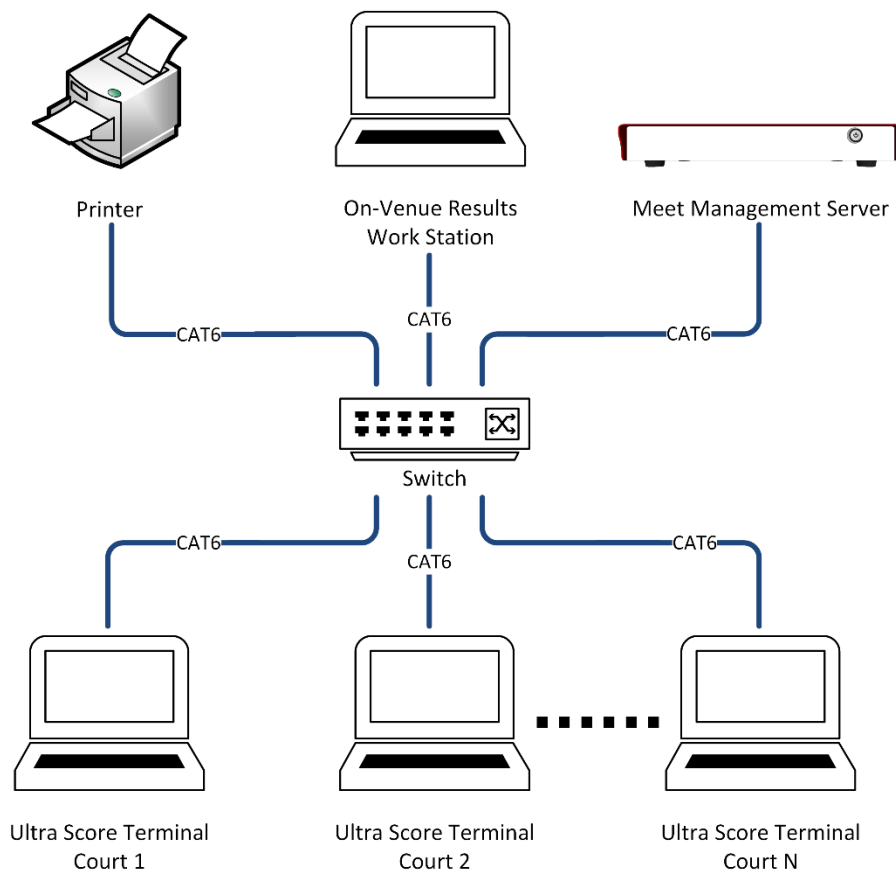
Item	Details
Product	<b>Single-sided Shot Clock</b>
Model	KS-BASH-C/S
Size	710x610x60mm
Input Voltage	AC 100V~240V
Power	60W
Material	Aluminum
Weight	10KG
Communication	Wired + Wireless (433MHz)
Implementation of Standards	International Sports Competition Rules
Packing List	Display*2, Communication Cable 50M*2, Stands*2, User Manual*1
Best Sight	Best Visual Distance: 5M---100M Best Viewing Angle: 0°---90°
Functions	
<ol style="list-style-type: none"> <li>1. Shot Clock: Decisecond display in last 5 second</li> <li>2. Synchronously display the 25S countdown with the Scoreboard</li> </ol>	

## 2.2 Meet Management System

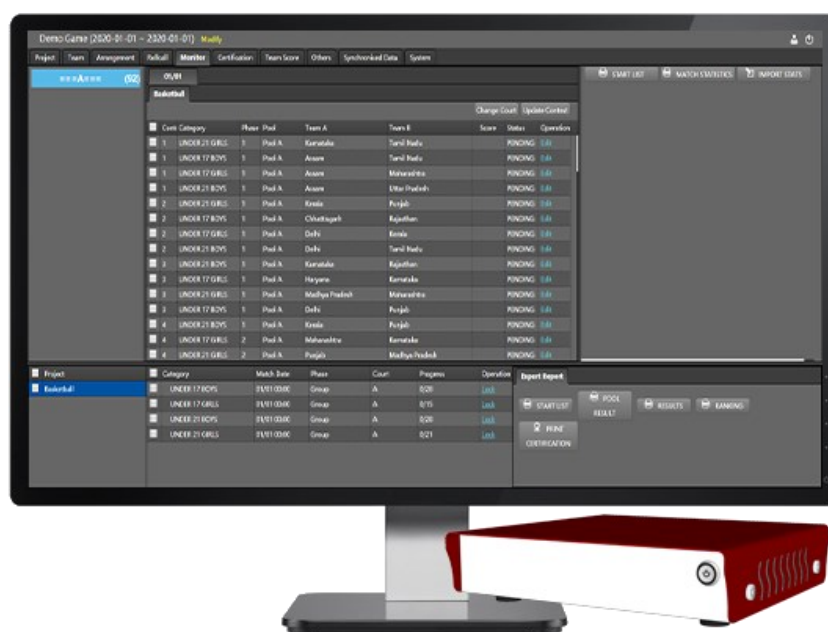
It is composed of Meet Management Server, On-Venue Results Workstation, Printer, etc. Linking with Online Registration System, Match Scoring System and Basketball Stats System, it can realize:

- 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.

### 2.2.1 System Diagram



## 2.2.2 Meet Management Server



Item	Details	Item	Details
Product	Meet Management Server	Input Voltage	12V DC
Model	KS-MMS-MINI	Weight	1.0 KG
Size	260x135x35 (mm)	Port	VGA*1, DP*1, USB*2
RAM	4GB	CPU	Intel J3160
Hard Disk	64G	Communication	LAN*1
Functions	<ol style="list-style-type: none"> <li>1. Easy to create a match, and import the match entry information.</li> <li>2. Arrangement the match with variants of game systems. Including elimination, round-robin, etc.</li> <li>3. Provide the match information to the scoring software on each venue/court.</li> <li>4. Gather the real time score and statistics information from the scoring software. Monitor the progress of the match.</li> <li>5. Generate standard reports for the match, including start-list, results, combined results, ranking, etc.</li> <li>6. Print certifications with adjustable print templates.</li> <li>7. Print the team score report.</li> <li>8. Open interface with ODF compatible data feed.</li> </ol>		