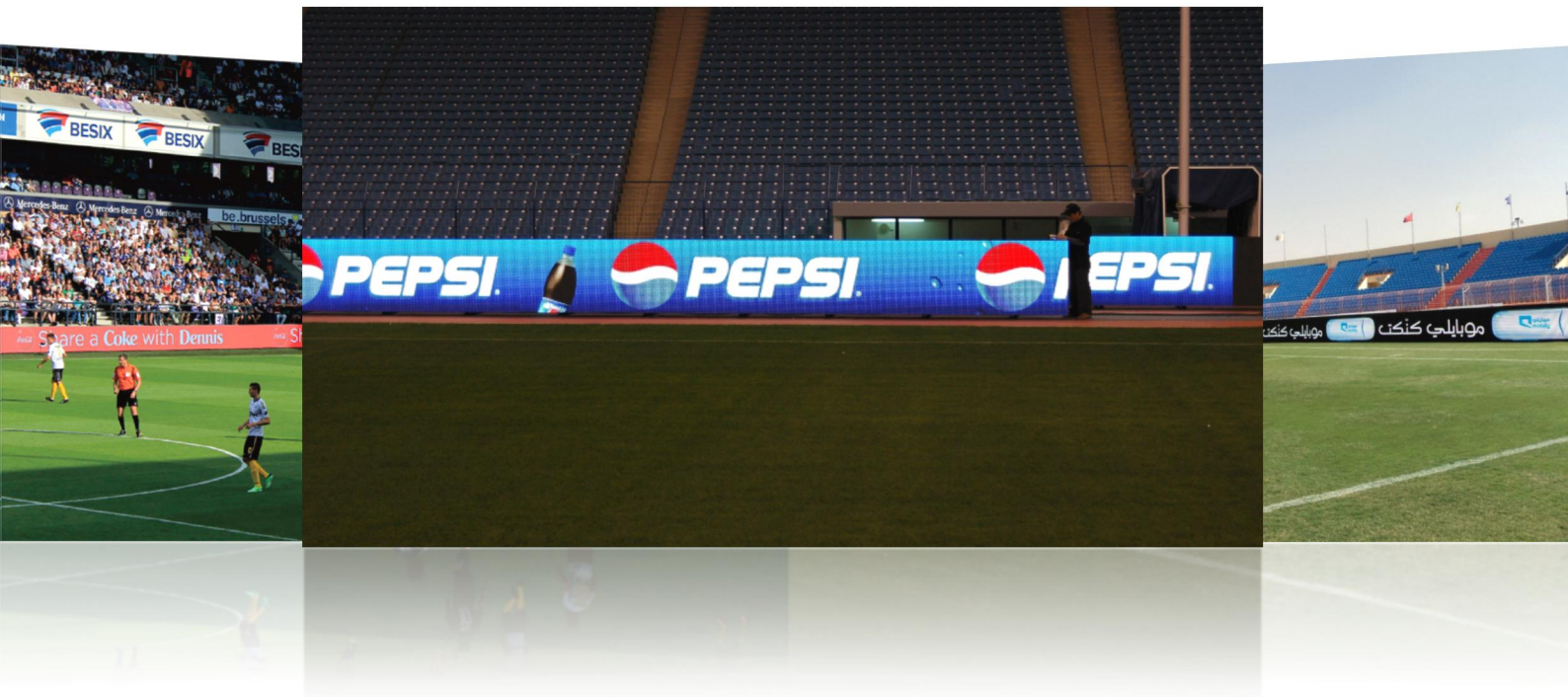


# LED Perimeter System



## 1. Profile

This is a synchronous video playback system named Zither, special for LED perimeter screen, typically arrayed in long lines around sports fields, which integrates the functions of LED cabinets management, play list management and program editing.

Video, image and text message can be arranged to broadcast synchronously in a long running state.

Zither system is able to activate the maximum load of LED controller card and help you set up a powerful video playback system.



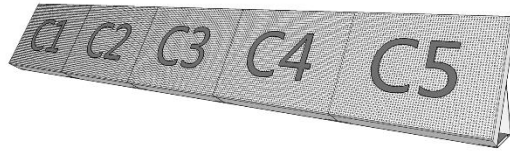
## 2. Working Principle

When the conventional LED control card is loaded with ultra-long LED screen, the disadvantages of insufficient length with loaded points and redundant height with loaded points will appear.

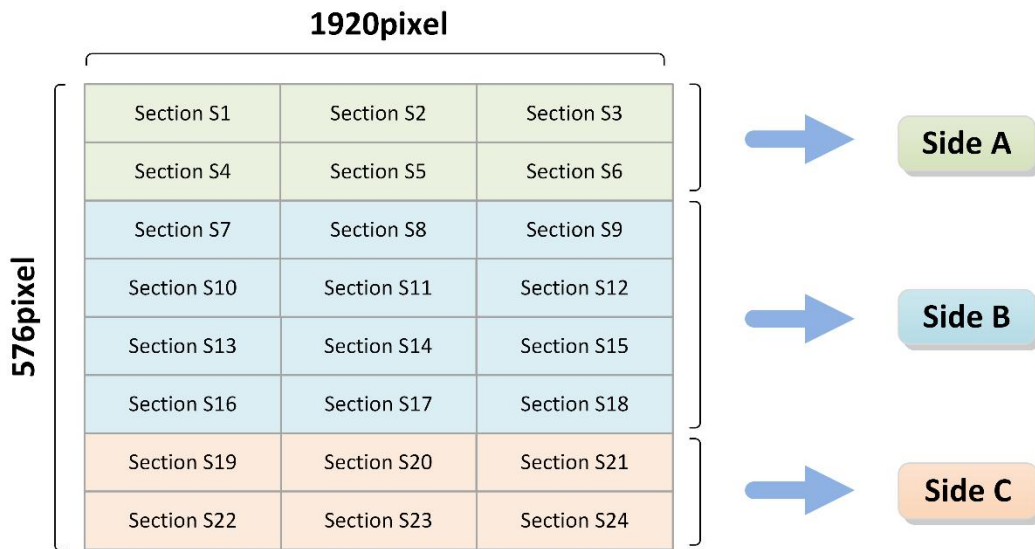
By processing the input data, the perimeter control system can meet the need of ultra-long screen resolution while the technical data of the original LED control card remain unchanged. It can convert the redundant load height of the control card into load length, so as to maximize the use of LED control card with.



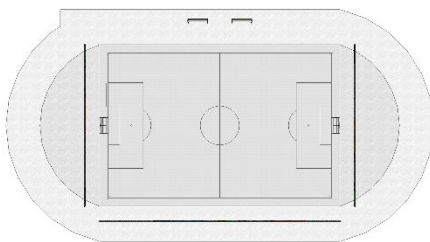
LED Cabinet 1: 128x72pixel



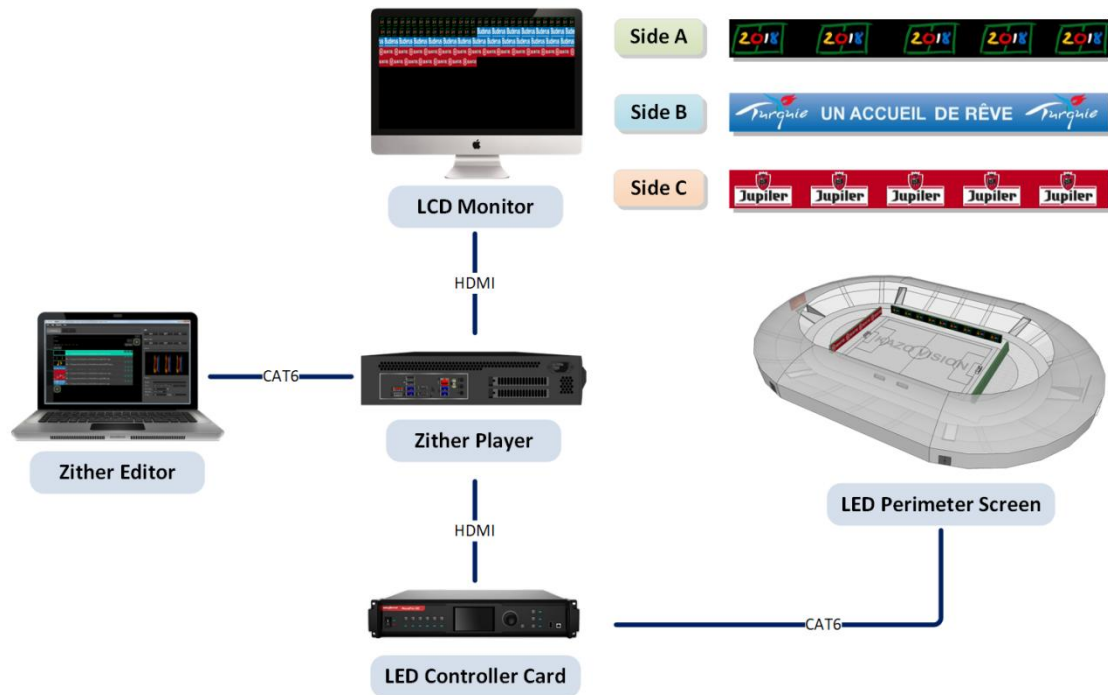
Display Section 1: 640x72pixel



Load of LED controller card



### 3. Connection diagram

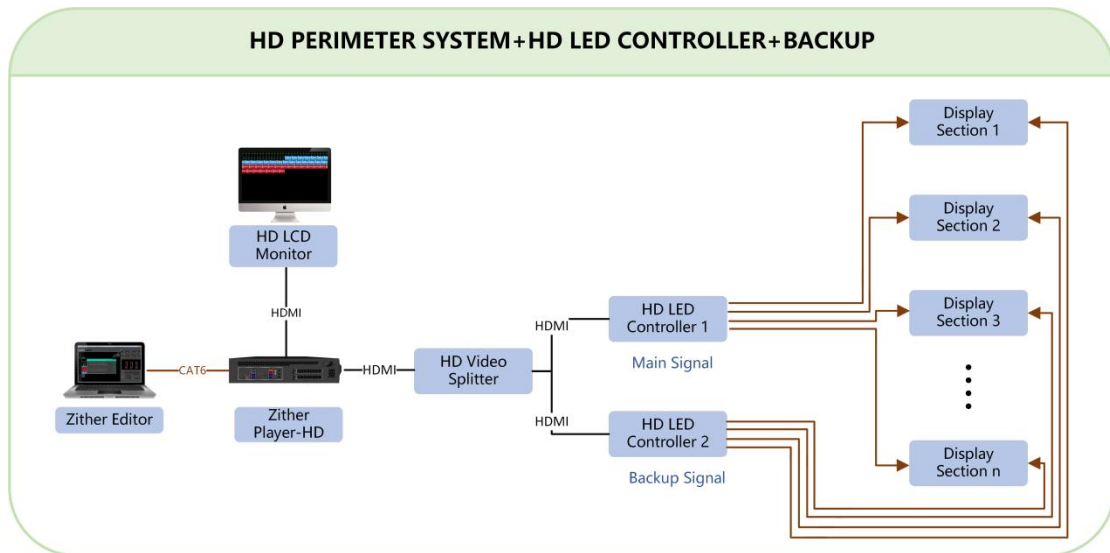
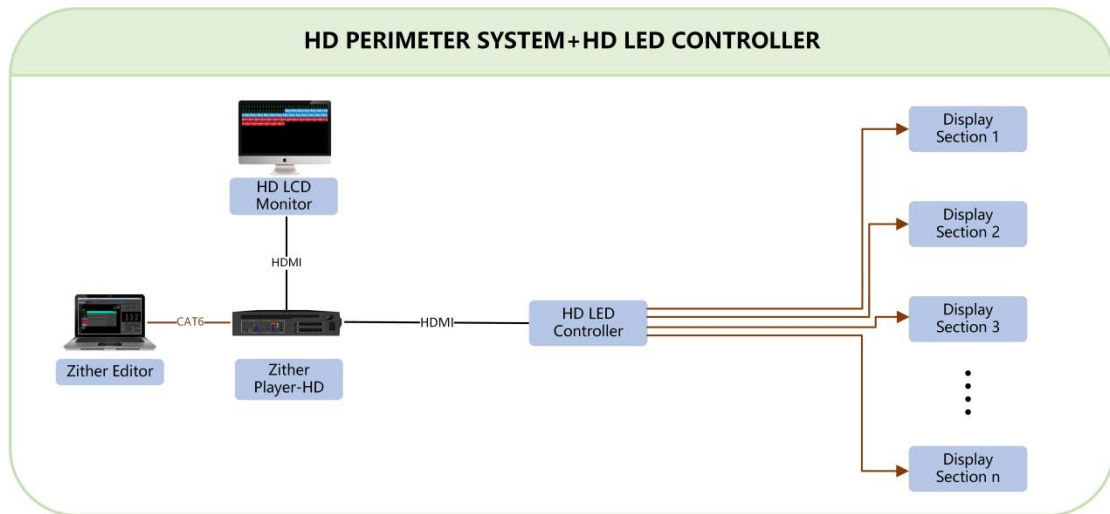


#### System Instruction:

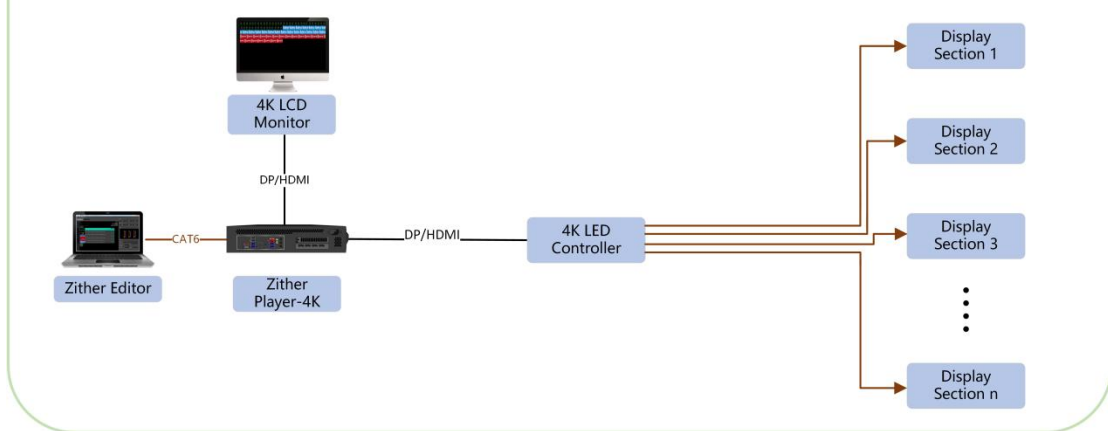
LED perimeter system is composed of Zither Editor (software) and Zither Player (hardware).

- Zither Editor:  
Program editing, playlist management, display section settings is operated on the Zither editor and transmitted to the Zither player via the network cable CAT6.
- Zither Player:  
Zither Player will display the program according to the pre-set playlist.

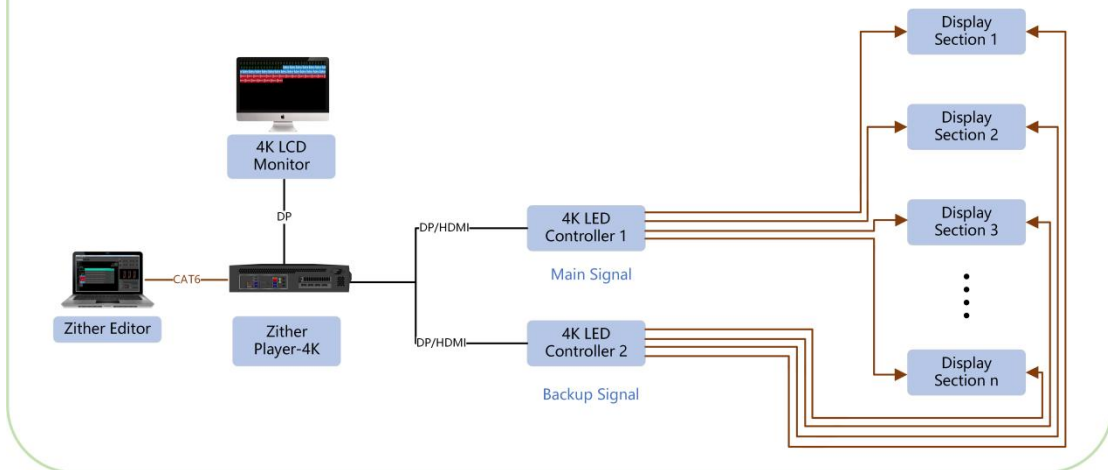
## 4. Solutions



### 4K PERIMETER SYSTEM+4K LED CONTROLLER



### 4K PERIMETER SYSTEM+4K LED CONTROLLER+BACKUP



## 5. Functions

### Program Editing

- **Supporting program folded display and synchronous output.**  
Breaking the resolution restriction on general LED controller card, making LED controller card most effective used, managing folded content display smartly.
- **Supporting a wide range of content formats**  
Image formats: JPG, PNG  
Video formats: AVI, MPG, MP4  
Character format: TXT  
Supporting editing text message manually.
- **Supporting HD and 4K pixel output**  
The maximum output resolution is 4K.  
One set of LED controller card is enough for entire perimeter screen.
- **Multiple display effects**  
Displaying program simultaneously  
Districting display: Long LED screen can be divided into many display sections, of which each can pre-store a program playlist. Every section will display the playlist simultaneously.  
Combination display: A sequence of mixed file type includes pictures, texts and videos can be grouped to display.  
Image stream display: Scrolling display a stream of pictures which allows to set moving speed.  
Text effect: Go-round display of text, text speed setting, text editing manually.  
Image effect: fade in.

### Play Sections Management

- **Visual configuration**  
Inputting the numbers of perimeter screen's sides (one, two or three sides is available),  
Inputting the numbers of display sections for every side.  
Inputting the numbers of cabinets for every section.  
Setting the pixel for every cabinet,  
So that you may preview display effect on entire perimeter screen.
- **Flexible combination modes of cabinets**  
1-n units of cabinets can be grouped as display sections at random. All display sections can broadcast synchronously.

### Playlist Management

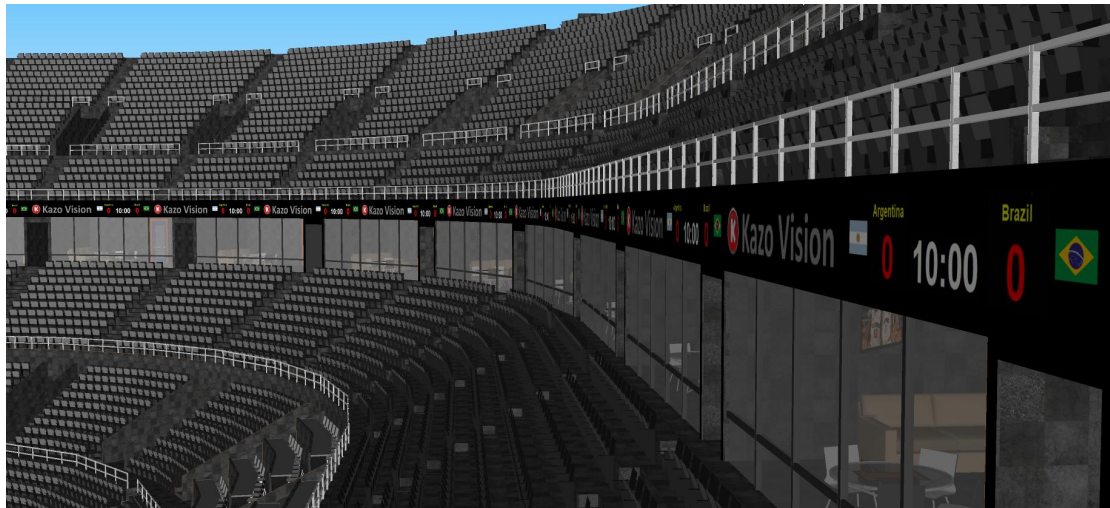
- **Pause and play**  
Pause and play on-going playlist at any time without picture shaking.

- **Supporting insert-play**

Any created general playlist can work as an insert-playlist, to display premium sponsor's programs when a "special events" happens, such as goals etc. whilst the original playlist will be paused and keep playing after that automatically.

### Linkage with Ultra Score System

- Linking with Match Score System can display the scoring and timing screen.



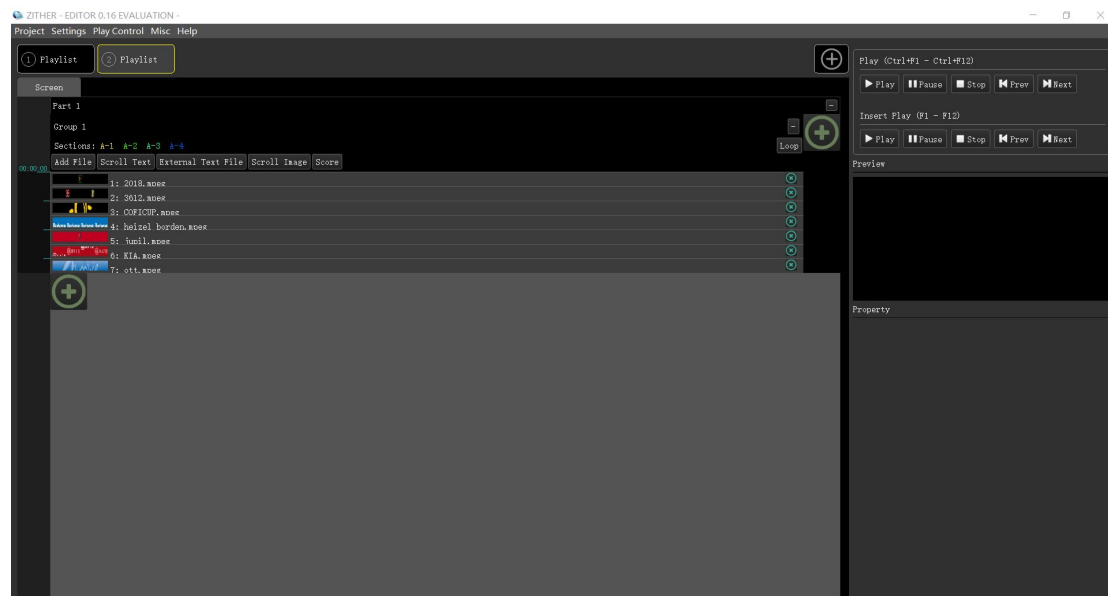


## 6. Product Introduction

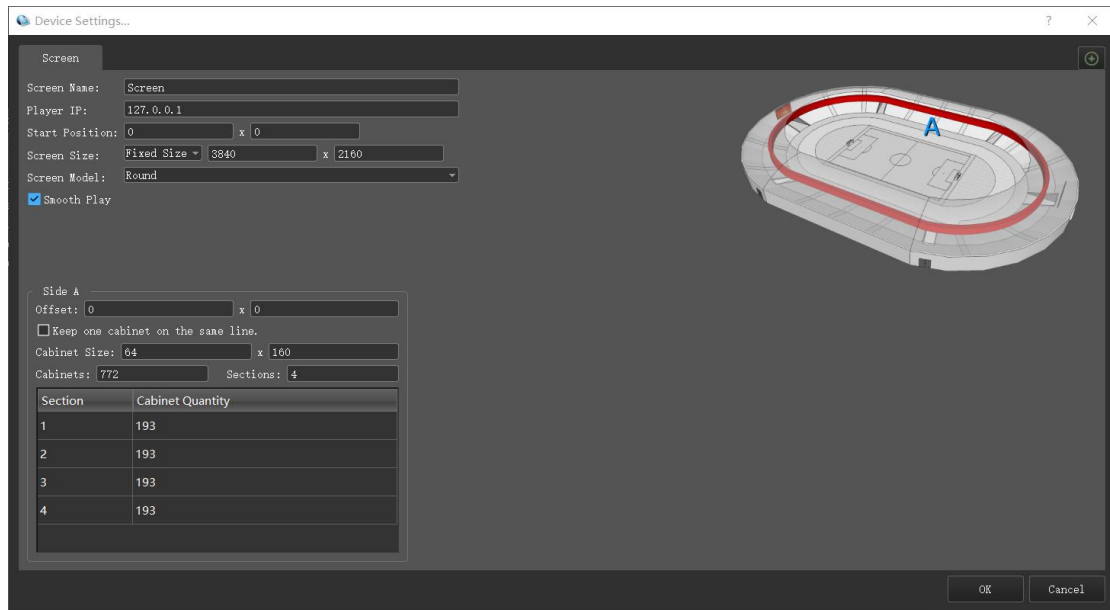
### 6.1 Editor software

Item	details
Editor software	<p>Features:</p> <ul style="list-style-type: none"><li>● Operating system: Windows 10 64bit</li><li>● LED cabinets can be grouped into several play sections. Program can be schedule for each section.</li><li>● Each section can pre-store multiple playlists.</li><li>● Supporting to inter-cut new playlist and keeping playing original playlist after that.</li><li>● Supporting various types of image or text notification display which will be superimposed to the video.</li><li>● Frames broadcasting synchronously in each play section.</li><li>● Supporting editing text message manually.</li><li>● Text effect: Fades, go-round display</li><li>● Changing move speed of text and image.</li><li>● Supporting preview effects of display.</li></ul>

#### Program Editing Interface:



## Cabinets Setting Interface:



## 6.2 Zither Player

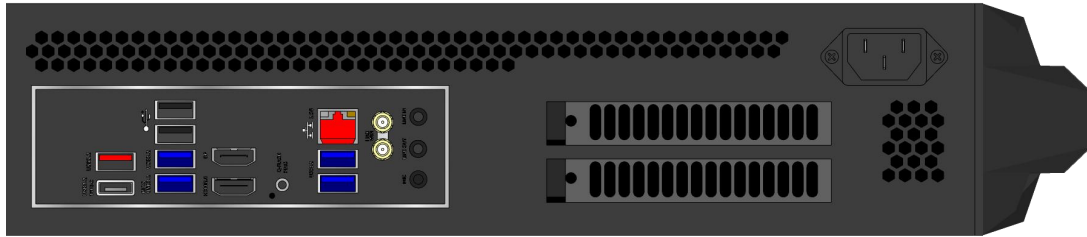
Item	Details
Zither Player-HD Type: KS-ZP-HD	<p>Size: 381*371*86mm (2U)</p> <p>CPU: Intel I7</p> <p>System : Win 10</p> <p>Ram: 8G</p> <p>Storage:500G</p> <p>Output: 1920*1080</p> <p>Output interface: HDMI*1</p> <p>Supporting pre-monitoring (LCD monitor NOT included).</p> <p>Function: Storing and broad the program which comes from Zither editor according to pre-set playlist.</p>
Zither Player-4K Type: KS-ZP-4K	<p>Size: 381*371*86mm (2U)</p> <p>CPU: Intel I7</p> <p>System: Win 10</p> <p>Ram: 16G</p> <p>Storage:500G</p> <p>Output: 3840*2160</p> <p>Output interface: DP*4</p> <p>Supporting pre-monitoring (LCD monitor NOT included).</p> <p>Functions: Storing and broad the program which comes from Zither editor according to pre-set playlist.</p>

Front



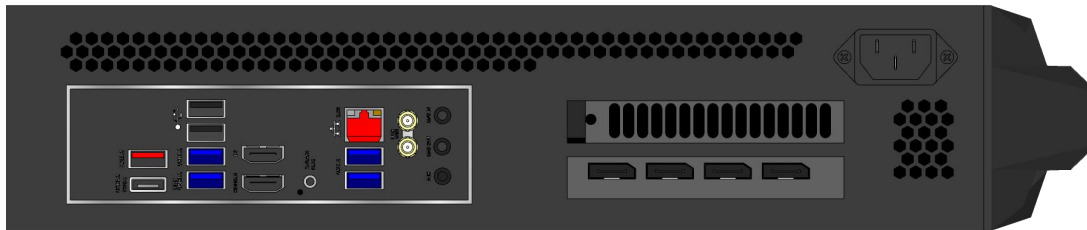
Zither Player-HD back

Type: KS-ZP-HD



Zither player-4K back

Type: KS-ZP-4K



Item	Details
4K-Pro Player	<p>Type: KS-ZP-4K-Pro</p> <p>Output: 3840*2160</p> <p>Output interface: DP*4</p> <p>Functions:</p> <ul style="list-style-type: none"><li>● Storing and broad the program which comes from Zither editor according to pre-set playlist.</li><li>● Supporting pre-monitoring (include pre-monitoring screen).</li><li>● Integrated with NOVASTAR 4K controller.</li><li>● Portable box for safe transportation of equipment.</li></ul>

Front



Side



Parameter list

Product	HD Player	4K Player	4K-Pro Player
<b>Basic Parameter</b>			
Type	KS-ZP-HD	KS-ZP-4K	KS-ZP-4K-Pro
Maximum display pixel	1920*1080	3840*2160	3840*2160
Output	HDMI*1	DP*4	DP*4
Controller system	Pre-install Zither Player software	Pre-install Zither Player software	Pre-install Zither Player software
Cabinet	2U IPC	2U IPC	8U safety case with pull rod
Size	483*430*90mm	483*430*90mm	610*622*457mm
<b>LED Controller</b>			
Model	/	/	NOVA MCTRL-4K

Resolution	/	/	3840*2160
Capacity	/	/	9.2 million pixels
Output	/	/	Neutrik EtherCON×16/OPT Ports×4
Video source depth	/	/	8/10/12bit
<b>Monitor</b>			
Pre-monitor	/	/	4K double monitor
Color precision	/	/	8bit
Color space	/	/	YUV and RGB
<b>Product configuration</b>			
Packing list	Host*1 HDMI cable*1 Power Cable*1 User Manual*1	Host*1 DP to HDMI cable*2 Power Cable*1 User Manual*1	Host*1 NOVASTAR 4K controller*1 4K double monitor *1 Power Cable*1 User Manual*1 Safety case*1
<b>Work Environment</b>			
Work environment	0-50°C (32-140°F)		
Working temperature	-20-70°C (-4-158°F)		
Relative humidity	5%~95%		
Power	AC 100~240V		

## 7. Success Stories

2019 June, Wuhan Olympic Sports Center



Sylhet International Cricket Stadium, Bangladesh

The Stadium uses our Perimeter System to display the advertisements during the game.



Japan Basketball League – B.LEAGUE





### Soccer field in Belgium

The system was used in this soccer field for displaying advertisement videos during the soccer competition, which achieved the perfect effect of advertising.



### Middle East Stadium

Our system was used in Middle East Stadium implementing the large-scale videos synchronize effect.

