



FIBA
APPROVED
EQUIPMENT



Scoring & Timing Solution for Basketball



1. Introduction

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

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

The system functions conform to FIBA, FIBA 3V3 and NBA rules.

Match arrangement, real-time scoring & timing display, players' & referees' info display, rank statistics export & print, slow motion video record & playback, and advertising display can be realized through the coordination of Match Scoring System, Meet Management System, Sports Stats System, Video Arbitration System, etc.

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

Oriental Sports Center of Shanghai



1.1 System Architecture

The whole system is composed of several subsystems that are Match Scoring System, Meet Management System, Basketball Stats System and Video Arbitration 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 is composed of Ultra Score Software, Match Scoring & Timing Host, Referee Scoring & Timing Terminal, Shot Clock, Backboard Light, Possession Display, Foul Display, Electronic Buzzer, Electronic Whistle Timing System, 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 FIBA, CBA, FIBA 3V3 and NBA rules.

- **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 participants management, match schedule, result management, technical statistics, court arrangement, rank statistics, etc.

- **Basketball Stats System**

Consists of Basketball Stats Software and Workstation.

The system can record the points, shot position, assistant, foul, rebound of each player during the basketball game. Linking with Online Registration System and Match Scoring System, the timing and scoring data will be exactly synchronized with them.

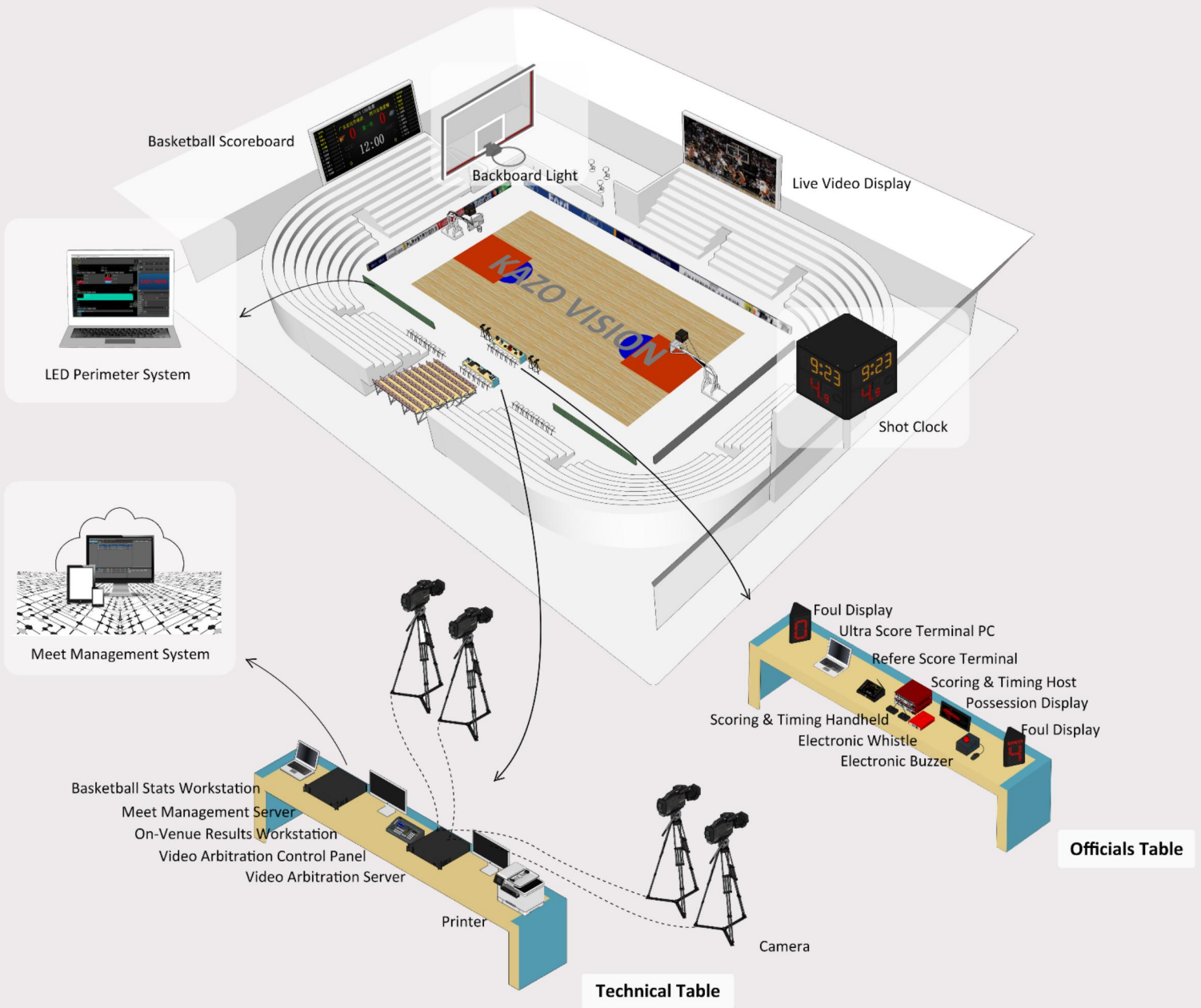
It also can generate a professional and detailed statistics report and provide data sharing for website and platform.

- **Video Arbitration System**

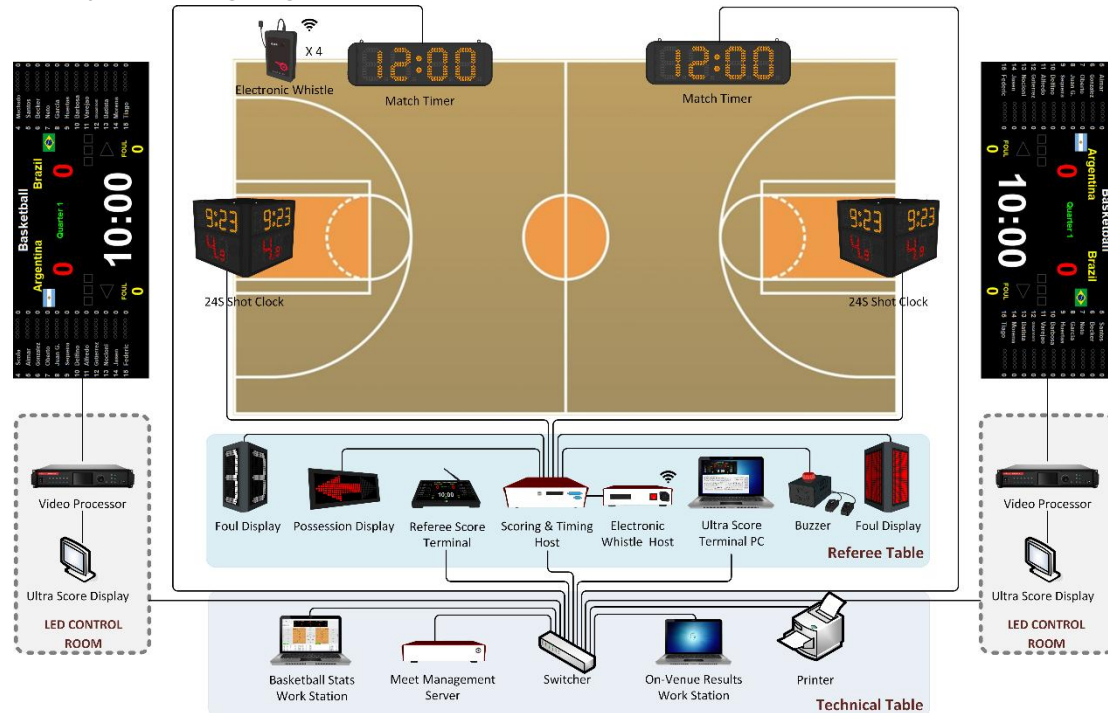
Video Arbitration System named PARROT is composed of video arbitration server, control panel and cameras.

It is operated by the referees during the match. When working with Match Scoring System, referee's score operation will be marked on the frame of video automatically, whilst playback them in slow motion with changes in speed.

It can be used to provide technical support when a dispute happens during the match, so as to reduce the misjudging, to ensure fairness and justice in the match.



1.2 System Wiring Diagram



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 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, Foul Display, Possession Display, Electronic Buzzer and Thermal Printer to the host.
- 4) **24S Shot Clock:** Two shot clocks are installed on the basketball backboards and connected to Match Scoring & Timing Host with 5-core cables or through wireless communication.
- 5) **Referee Scoring & Timing Terminal:** Set on the Officials Table for referee's operation of score and timing which is connected to the LAN through network cable or WIFI.
- 6) **Electronic Whistle Timing System:** The electronic whistle host is set on the Officials Table communicating with Match Scoring host in real time. Referees on the court wear wireless transmitter to get the sound signal from whistle to control the timing of the match.
- 7) **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.
- 8) **Basketball Stats Software:** Set on the Technical Table to work independently or connect to the LAN to obtain the match data from Ultra Score System.

2. Product Specification

Match Scoring & Timing System

Match Scoring System is composed of Ultra Score Software, Match Scoring & Timing Host, Referee Scoring & Timing Terminal, Shot Clock, Backboard Light, Possession Display, Foul Display, Electronic Buzzer, Electronic Whistle Timing System, etc.

It is mainly operated by the referees to realize the functions that

- 1) Auto synchronizes between the Main and Backup system. Hot switching backup system.
- 2) Manages all devices from one host: Possession Arrow, Foul Display, Buzzer. Adjust the brightness of each device separately.
- 3) Timing handhelds for match timer and shot clock timer can be adjusted in 1/10 seconds.
- 4) Modifies the team score and player individual score.
- 5) Controls team foul and player individual foul, player substitution, etc.
- 6) Wired or wireless controls the shot clock.
- 7) Real-time data outputs which can be used for TV broadcast.

2.1 Ultra Score Software

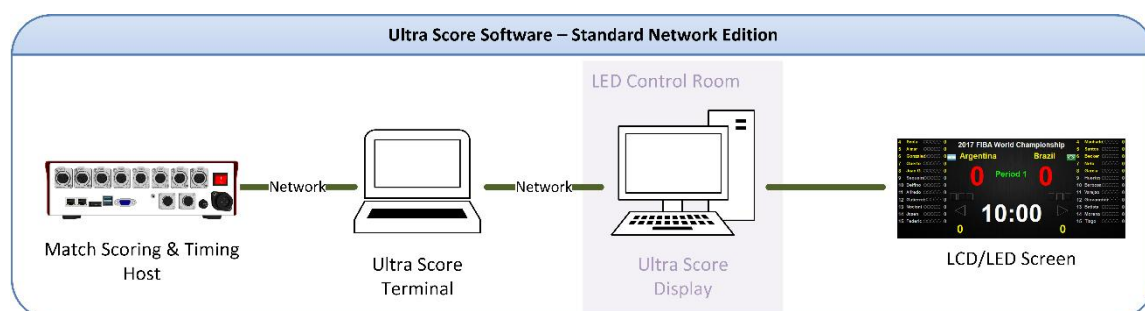
Products	Details
Standard network edition	<ul style="list-style-type: none"> ◆ Terminal + 1 Display ◆ Supports: Basketball, Football, Volleyball, Tennis, Table tennis, Badminton ◆ Including 1 dongle
Professional network edition	<ul style="list-style-type: none"> ◆ Terminal + Referee + 2 Display ◆ Supports: Basketball, Football, Volleyball, Tennis, Table tennis, Badminton ◆ Including 1 dongle

Difference:

Standard Network Edition:

Score terminal and media player functions can be installed on 2 PCs respectively so that PC with score terminal can be set on the courtside special for referee's operation, the other PC running media player to manage the LED display.

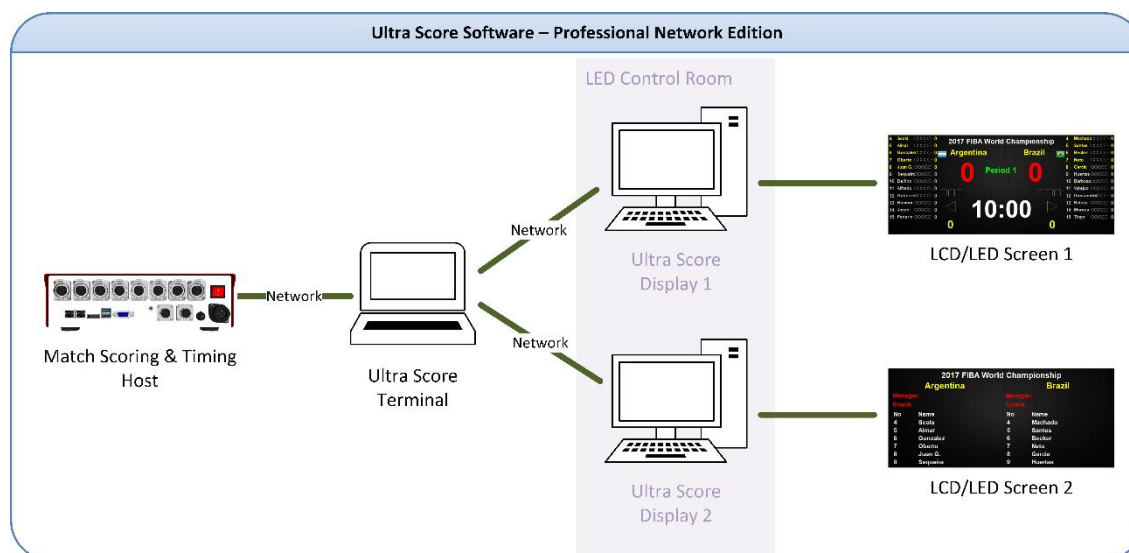
- It is suitable for the stadium which has one screen, needs to do the scoring and timing on the courtside.



Professional Network Edition:

One PC with score terminal is set on the courtside for referee's operation and more than 2 media players can be installed on PCs separately to display different contents on different LED screens.

- It is suitable for the stadium where has more than 2 screens which need to display different contents separately.
(For example, one LED screen is for scoreboard display, 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 dimensions of

screen.

(10) Security: Auto backup function will help you recover the match immediately from the computer fault.

Display Effects

Basketball scoreboard 1:

Basketball

Argentina **Brazil**

0 **Quarter 1** 0

10:00

FOUL 0 FOUL 0

4 Scola	00000	0	4 Machado	00000	0
5 Aimar	00000	0	5 Santos	00000	0
6 Gonzalez	00000	0	6 Becker	00000	0
7 Oberto	00000	0	7 Neto	00000	0
8 Juan G.	00000	0	8 Garcia	00000	0
9 Sequeira	00000	0	9 Huertas	00000	0
10 Delfino	00000	0	10 Barbosa	00000	0
11 Alfredo	00000	0	11 Varejao	00000	0
12 Gutierrez	00000	0	12 Giocannoni	00000	0
13 Nocioni	00000	0	13 Batista	00000	0
14 Jasen	00000	0	14 Morena	00000	0
15 Federic	00000	0	15 Tiago	00000	0

Basketball scoreboard 2:

Basketball

Argentina **Brazil**

0 **Quarter 1** 0

10:00

FOUL 0 FOUL 0

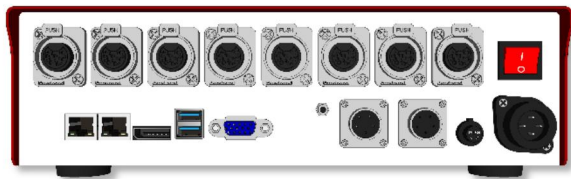
Startlist display:

Basketball			
Argentina		Brazil	
Leader:	Leader	Leader:	Leader
Coach:	Coach	Coach:	Coach
No	Name	No	Name
4	Scola	4	Machado
5	Aimar	5	Santos
6	Gonzalez	6	Becker
7	Oberto	7	Neto
8	Juan G.	8	Garcia
9	Sequeira	9	Huertas
10	Delfino	10	Barbosa

Stats display:

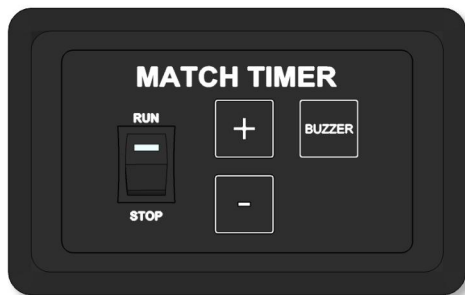
Basketball							
Argentina				Brazil			
No	Name	Score	Foul	No	Name	Score	Foul
4	Scola	0	0	4	Machado	0	0
5	Aimar	0	0	5	Santos	0	0
6	Gonzalez	0	0	6	Becker	0	0
7	Oberto	0	0	7	Neto	0	0
8	Juan G.	0	0	8	Garcia	0	0
9	Sequeira	0	0	9	Huertas	0	0
10	Delfino	0	0	10	Barbosa	0	0
11	Alfredo	0	0	11	Varejao	0	0
12	Gutierrez	0	0	12	Giocanno	0	0
13	Mazzoni	0	0	13	Patinato	0	0

2.2 Match Scoring & Timing Host



Match Scoring & Timing Host

Model	KS-MONSTER
Dimension	260 x 280 x 80 (mm)
Support	Basketball, Volleyball, Football, Futsal, Handball, Water-polo, Ice-hockey
Other	Supports hot switching between the main and backup system.



Match Timer Handheld

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



Shot Clock Handheld

Model	KS-G-ST
Dimension	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
Dimension	260 x 280 x 80 (mm)	Net Weight	3 KG
Material	Iron	Power Capacity	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	Basketball, Volleyball, Football, Futsal, Handball, Water-polo, Ice-hockey, etc.		
Supporting Rules	FIBA, FIBA 3X3		
Functions	<ol style="list-style-type: none"> 1. Timer functions: Timing in minute, second, tenth of a second, 14S & 24S and timing in count up and count down, start, pause, reset, correct are available. 2. Scoring functions: Modify the score of the team and player. 3. Penalty functions: Team foul control, Player foul control, Player penalty time control, Substitution control, yellow/red card control, etc. 4. Supports match rule setup. 5. Synchronous control of 24s Shot Clock, Possession Display, Foul Display and Electronic Buzzer. 6. Adjust the brightness of 24s Shot Clock, Possession Display and Foul Display. 7. Provides buzzer sound output, which can be connected to the venue's public address system or speakers. 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. 9. Supports real-time data output, which can be used for live broadcast. 10. Monitoring the status of scoring devices, providing convenient fault diagnosis (with a separate monitor). 11. Anti-loose port ensures the safety of match data. 		

2.3 Referee Timing & Scoring Terminal



Parameters

Item	Details	Item	Details
Product	Referee Timing & Scoring Terminal	Model	KS-GC18
Dimension	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"> 1. Timing functions: Include minute, second, deci-second, 14S and 24S timing function and also have count-up, count-down, start/pause/reset/correct timing functions. 2. Scoring functions: Modify the score of the team and player. 3. Penalty functions: Team foul control, Player individual foul control, Player Penalty control, Substitution control, Player yellow/red card control, etc. 		

2.4 Basketball Shot clock



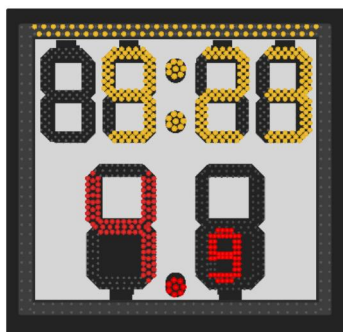
Single-sided Shot Clock

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



Four-sided Shot Clock

Model:	KS-BASH-C/Q
Dimension:	780x780x610 (mm)
Display	Four Side



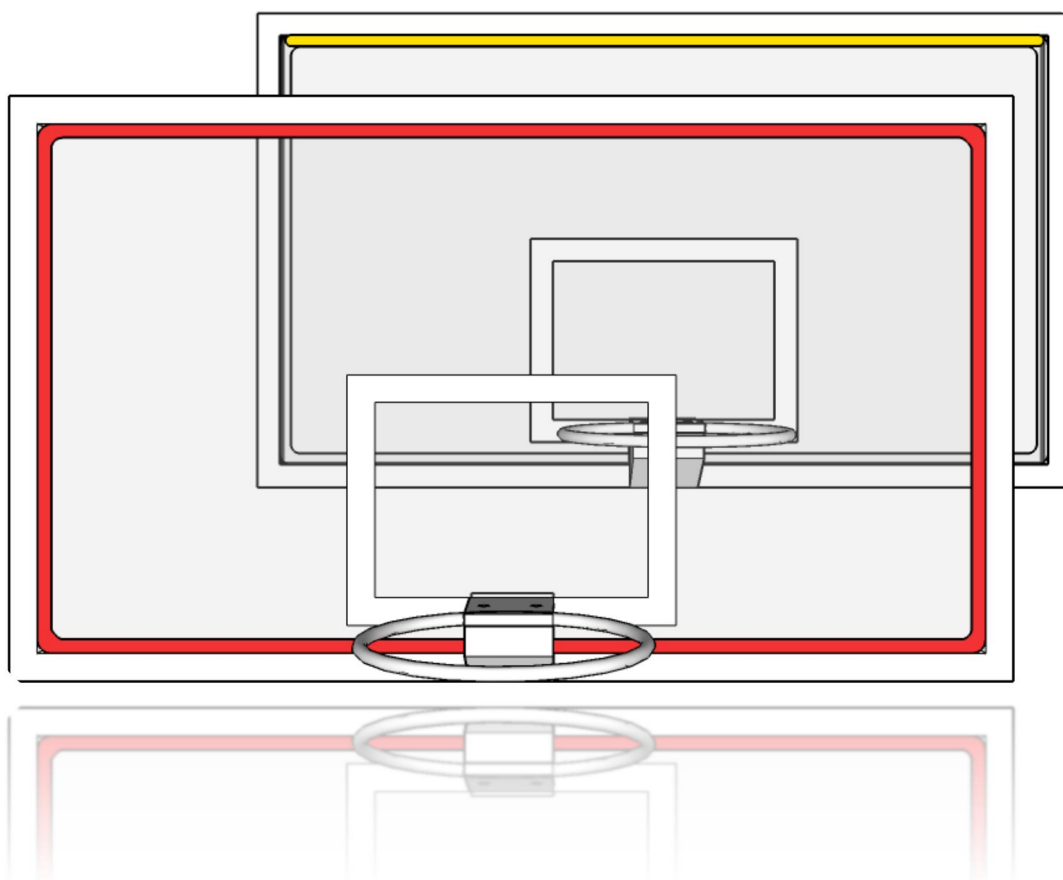
See Through (Double Side) Shot Clock

Model:	KS-BACH-C/D
Dimension:	650x630x60 (mm)
Display	Transparent

Detailed parameters

Item	Details	Details	Details
Product	Single-sided Shot Clock	Four-sided Shot Clock	See Through (Double Side) Shot Clock
Model	KS-BASH-C/S	KS-BASH-C/Q	KS-BASH-C/D
Dimension	710x610x60mm	780x780x610mm	650x630x60mm
Input Voltage	AC 100V~240V	AC 100V~240V	AC100V~240V
Power Capacity	60W	240W	40W
Material	Aluminum + PVC	Aluminum + PVC	Aluminum + PVC
Weight	10KG	45kg	8KG
Communication	Wired or Wireless (433MHz)	Wired or Wireless (433MHz)	Wired or Wireless (433MHz)
Mounting Hole	Bottom + Top (For hanging installation)	Bottom	Bottom
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"> 1. Shot Clock: Deci-second display in last 5 second 2. Match Timer: Deci-second display in last 1 minute 3. Synchronously display the 24S countdown with the Scoreboard 4. Synchronously display the 14S countdown with the Scoreboard 5. Display the timeout counter 6. Two different buzzer sounds for match timer and shot clock 7. Buzzer: 110dB 		

2.5 Backboard Light



Detailed parameters

Item	Details	Item	Details
Product	Basketball Backboard Light	Display Color	Red / Yellow
Model	KS-BALT-C	Net Weight	2kg
Dimension	1700x950x25 (mm)	Implementation of Standards	International Sports Competition Rules
Input Voltage	DC - 12V	Material	Aluminum
Communication	Wired	Others	Must be used with 24S Shot Clock
Functions	<ol style="list-style-type: none"> 1. Lighting up in red when the game clock signal sounds for the end of a period. 2. Lighting up in yellow when shot clock signal sounds. 		

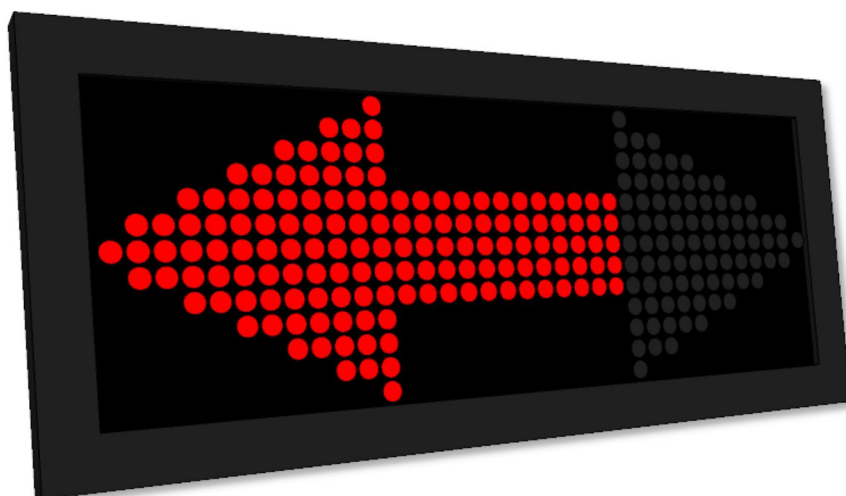
2.6 Foul Display



Detailed parameters

Item	Details	Item	Details
Product	Foul Display	Model	KS-BAFL-C
Display	Trihedral display	Material	PVC
Dimension of Controller	195x145x60 (mm)	Weight	5KG
Dimension of Display	320x205 (mm)	Implementation of Standards	International Sports Competition Rules
Input Voltage	12V DC	Port	G-Port*2
Packing List	Controller*1, Display*2, Power Adapter*1, Power Cable*1, User Manual*1		
Best Sight	Best Visual Distance: 3M---100M Best Viewing Angle: 0°---90°		
Functions	<ol style="list-style-type: none"> 1. Display functions conform to FIBA rules. 2. Team fouls 0-9 times can be set freely. 3. The last set of data can be preserved. 4. Supports independent use and can also be controlled by Match Scoring & timing Host. 5. Brightness adjustment is available in linkage mode. 6. Controlled by Match Scoring & Timing Host without separate power supply in linkage mode. 7. Anti-loose ports ensure the safety of match data. 8. Supports post-match celebration mode. 		

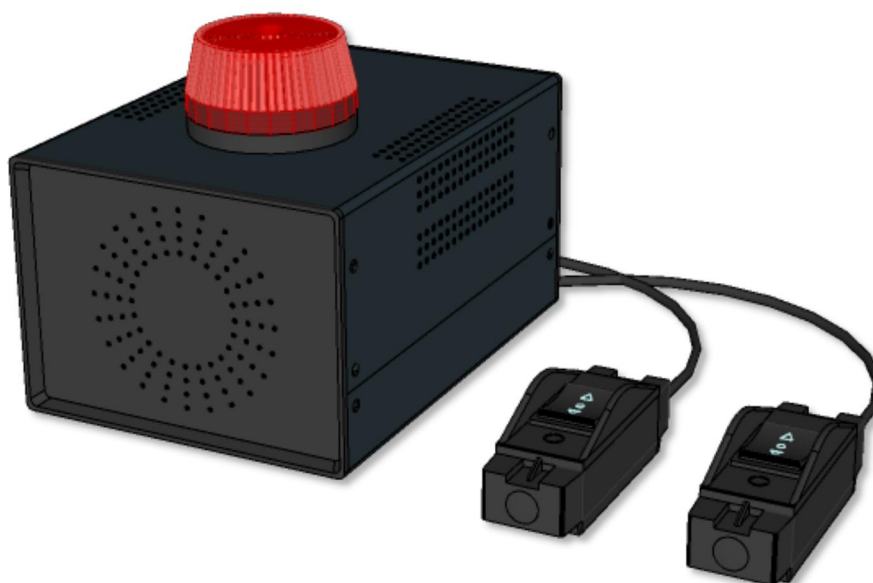
2.7 Possession Display



Detailed parameters

Item	Details	Item	Details
Product	Possession Display	Model	KS-BAPO-C
Display	Single side display	Weight	1KG
Dimension	410x177x80 (mm)	Material	PVC
Input Voltage	12V DC	Implementation of Standards	International Sports Competition Rules
Port	G-Port×1	Brightness Control	Supported
Packing List	Display*1, Power adapter*1, Power cable*1, User manual*1		
Best Sight	Best Visual Distance: 3M---100M Best viewing angle: 0°---90°		
Functions	<ol style="list-style-type: none"> 1. Show possession arrow of home team or guest team. 2. Supports independent use and can also be controlled by Match Scoring & timing Host. 3. Support brightness adjustment in linkage mode. 4. Controlled by Match Scoring & Timing Host without separate power supply under linkage mode. 5. Anti-loose ports ensure the safety of match data. 6. Support the post-match celebration mode. 		

2.8 Electronic Buzzer



Detailed parameters

Item	Details	Item	Details
Product	Electronic Buzzer	Input Voltage	12V DC
Model	KS-BUZR	Power	35W
Dimension	200x150x150 (mm)	Color	Black
Volume	110dB	Weight	1KG
Implementation of Standards	International Sports Competition Rules		
Packing List	Host*1, Handheld*2, Power Adapter*1, Power Cable*1, User Manual*1		
Functions	<ol style="list-style-type: none"> 1. With two sound signals. 2. Generate a siren sound for match timer timeout or substitution. 3. Supports independent use and can also be controlled by Match Scoring & timing Host. 4. Controlled by Match Scoring Host without separate power supply under linkage mode. 5. Anti-loose ports ensure the safety of match data. 		

2.9 Match Timing Display



Detailed parameters

Item	Details	Item	Details
Product	Match Timing Display	Input Voltage	12V DC
Model	KS-SCRN-7SEGMENT	Weight	0.6 KG
Dimension	620x190x45 (mm)	Material	Aluminum
Implementation of Standards	International Sports Competition Rules		
Packing List	Host*1, Power Adapter*1, Power Cable*1, User Manual*1		
Functions			
<ol style="list-style-type: none">1. Can be controlled by Ultra Score software as well as the referee console.2. Synchronously display the match time.			

2.10 Electronic Whistle Timing System



Detailed parameters

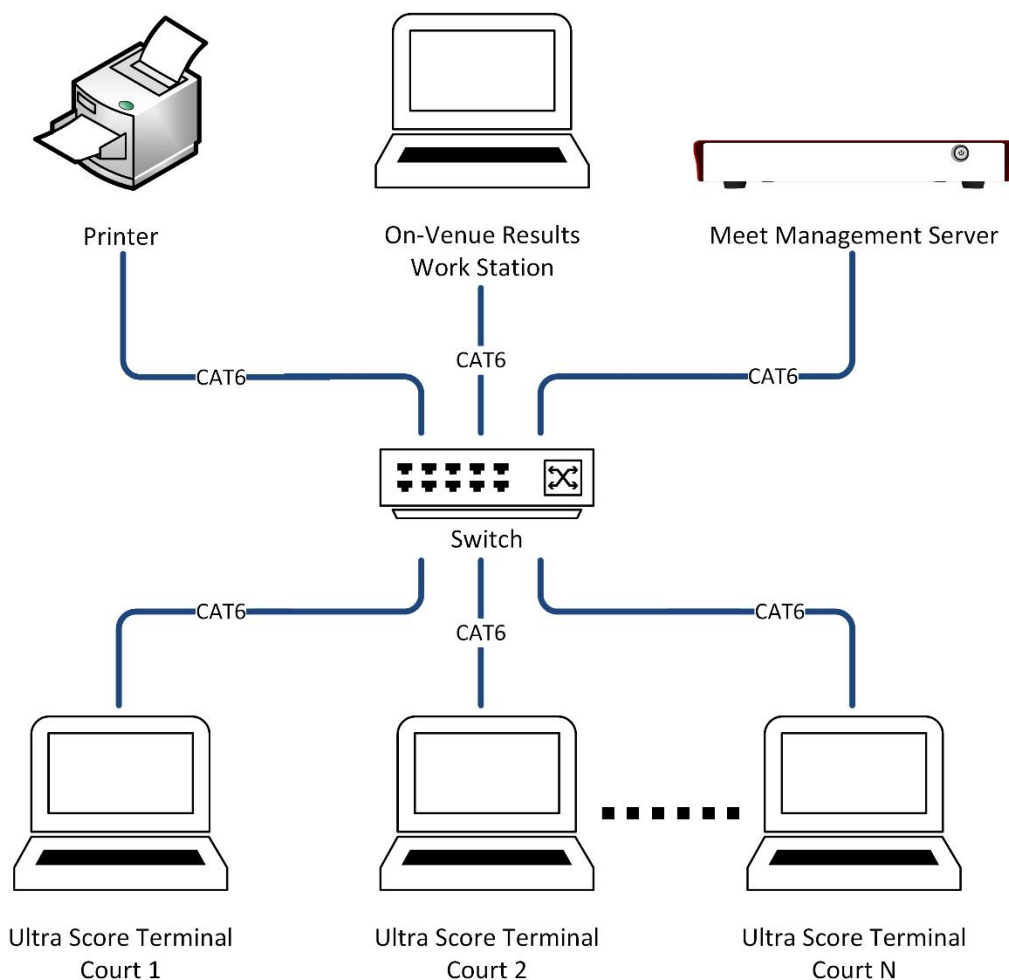
Item	Details	Item	Details
Product	Electronic Whistle Timing System	Communication	Wireless 433MHz
Model	KS-BAWS	Material	Aluminum
Host Power Supply	12V DC	Electronic Whistle Power Supply	Lithium Battery; USB Charging
Dimension	Host: 280×200×50 (mm) Electronic Whistle: 85×53×15(mm)		
Packing List	Host*1, Antenna*2, Connecting cable*1, Lavalier*4, Transmitter*4, USB charging cable*4, USB multi-function charger*1, Safety box*1, User Manual*1		
Functions	<ol style="list-style-type: none"> 1. Start and pause match time. 2. Host Communicates with four referees' whistle transmitters in wireless mode and with high precision detection of referee whistle to control match time. 3. Work continuously for more than 8 hours. 		

2.11 Meet Management System

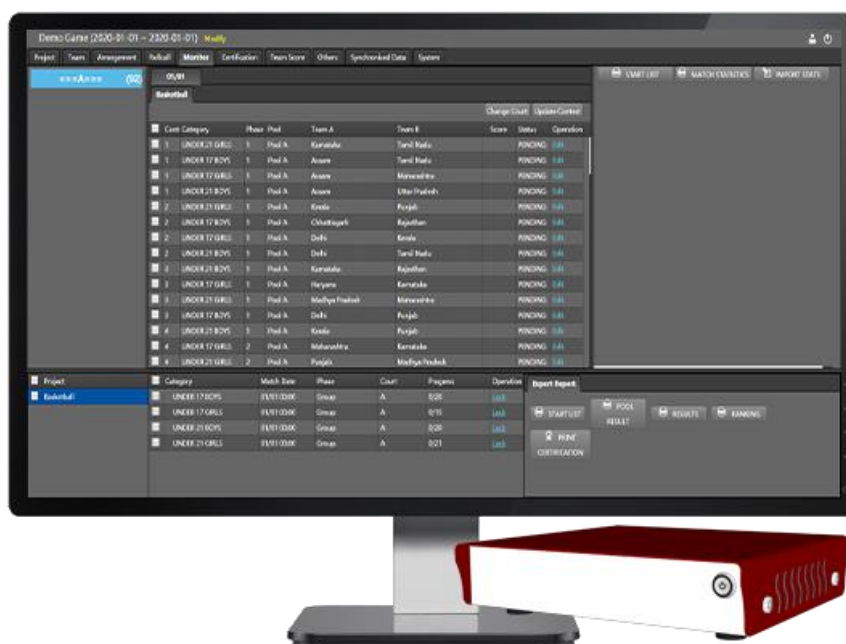
It is composed of Meet Management Server, On-Venue Results Workstation, Printer, etc. Linking with Online Registration System, Match Scoring System and Basketball Stats System, it can realize the functions that:

- 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.

2.11.1 System Diagram



2.11.2 Meet Management Server



Item	Details	Item	Details
Product	Meet Management Server	Input Voltage	12V DC
Model	KS-MMS-MINI	Weight	1.0 KG
Dimension	260x135x35 (mm)	Port	VGA*1, DP*1, USB*2
RAM	4GB	CPU	Intel J3160
Hard Disk	64G	Communication	LAN*1

Functions

1. Easy to create a match and import the match entry information.
2. Arrange the match with variants of game systems. Including elimination, round-robin, etc.
3. Auto-send the match data to Match Scoring & Timing Terminal on each venue/court.
4. Gather the real time score and statistics data from Match Scoring & Timing Terminal.
5. Monitor the progress of the match.
6. Generate standard reports for the match, including start-list, results, combined results, ranking, etc.
7. Print Results files with adjustable print templates.
8. Print the team score report.
9. Open interface with ODF compatible data feed.

2.12 Video Arbitration System

Video Arbitration System named PARROT is composed of video arbitration server, control panel and cameras.

It is operated by a referee during the match. When working with Match Scoring & Timing System, referee's score operation will be marked on the frame of video automatically, whilst playback them in slow motion with changes in speed.

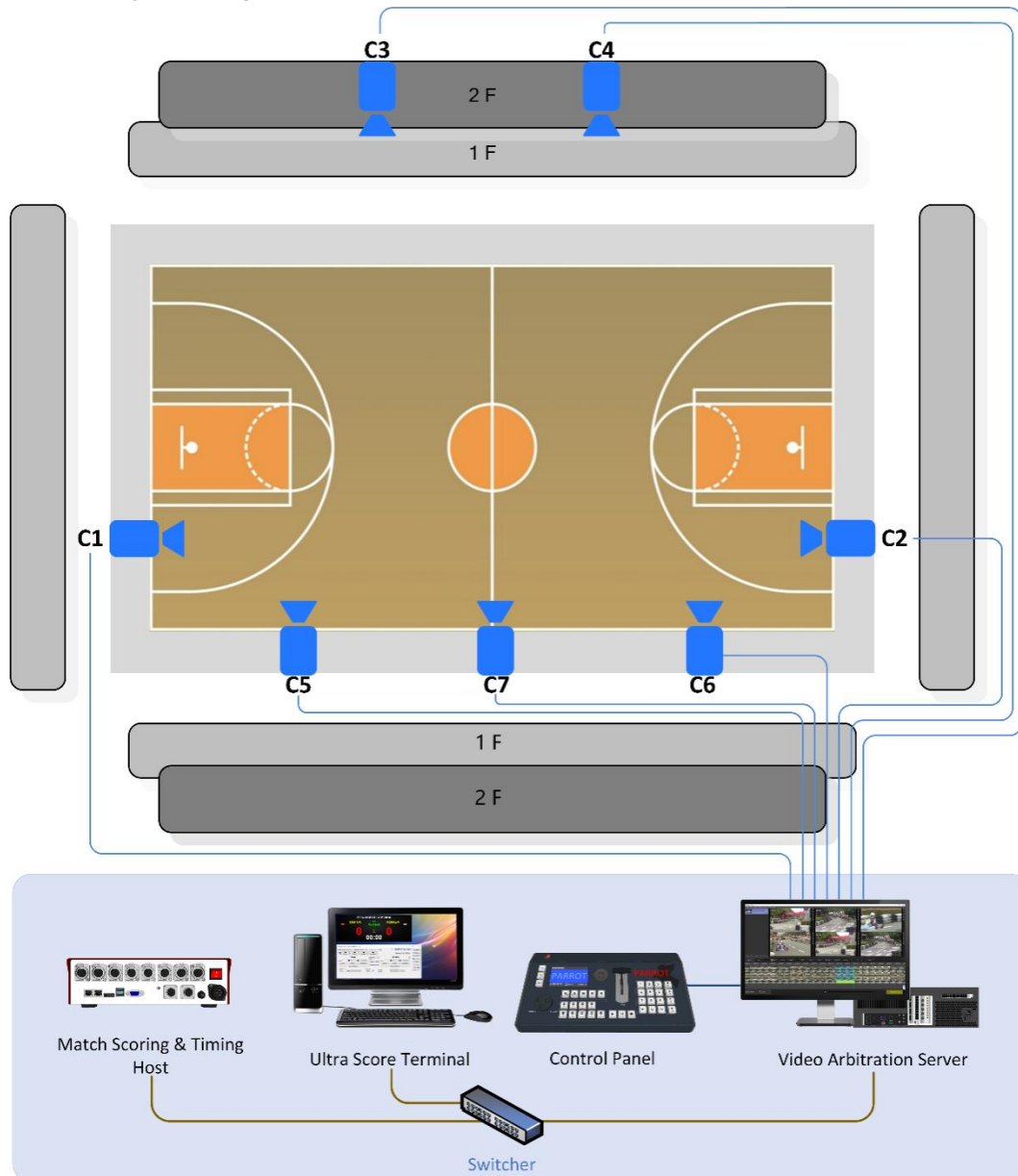
It can be used to provide technical support when a dispute happens during the match so as to reduce the misjudging, to ensure fairness and justice of the match.

Application:

Basketball, Volleyball, Football, Handball, Boxing, Wrestling, Wushu, Judo, Jujitsu, Karate, Taekwondo, Gymnastics, Swimming, Diving, Ice-hockey, Weightlifting, etc.



2.12.1 System Diagram



2.12.2 System Description

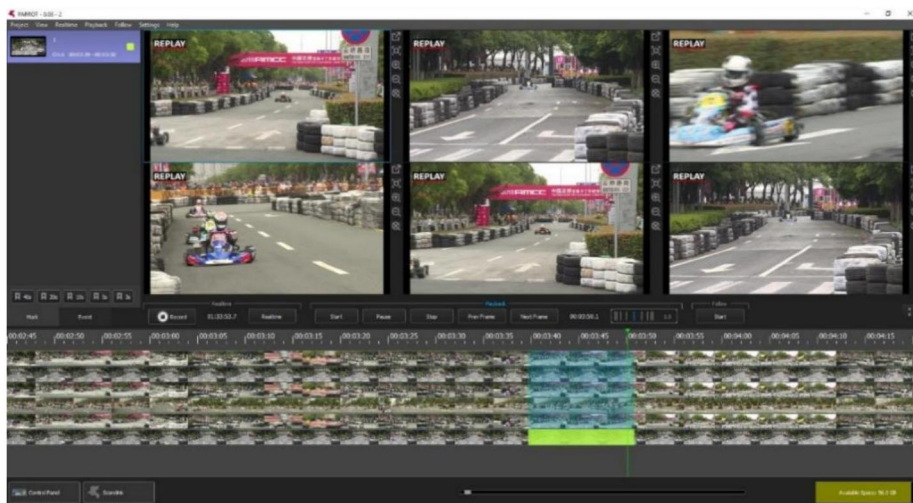
- 1) Ultra Score software is installed on the control computer. Connect the control computer and the video arbitration server into the local network.
- 2) 1-8 sets of HD cameras are set around the count which connect to video arbitration server via SDI cable.
- 3) Control panel is connected to video arbitration server via a USB cable which makes referee easy to check the playback process and control the speed of slow motion.
- 4) Video arbitration server provides an output video signal which can be connected to LED/LCD display for live slow-motion replay.

2.12.3 Functions

- 1) **Nonstop video recording in the background:** 1-8 channels of HD video are recorded simultaneously in the background, nonstop for 10 hours. Video retrieval and playback are unaffected.
- 2) **Synch-playback of multi-channel video:** Supports playback mode of single channel video in full screen and multi-angle video in 6 windows.
- 3) **Speed change in slow motion:** supports 20 frame/s video playback and capturing motion in a grid of 0.05s. The functions including frame freeze, fast playback, 1/2 slow playback, 1/4 slow playback and dragging progress bar are available.
- 4) **Video event query:** video stream can be divided into several video events, storing in the event list, which can be renamed for retrieval easily.
- 5) **Video segment marker:** Important or controversial moments can be marked in video stream which will be replayed quickly when clicking the marked records.
- 6) **Professional playback control panel:** configuring T-bar, slow moving wheel, speed preset function keys to make the process more convenient.
- 7) **Video signal output:** provides 2 video output signals, one of which is for preview, the other of which can be connected to LED/LCD display for live slow-motion replay.

Working with Ultra Score System to realize:

- 1) **Auto generate video event:** Video events will be generated automatically for quick query according to the match data that has been preset in Ultra Score.
- 2) Real-time match timer will be superimposed on the video.
- 3) **Referee's operation record:** Referee's every scoring and timing operation can be recorded into the video, shown below the frame when that moment happened.
- 4) **Player's point record:** Player's point can be recorded into the video, shown below the frame when that moment happened.
- 5) **Open developer API:** Other manufacturers' scoring systems can be connected to the Video Arbitration System and various events can be synchronously recorded into the video.



2.12.4 Video Arbitration Server (up to 8 channels record and replay)



Detailed parameter

Item	Details	Item	Details
Product	Video Arbitration Server	Model	KS-PARROT-2C/4C/6C/8C
Input Voltage	AC 100~240V	Power Capacity	35W
Dimension	483x430x90mm (2U)	CPU	Intel I7
RAM	2 channels: 8GB 4/6/8 channels: 16GB	Hard Disk	2/4 channels: 1T 6/8 channels: 2T
Input	SDI×2/4/6/8	Communication Port	LAN×2
Output	DP×2	Other Port	USB×4
Packing List	Host*1, Power cable*1, User manual*1		
Functions	<ol style="list-style-type: none"> 1. Nonstop video recording in the background for 10 hours. Video retrieval and playback is unaffected. 2. Support 50 frame/s video playback and capturing motion in a grid of 0.02s. 3. Support playback the video of the specified channel frame by frame, or at a set speed continuously. 4. Important or controversial moments can be marked manually or auto create video marks by linkage with Ultra Score System. 5. Zoom the playback screen of any channel to accurately observe the details. 6. Provide 2 video output signals, one of which is for preview, the other of which can be connected to LED/LCD display for live slow-motion replay. 7. Working with Ultra Score System can realize real-time match data displayed on the video. 8. Automatically synchronize with the match and tag the video so as to provide convenience to find the match sessions or sets. 9. Each single operation of the referees will be recorded together with the videos. 10. Unique "Follow" mode, automatically replay the most recent screen with a 5-second delay to help the referee make decisions quickly. 11. Open an external control interface which can be controlled by 3rd-part system. 		

2.12.5 Control Panel



Detailed parameters

Item	Details	Item	Details
Product	Control Panel	Model	KS-PARROT-CP
Input Voltage	AC 100~240V	Net weight	1KG
Dimension	365 x 200 x 98 (mm)	Power Capacity	15W
Communication Port	USB×1, RS232×1	Display	Color LCD (4.3Inch)
Packing List	Host* 1, Power Cable*1, USB Cable*1, User Manual*1		
Functions	<ol style="list-style-type: none"> 1. Support one touch replay, deferred replay, in/out replay. 2. Preset speed button. 3. T-Bar for dynamic slow motion. 4. Professional dynamic jog wheel. 5. Key to mark the last 10s/20s of the video content. 6. Flexible select the marked video and playback. 		

2.12.6 HD Camera



Detailed parameters

Product Model	4K-G2
Video output	SDI
Max Resolution	3840*2160
Max Frame rate	60FPS
Lens	Lumix G X Vario PZ 45-175mm f/4.0-5.6
Battery Life	About 60 minutes (Record at 24fps without connecting any external USB-C devices)
Power Supply	12-20V
Dimensions	178.1*96*85.5MM

2.13 Basketball Stats System

Consists of Basketball Stats software and Workstation.

Record the points, shot position, assistant, foul, rebound of each player during the basketball game. Linking with Online Results System and Match Scoring System, the timing and scoring data will be exactly synchronized with them.

It can generate professional and detailed statistics reports and provide data sharing for website and platforms.

The screenshot displays the 'BASKETBALL STATS - 0.08 FREE - 2020 FIBA World Championship' software interface. At the top, it shows the match between Argentina and Brazil with a score of 0-0 and a time of 00:00.0 in the first quarter (Q1). The interface includes a central control panel with buttons for various game events such as BLOCK, TURNOVER, STEAL, ASSIST, DEF FOUL, OFF FOUL, TEC FOUL, UNSP FOUL, FOULS DRAWN, DEF REBOUNDS, OFF REBOUNDS, FE SUCCESS, FE FAILED, and FREE THROW. Below the control panel are two player statistics tables for Argentina and Brazil, each with columns for Player Name, Pts, Ast, Reb, and Fl.

#	Player Name	Pts	Ast	Reb	Fl
4	Scola	0	0	0	0
5	Aimar	0	0	0	0
6	Gonzalez	0	0	0	0
7	Oberto	0	0	0	0
8	Juan G.	0	0	0	0
9	Sequeira	0	0	0	0

#	Player Name	Pts	Ast	Reb	Fl
4	Machado	0	0	0	0
5	Santos	0	0	0	0
6	Becker	0	0	0	0
7	Neto	0	0	0	0
8	Garcia	0	0	0	0
9	Huertas	0	0	0	0