



Scoring & Timing Solution for Weightlifting



1. Introduction

This is a professional solution for LED scoreboard display in weightlifting competition.

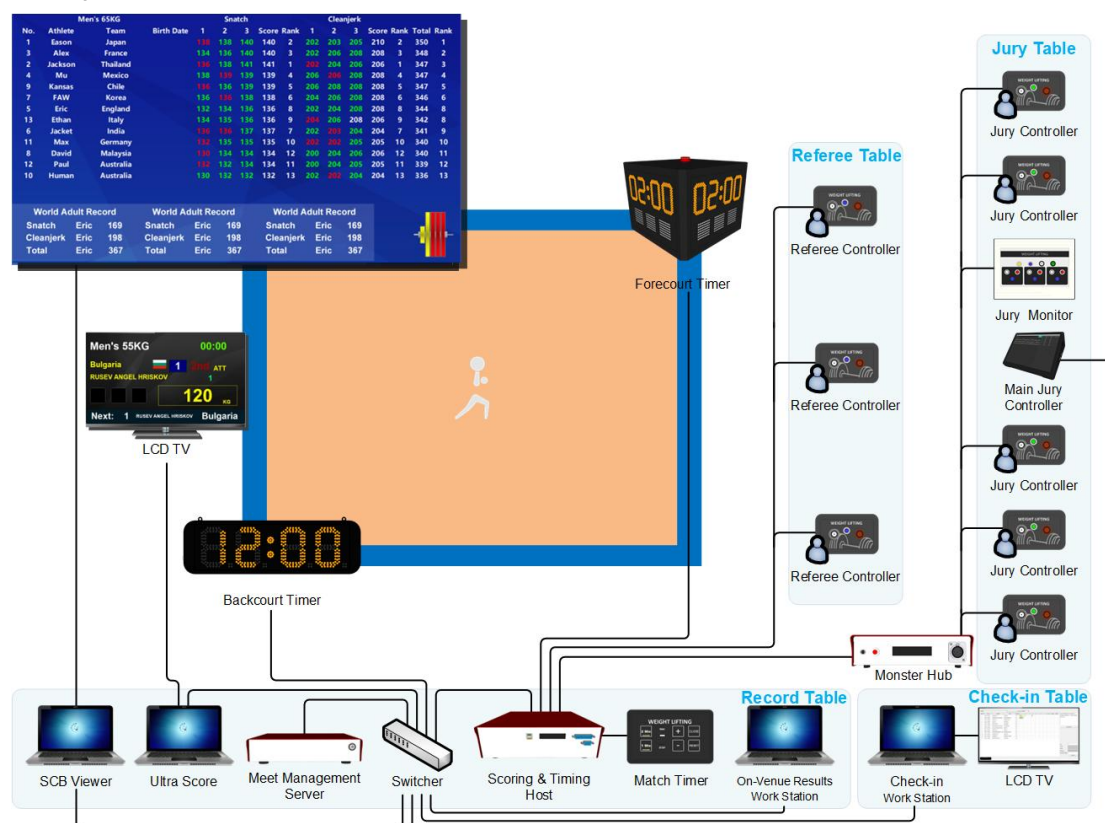
The system functions conform to IWF rules.

Match arrangement, on-site weighing and check-in, 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**, **Video Arbitration System**, etc.

2023 September, Ganzhou City Zhongying Cup The 6th Games (Youth Division)



1.1 System Chart

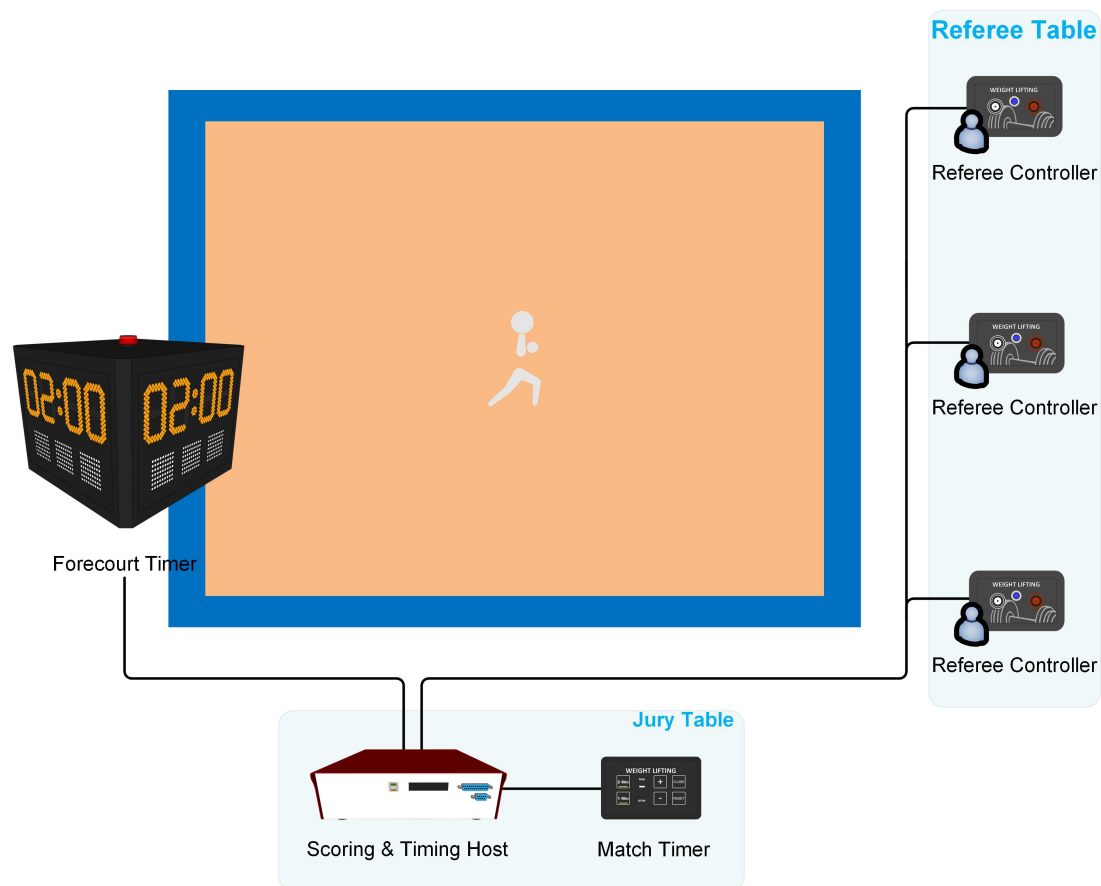


System Description

- 1) LAN:** A LAN is set up in the stadium. Connect the LED/LCD display screen control PC, Ultra Score Terminal PC, Match Scoring & Timing Host, Main Jury Controller, Meet Management Server, On-Venue Results Workstation, Check-in Work Station and Printer to the LAN.
- 2) LED/LCD Screen:** One LED display screen is set up in the venue to show the comprehensive score ranking. One LCD TV set up in the forecourt is used to display the on-site scoreboard. One LCD TV set is installed in the backcourt for the front court's game and rest periods. One LCD TV is set up in the check-in area for the competition and waiting period.
- 3) Match Scoring & Timing Host:** installed in the referee's table, core timing and scoring equipment, can be used as a host hot backup; The forecourt timer, referee controller, and match timer are sequentially connected to the host through dedicated cables.
- 4) Forecourt Timer:** set next to the competition venue, used to display the countdown to the attempt and rest in real time, and prompt the referee's decision result (good lift/no lift).
- 5) Backcourt Timer:** set in the warm-up area of the backcourt, displaying game timing and rest timing.
- 6) Referee Controller:** Three referee controllers are set up in the referee's table and connected to the competition scoring and timing host through dedicated cables, used to determine the good lift or no lift of a attempt.
- 7) Jury Controller/Jury Monitor:** 3-5 jury controllers are set up in the jury table and connected to the competition scoring and timing host through dedicated cables to monitor the accuracy of the referee's decisions.
- 8) Meet Management Server:** installed in the record table or venue computer room, core competition data processing equipment, connected to the LAN via Ethernet cable.

9) **Check-in workstation/Check-in display:** used to operate athlete check-in, weighing records, submit attempt weight, control display of competition status and waiting personnel information.

Training:



System Description

- 1) **Match Scoring & Timing Host:** installed in the referee's table, core timing and scoring equipment, can be used as a host hot backup; The forecourt timer, referee controller, and match timer are sequentially connected to the host through dedicated cables.
- 2) **Forecourt Timer:** set next to the competition venue, used to display the countdown to the attempt and rest in real time, and prompt the referee's decision result (good lift/no lift).
- 3) **Referee Controller:** Three referee controllers are set up in the referee's table and connected to the competition scoring and timing host through dedicated cables, used to determine the good lift or no lift of a attempt.

1.2 Product Configuration (for one court)

Product	Model	Number
Match Scoring System		
Ultra Score Software	Standalone Edition	1
Score Display Software	SCB VIEWER	1
Scoring & Timing Host	KS-MONSTER	1
Forecourt Timer	KS-WL-CD10	1
Backcourt Timer	KS-SCRN-7SEGMENT	1
Referee Controller	KS-WL-RC	3
Jury Controller	KS-WL-JC	3-5
Monster Hub	KS-MONSTER-HUB	1
Jury Monitor	KS-WL-JM	1
Main Jury Controller	KS-RETM	1
Meet Management Server	KS-MMS-MINI	1
TTS Module (excluding audio)	KS-TTS-MODULE	1
Video Arbitration System		
Video Arbitration Server	KS-PARROT-2C	1
Control Panel	KS-PARROT-CP	1
HD Camera	KS-PARROT-CAMERA	2
Tripod for HD Camera	TRIPOD STANDARD	2
SDI Cable	50m	2

2. Specification for products

2.1 Ultra Score Software

Products	Details
Standalone edition	<ul style="list-style-type: none">◆ Installed on one PC.◆ Supports: Weightlifting◆ English version◆ Including 1 dongle

Features:

- 1) The LED screen can display the athlete's name, number, competition level, number of attempts, and results.
- 2) Control and display 1-minute countdown, 2-minute countdown, start, pause, reset and other timing functions for the attempt.
- 3) Play temporary notification information: Various notification information can be displayed on the large screen, and special effects such as speed, color, font, etc. can be set.
- 4) Powerful media playback function: supports various media playback formats and can achieve precise switching between multiple displays.
- 5) Simple referee operation interface: The referee can not only control the game using keyboard and mouse, but also connect other external devices for operation.
- 6) Professional scoreboard: The design and operation of scoreboard functions comply with professional international competition rules.
- 7) Custom display area: The software can customize the coordinates of the display area and the monitor number displayed on the screen (in the case of multiple monitors).
- 8) Flexible layout changes: The software comes with a layout editor function, allowing users to modify, add, and delete tags, and set the layout for displaying content on the large screen.
- 9) Shortcut keys: By setting shortcut keys for multiple function operations, the referee panel operation can be simplified, making the scoring and control process more convenient and fast.
- 10) Security: The software can automatically backup during the competition, and in the event of a malfunction, simply click the mouse to restore the previous screen.
- 11) Scalability: It can be connected to external timing devices, operation panels, and other hardware devices, making it convenient for multiple referees to operate.

Scoring interface for weightlifting:

Men's 55KG **00:00**

Bulgaria  **1** **2nd** **ATT**

RUSEV ANGEL HRISKOV **1**

   **120** **KG**

Next: 1 **RUSEV ANGEL HRISKOV** **Bulgaria**

2.2 Score Display Software

Products	Details
Score Display Software	<p>Model: SCB VIEWER</p> <ul style="list-style-type: none"> ◆ Supports: Weightlifting ◆ English version ◆ Output and display athlete's comprehensive score ranking

Men's 65KG			Snatch					Cleanjerk							
No.	Athlete	Team	Birth Date	1	2	3	Score	Rank	1	2	3	Score	Rank	Total	Rank
1	Eason	Japan		138	138	140	140	2	202	203	205	210	2	350	1
3	Alex	France		134	136	140	140	3	202	206	208	208	3	348	2
2	Jackson	Thailand		136	138	141	141	1	202	204	206	206	1	347	3
4	Mu	Mexico		138	139	139	139	4	206	206	208	208	4	347	4
9	Kansas	Chile		136	136	139	139	5	206	208	208	208	5	347	5
7	FAW	Korea		136	136	138	138	6	204	206	208	208	6	346	6
5	Eric	England		132	134	136	136	8	202	204	208	208	8	344	8
13	Ethan	Italy		134	135	136	136	9	204	206	208	206	9	342	8
6	Jacket	India		136	136	137	137	7	202	203	204	204	7	341	9
11	Max	Germany		132	135	135	135	10	202	202	205	205	10	340	10
8	David	Malaysia		130	134	134	134	12	200	204	206	206	12	340	11
12	Paul	Australia		132	132	134	134	11	200	204	205	205	11	339	12
10	Human	Australia		130	132	132	132	13	202	202	204	204	13	336	13

World Adult Record

SnatchEric169

CleanjerkEric198

TotalEric367

World Adult Record

SnatchEric169

CleanjerkEric198

TotalEric367

World Adult Record

SnatchEric169

CleanjerkEric198

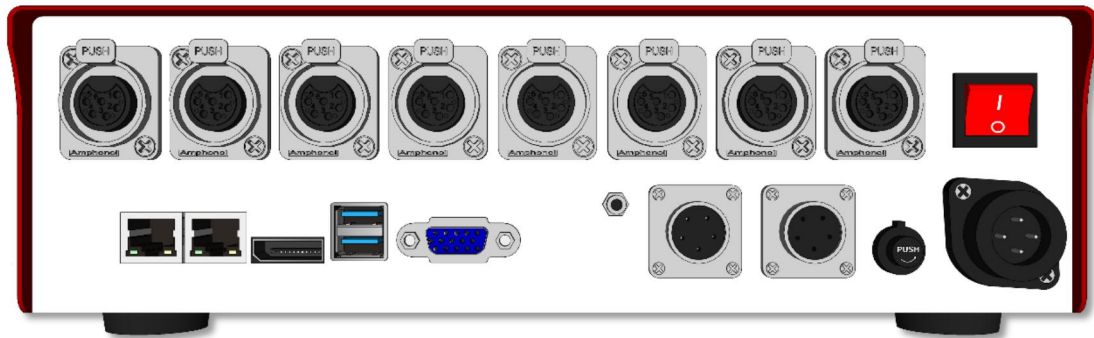
TotalEric367



2.3 Scoring & Timing Host

Product	Detail
Scoring & Timing Host	<p>Model: KS-MONSTER</p> <p>Size: 260*280*80mm</p> <p>Weight: 3KG</p> <p>Power: 100W</p> <p>Material: Iron</p> <p>CPU: Intel J3160</p> <p>RAM: 8GB</p> <p>Hard disk: 64G</p> <p>Communication: Network RJ45*2</p> <p>Video Output: VGA*1, DP*1</p> <p>Port: G-Port*8, 24S port*2, Audio*1, USB*2, Serial port*1</p> <p>Accessories: Match Timer Handheld*1, Attack timer Handheld*1</p> <p>Input Voltage: AC 100~240V</p> <p>Working Temp: 0-60℃</p> <p>Relative Humidity: 5%-95%, non-condensing</p> <p>Support: Weightlifting</p> <p>Language: Chinese, English</p> <p>Supporting rules: IWF</p> <p>Timing accuracy: <=10ms</p> <ul style="list-style-type: none"> ◆ Functions: ◆ Timer functions: Timing in minute, second, tenth of a second, 14S & 24S and timing in countup and countdown, start, pause, reset, correct are available. ◆ Scoring functions: Modify the score of the team and player. ◆ Penalty functions: team foul, individual foul, penalty time, substitution, red and yellow cards, etc. ◆ Supports match rule setup. ◆ Synchronously control the the competition display. ◆ Adjust the brightness of competition display. ◆ Provides buzzer sound output, which can be connected to the venue's public address system or speakers. ◆ 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.

- ◆ Supports real-time data output, which can be used for live broadcast.
- ◆ Monitoring the status of scoring devices, providing convenient fault diagnosis (with a separate monitor).
- ◆ Anti-loose port ensure the safety of match data.



2.4 Forecourt Timer

Product	Detail
Forecourt Timer	<p>Size: 650x650x510(mm)</p> <p>Support: Weightlifting</p> <p>Material: Iron</p> <p>Bracket height: 120cm</p> <p>Power: 100W</p> <p>Display: Four-sided display</p> <p>Communication: Wired</p> <p>Buzzer: 100dB</p> <p>Function:</p> <ul style="list-style-type: none">◆ Display the match timer.◆ Display white or red light according to the operation of judges.



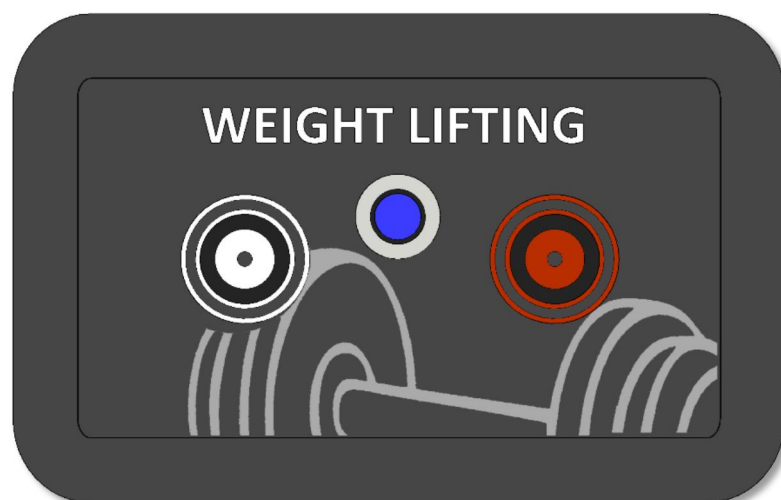
2.5 Backcourt Timer

Product	Detail
Backcourt Timer	<p>Size: 620x190x45mm</p> <p>Weight: 0.6 KG</p> <p>Display color: yellow</p> <p>Display screen material: iron box</p> <p>Communication interface: RJ45 Ethernet cable connection</p> <p>Function:</p> <ul style="list-style-type: none">◆ Synchronize with the Forecourt Timer to show match timing and rest timing.◆ Accessories: including mobile bracket



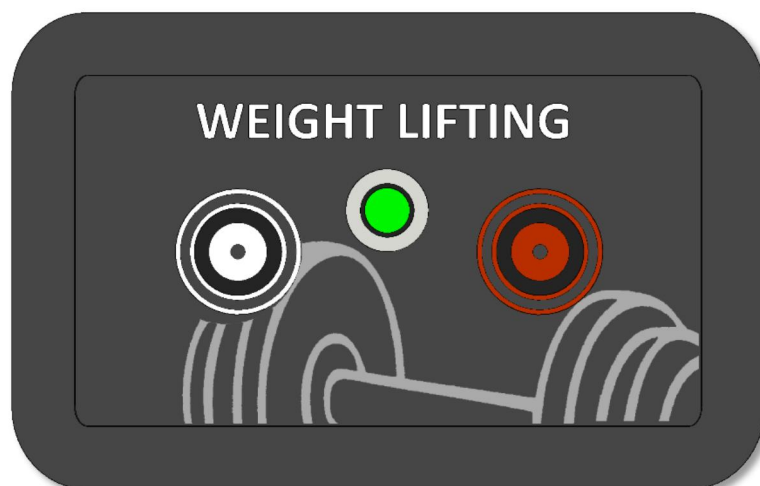
2.6 Referee Controller

Product	Detail
Referee Controller	<p>Size: 154x94x26(mm)</p> <p>Support: Weightlifting</p> <p>Weight: 0.2KG</p> <p>Communication method: wired (connected to the scoring and timing host)</p> <p>Quantity of configuration: 3 per venue</p> <p>Material: Plastic.</p> <p>◆ The referee enters the ruling result (good lift/no lift);</p> <p>The decision can be changed after 2 seconds of operation.</p>



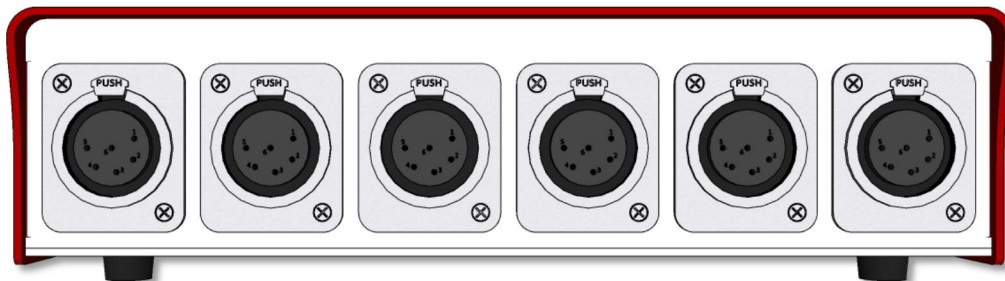
2.7 Jury Controller

Product	Detail
Jury Controller	<p>Size: 154x94x26(mm)</p> <p>Support: Weightlifting</p> <p>Weight: 0.2KG</p> <p>Communication method: wired (connected to the scoring and timing host or monster hub)</p> <p>Quantity of configuration: 3-5 per venue</p> <p>Material: Plastic.</p> <p>◆ The jury enters the ruling result (good lift/no lift);</p> <p>The decision can be changed after 2 seconds of operation.</p>



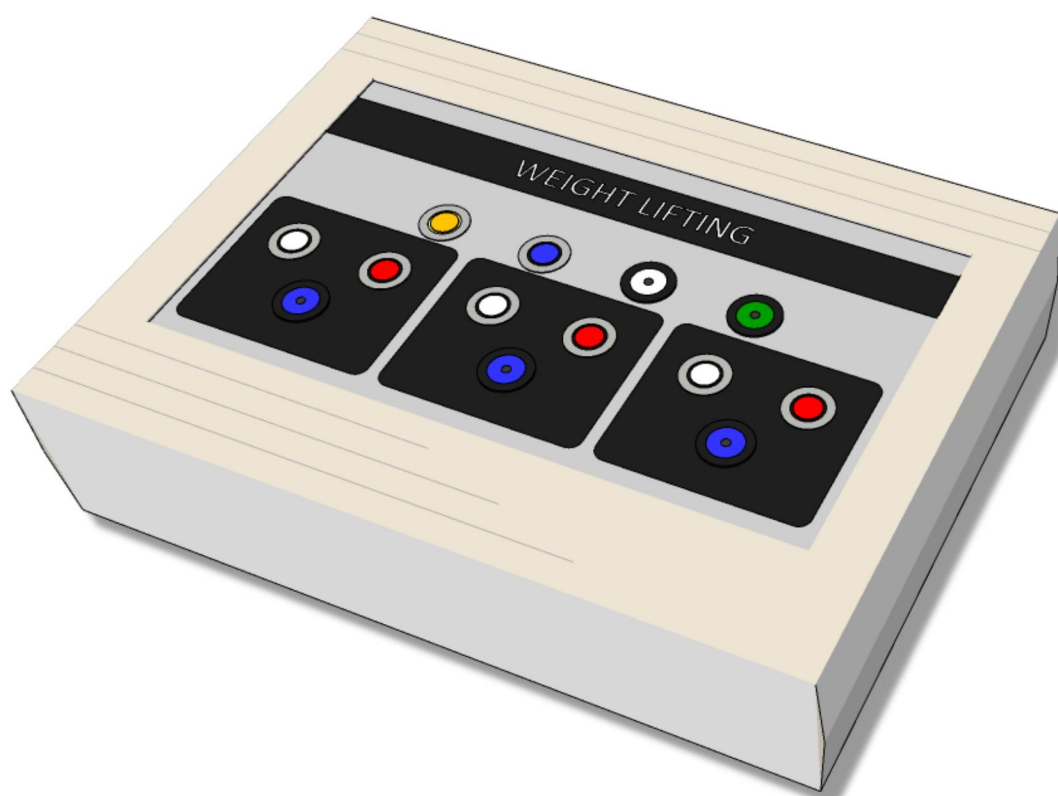
2.8 Monster Hub

Product	Detail
Monster Hub	<p>Size: 182x146x50 (mm)</p> <p>Weight: 1KG</p> <p>Shell material: Iron+PVC</p> <p>Input voltage: AC 100V~240V</p> <p>Maximum power: 110W</p> <p>Communication method: wired (connected to the scoring and timing host)</p> <p>Expansion interface: G-Port * 7</p> <p>Status display: 2.6 "black and white display</p> <p>Function:</p> <ul style="list-style-type: none">◆ Used for extending the interface of the scoring and timing host.



2.9 Jury Monitor

Product	Detail
Jury Monitor	<ul style="list-style-type: none">◆ Size: 270x200x60 (mm)◆ Weight: 0.5KG◆ Material: PVC◆ Input voltage: 12V DC◆ Memory: 8GB◆ Hard drive: SSD 180G◆ Interface: G-Port * 1, Square USB * 1◆ Support: WeightliftingTo remind the referee of scoring errors.



2.10 Main Jury Controller

Product	Detail
Main Jury Controller	<p>Size: 281*173*39mm</p> <p>OS: WIN10</p> <p>Touch LCD: 11.6 inch</p> <p>Resolution: 1920*1080</p> <p>RAM: 8GB</p> <p>Hard Disk: SSD 180G</p> <p>Interfaces: USB3.0*4, USB2.0*2, LAN (RJ45) network port*1, RS232 DB-9 serial port*1, DC-19v power interface*1, 3.5mm audio output interface*1, HDMI HD output interface*1, TF memory card slot*1</p> <p>Material: PVC+Metal</p> <p>Resolution: 1920*1080</p> <p>Communication: LAN / WLAN</p> <p>Video Output: HDMI*1</p> <p>Battery: No Built-in Battery</p> <p>Support: Weightlifting</p> <p>Function:</p> <ul style="list-style-type: none"> ◆ Monitor the scores of judges on the court in real time. ◆ Modify or remind the unreasonable grades. ◆ Achieve the overall control of the display score. ◆ View the current real-time ranking info.



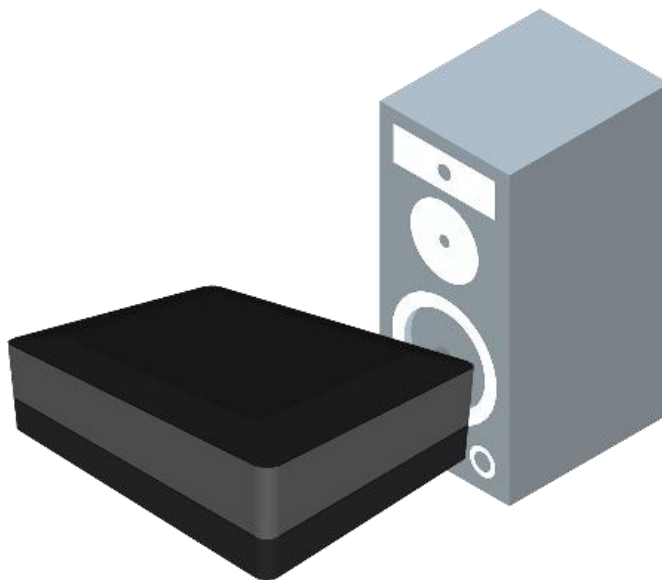
2.11 Meet Management Server

Products	Details
Meet Management Server	<p>Model: KS-MMS-MINI</p> <p>Size: 260x135x35 (mm)</p> <p>Weight: 1.0 KG</p> <p>Input Voltage: 12V DC</p> <p>RAM: 4GB</p> <p>CPU: Intel J3160</p> <p>Hard Disk: 64G</p> <p>Communication: LAN*1</p> <p>Port: VGA*1, DP*1, USB*2</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.



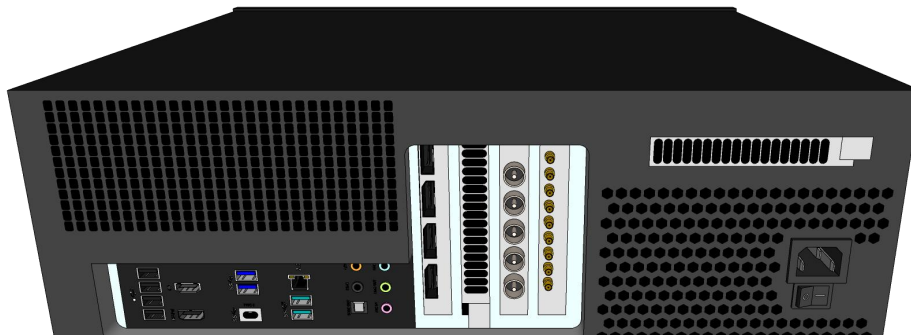
2.12 TTS Module (excluding audio)

Products	Details
TTS Module (excluding audio)	<p>Size: 125*95*35cm</p> <p>Weight: 1.0KG</p> <p>Power supply: 12VDC</p> <p>Interface: Network port * 1, 3.5mm audio port * 1, 6.5mm audio port * 1</p> <p>Function:</p> <p>◆ Automatic language calling in the check-in area.</p>



2.13 Video Arbitration Server

Products	Details
Video Arbitration Server	<p>Model: KS-PARROT-2C/4C/6C/8C</p> <p>Video Input: 2/4/6/8 channels input synchronously;</p> <p>Input port: SDI;</p> <p>Output port: DP*2;</p> <p>Video Format: 1080P;</p> <p>Recording capacity: ≥ 10 hours;</p> <p>Multi-screen monitoring: supported;</p> <p>Weight: 8kg.</p>



Software interface



Device Specification

Model	KS-PARROT-2C/4C/6C/8C
Size	485x480x90(mm)
Net Weight	8 KG
Color	Black
Cabinet	Iron
Interface	
Input	SDI*2/4/6/8
Output	DP*2
Environmental	
Operating Temp	-5°C~45°C
Storage Temp	-40°C~80°C
Relative Humidity	5%~95%, non-condensing
Input Voltage	AC 100V~240V
Functions	
<ul style="list-style-type: none"> ● Nonstop video recording in the background: 2/4/6/8 channels of HD video are recorded simultaneously in the background, nonstop for 10 hours. Video retrieval and playback is unaffected. ● Synch-playback of multi-channel video: Supports playback mode of single channel video in full screen and multi-angle video in 2/4/6/8 windows. ● Speed change in slow motion: support 50 frame/s video playback and capture motion in a grid of 0.02s. ● Video event query: video stream can be divided into several video events, storing in the event list, which can be renamed for retrieve easily. ● Video segment marker: Important or controversial moments can be marked in video stream which will be replayed quickly when clicking the marked records. ● 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. 	

2.6 Control Panel

Products	Details
Control Panel	<p>Model: KS-PARROT-CP</p> <p>Function:</p> <ul style="list-style-type: none"> ◆ Support one touch replay, deferred replay, in/out replay. ◆ Preset speed button. ◆ T-Bar for dynamic slow motion. ◆ Professional dynamic jog wheel. ◆ Key to mark the last 10s/20s of the video content. ◆ Flexible select the marked video and playback.



Device Specification

Model	KS-PARROT-CP
Size	365 x 200 x 98 (mm)
Net Weight	1 KG
Cabinet	Iron
Display	Color LCD(4.3Inch)
Sound	None
Communication	
USB	≤5m
RS232	≤10m
Environmental	
Operating Temp	-5~45°C
Relative Humidity	5~95 %, non-condensing
Storage Temp	-40~80°C
Input Voltage	AC 100V-240V
Total Power	15W

2.7 HD Camera

Products	Details
HD Camera	Model: KS-PARROT-CAMERA



Device Specification

Product Model	KS-PARROT-CAMERA
Video output	3G-SDI
Effective pixels	3.0 million
Max Resolution	1920*1080
Max Frame rate	60FPS
Sensor	CMOS
Focal length	4.2MM
Size	62.5*50*50MM