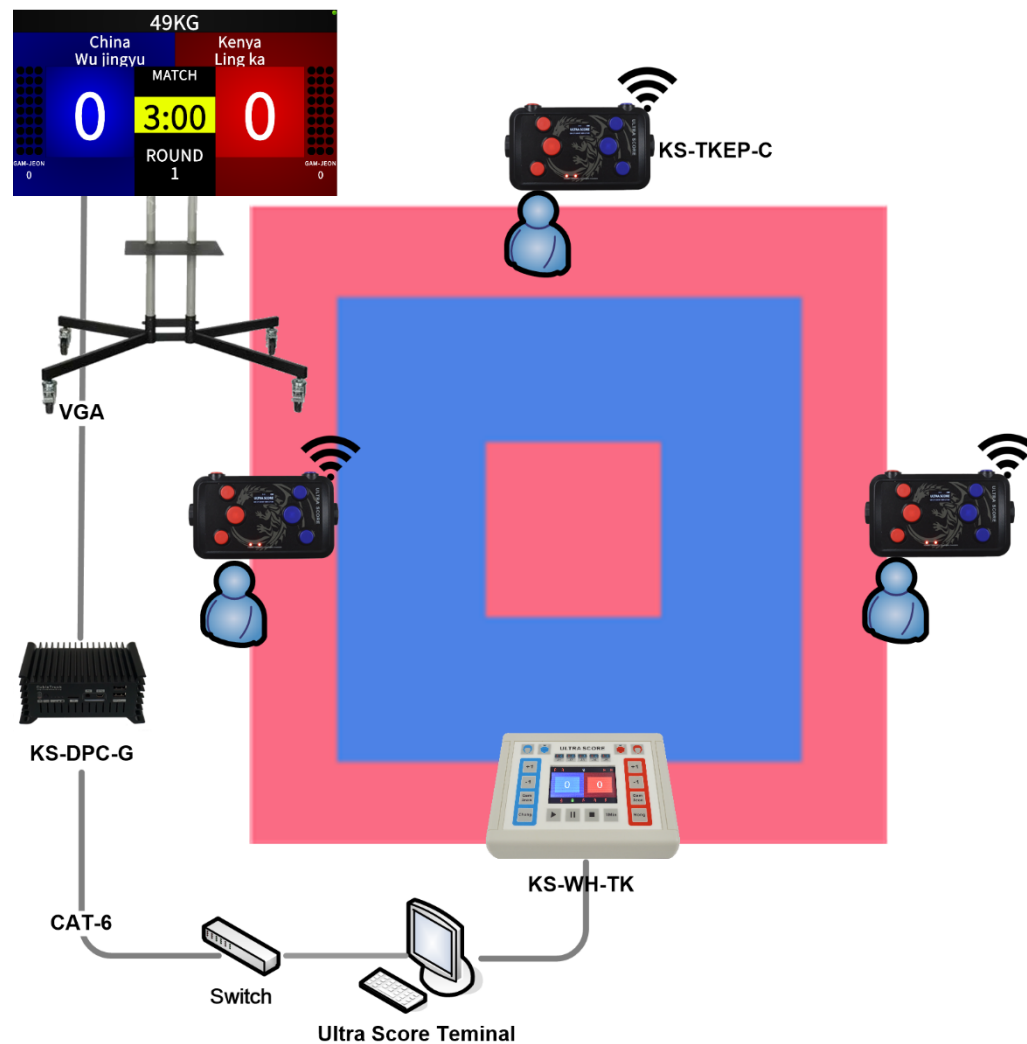


Taekwondo Kyorugi Arranging and Scoring System



1. System Introduction



2.1 Connection description

- 1) Install the Taekwondo Timing and Scoring software on the control computer.
- 2) Connect the Wireless Host (KS-WH-TK) with the control computer via a USB cable.
- 3) Connect the Score Display Controller (KS-DPC-G) with the control computer via network cable.
- 4) Connect the LCD display with the Score Display Controller (KS-DPC-G) via network cable.

2.2 Functions

Event arrangement

- Both import and input the players' information are available.
- Auto draw the players' lots.
- Auto generate, export and print the bracket.
- Auto generate, export and print the order form.

Scoring operation

- Professional wireless scoring controller supports adding 1-4 points for the player.
- With vibration alerts when getting a point.
- Display real-time score and device connection state.
- Modify the match time according to match category.
- Support extending multi-displays to show the match.

Results treatment

- Quickly print and export the result form.
- Rank statistics, quickly export and print.
- Quickly export and print the event form of referee operation.

System advantages

- With rich experience of tournament and stable system.
- Wireless scoring devices are easy to use without wiring.
- The information will auto save in case of power out and other emergency situations.
- We provide free upgrade service of software.

2.3 Product Configuration (one court of Kyorugi)

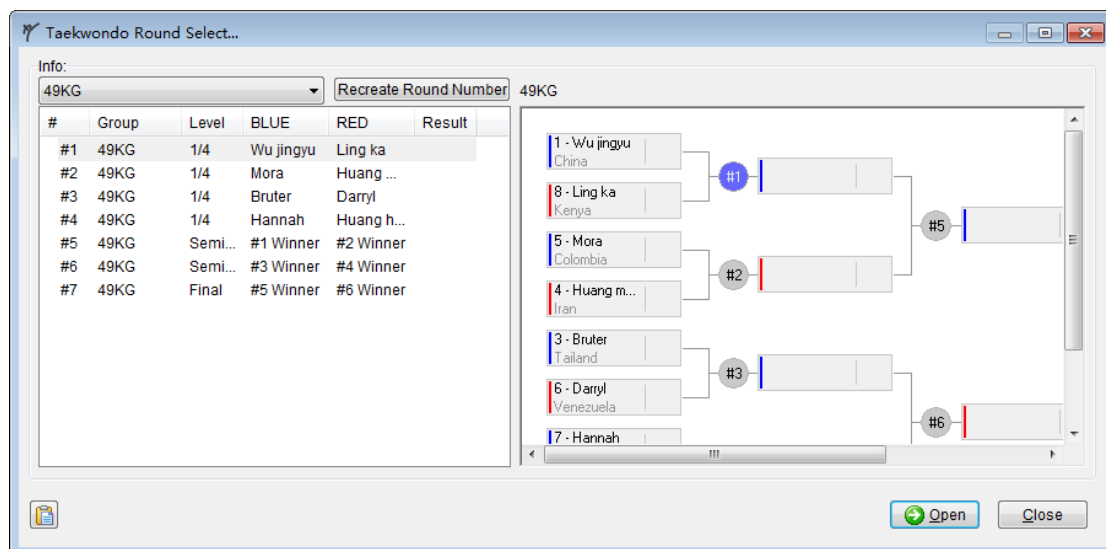
| Products | Type | Number |
|---------------------------------|--------------------|--------|
| Match Scoring System | | |
| Ultra Score Software | Standalone edition | 1 |
| Wireless Host | KS-WH-TK | 1 |
| Wireless Scoring Controller | KS-TKEP-C | 3 |
| E-Body Protector | KS-TKEP-EP | 2 |
| E-Helmet | KS-TKEP-EH | 2 |
| E-Foot Protector | KS-TKEP-EF | 2 |
| Meet Management Server | KS-MMS-MINI | 1 |
| Score Display Controller | KS-DPC-G | 1 |
| LCD TV | 55 inch LCD | 1 |
| Computer | Dell | 2 |
| Printer | HP | 1 |
| Video Arbitration System | | |
| Video Arbitration Server | KS-PARROT-2C | 1 |
| Control Panel | KS-PARROT-CP | 1 |
| HD Camera | / | 2 |
| Tripod for HD Camera | / | 2 |
| SDI Cable | 15m | 2 |
| LCD Display | / | 1 |

3. Specification for products

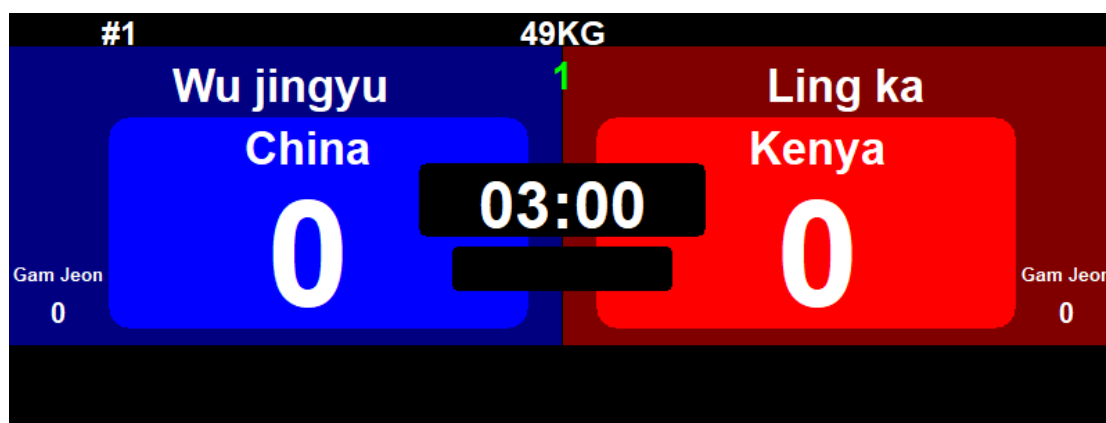
3.1 Ultra Score Software

| Products | Details |
|--------------------|---|
| Standalone edition | <ul style="list-style-type: none"> ◆ The referee operates the match on the PC for display directly. ◆ Supports: Taekwondo Kyoruki, Taekwondo Poomsae ◆ English version ◆ Including 1 dongle |

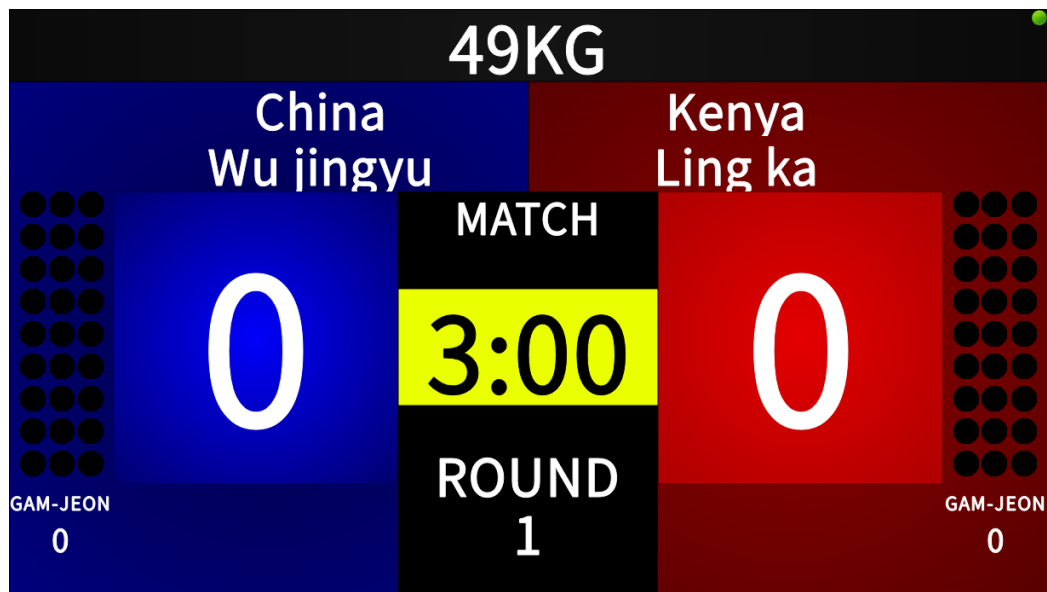
Arranging interface:



Timing and Scoring interface:



LCD display interface:



3.2 Wireless Host

| Products | Detail |
|---------------|--|
| Wireless Host | <p>Type: KS-WH-TK Size: 200x145x60 (mm) Communication: 433MHz Wireless Function:</p> <ul style="list-style-type: none">◆ Must be used together with Taekwondo Scoring Software.◆ Wireless communication distance up to 20m.◆ Support 5 wireless scoring controller and 2 electronic body protector.● Customize the communication band.◆ Support multi-site match simultaneously. |



3.3 Wireless Scoring Controller

| Products | Details |
|-----------------------------|--|
| Wireless Scoring Controller | <p>Type: KS-TKEP-C</p> <p>Size: 160*95*30mm</p> <p>Communication: 433MHz Wireless</p> <p>Function:</p> <ul style="list-style-type: none">◆ Support: Kyorugi.◆ Scoring: can add 1-4 points for the player.◆ With vibration alerts while scoring.◆ Wireless communication distance up to 20m.◆ With long standby function. |



3.4 E-Body Protector

| Products | Details |
|------------------|---|
| E-Body Protector | <p>Type: KS-TKEP-EP</p> <p>Size: #0 /Height 110-130cm #1/ Height 130-155cm #2/ Height 155-165 cm #3/ Height 165-175 cm #4/ Height 175-185 cm</p> <ul style="list-style-type: none">◆ Sense the electronic shackle.◆ Sense the intensity of different strike. |



3.5 E-Helmet

| Products | Details |
|----------|---|
| E-Helmet | <p>Type: KS-TKEP-EH</p> <p>Size: S/M/L</p> <p>Color: Blue / Red</p> <p>Material: PU leather</p> <p>Function:</p> <ul style="list-style-type: none">◆ Sense the hit of the E-Foot Protector. Scoring automatically.◆ Use energy-efficient materials to prevent athletes from being injured.◆ Wireless communication. |



3.6 E-Foot Protector

| Products | Details |
|-------------------------|--|
| E-Foot Protector | <p>Type: KS-TKEP-EF</p> <p>Size: #S/Eur 34-35 #M/Eur 36-38 #L/ Eur 39-41</p> <ul style="list-style-type: none">◆ Must be used together with Taekwondo Electronic Body Protector or Electronic Helmet.◆ Sense the intensity of different strike from foot. |



3.7 Meet Management Server

| Products | Details |
|-------------------------------|---|
| Meet Management Server | <p>Type: KS-MMS-MINI</p> <p>Size: 182x178x36(mm)</p> <p>Weight: 1.2 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. |

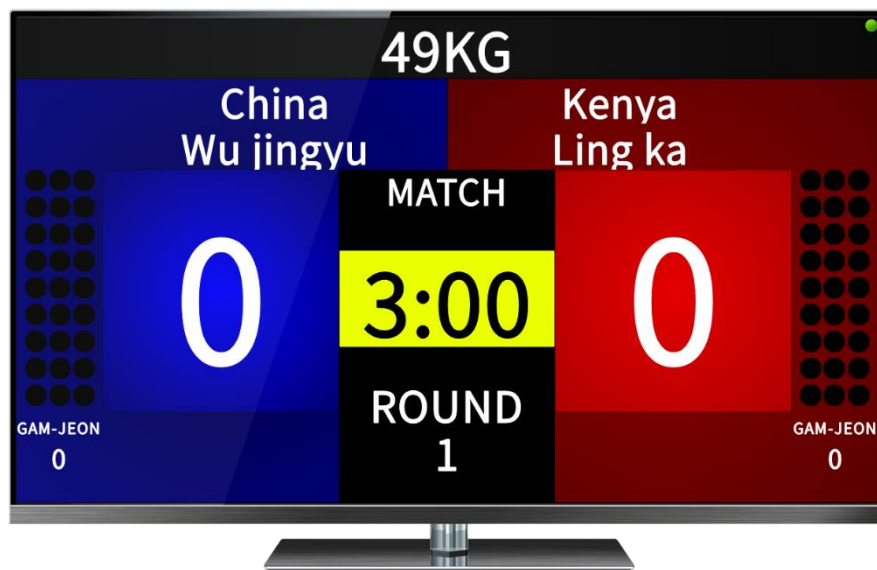


3.8 Score Display Controller

| Products | Details |
|--------------------------|--|
| Score Display Controller | <p>Type: KS-DPC-G</p> <p>Size: 142*87*62(mm)</p> <ul style="list-style-type: none">◆ In multi-court mode, used to display the information of the score, players and set for each court.◆ Output: 1920×1080◆ Output score display to one LCD monitor. |



Display interface of Taekwondo Kyorugi



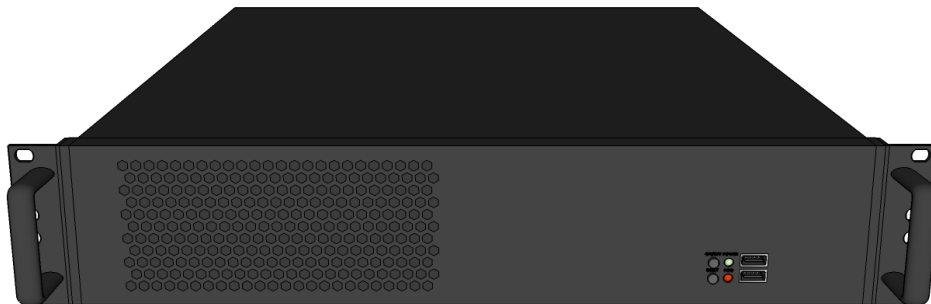
Device parameters

| | |
|--------------|---|
| Model | KS-DPC-G |
| Platform | Freescle |
| Chassis | |
| Color | Black |
| Dimension | 142mm × 87mm × 62mm (W×D×H) |
| Material | Aluminium alloy |
| CPU | Freescle Cortex™-A9 i.MX 6 series (Single-core/dual-core/ Quad Core CPUs) |
| Memory | Onboard 1GB/2GB DDR3 800MHz RAM |
| Storage | |
| Flash | Onboard 4GB/8GB iNAND flash |
| TF/HDD | 1x SATA2,1x Micro SD(determined by the CPU model, optional) |
| System | |
| LAN | 10/100/1000Mbps ,1x LAN,1x USB-WIFI, 3G (optional) |
| USB2.0 | 2x USB2.0 on front panel ,1x USB OTG |
| Serial Port | 5X 4 -wire serial port, COM2: RS422/485 |
| Display | 1x HDMI, 1x VGA |
| Audio | 1x Mic, 1x Headphone |
| Power | |
| Power Supply | DC +12V Power Adapter |
| Reliability | |
| Installation | Desktop Installation or Wall mount |

| | |
|-----------------------|---|
| Operating Temperature | -20°C~60°C |
| Storage Temperature | -40°C~80°C |
| Relative Humidity | 5%~95%, relative humidity, non-condensing |
| Vibration Test | 0.5grms/5~500Hz/random operating |
| EMC | CE/FCC Class B |

3.9 Video Arbitration Server

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



Software interface



Device Specification

| | |
|---|------------------------|
| Type | 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. | |

3.10 Control Panel

| Products | Details |
|---------------|---|
| Control Panel | <p>Type: 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

| Type | 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 |

3.11 HD Camera

| Products | Details |
|-----------|------------------------|
| HD Camera | Type: KS-PARROT-CAMERA |



Device Specification

| Product Type | KS-PARROT-CAMERA |
|-----------------------|---|
| Image sensor | SONY 1/2.8 inch Progressive CMOS |
| Effective pixels | 3.1 million pixels |
| Signal System HD | 1080p60/50, 1080p30/25, 1080i60/50, 720p60/50 |
| Signal system | PAL/NTSC |
| Lens | 12x optical zoom, f=3.9mm (wide angle) ~46.8mm (distal) |
| Horizontal view angle | 72.5° (wide angle) ~7.4° (distal) |
| Aggregation mode | Auto / Manual |
| Minimum illumination | 0.1Lux |

| | |
|--------------------|---|
| Shutter speed | 1/1~1/10000S |
| Gain | Auto / Manual |
| White balance | Auto / Manual / Indoor / Outdoor |
| Image effect | Color / Black & White / Electron flip |
| S/N ratio | ≥50dB |
| Horizontal shaking | 355° (Maximum velocity 80°/s) |
| Pitching shaking | -30°~30° (Maximum velocity 60°/s) |
| Presetting bit | 9 remote control and keyboard can set up to 200 |
| Video output HD | HDMI、 3G-SDI、 USB2.0、 USB3.0、 RJ-45 |
| Audio input | 3.5mm LINE-IN |
| Power | 12V DC (10.8~13.0V DC) |
| Operating temp | 0°C~40°C |
| Storage temp | -20°C~60°C |
| Size | 164x148x173mm |
| Power consumption | 12W (DC 12V) |
| Weight | 1050g |
| Color | Silver |

4. Scene photos

