# 2019

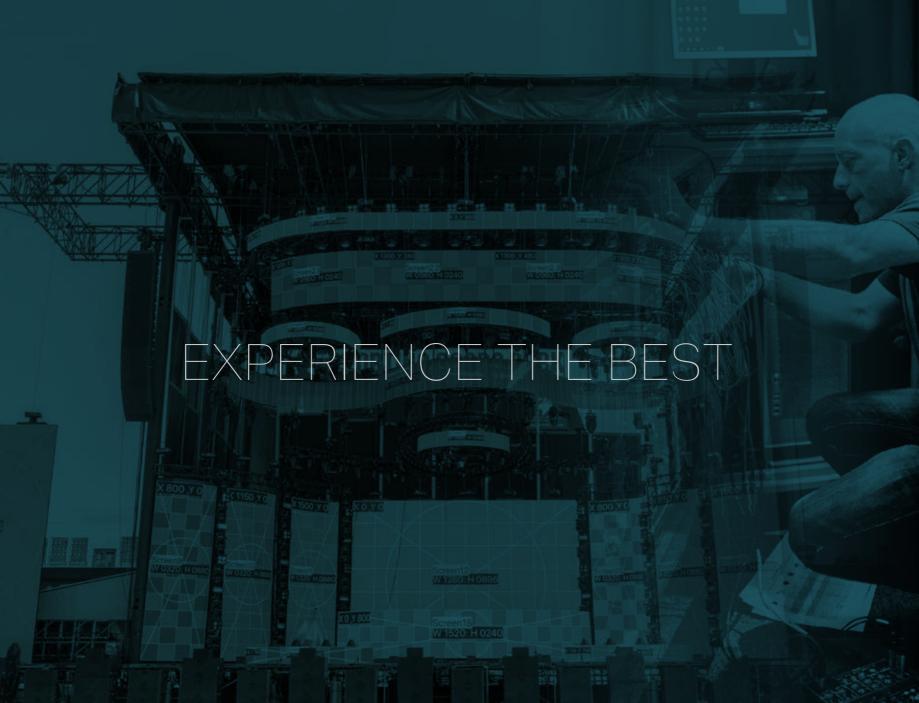
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We are very satisfied with our collaboration with NovaStar, a world leading company in the field of control systems and video processors for LED displays.

In our partnership we benefit from daily contact and fast and effective communication that has taken on a key role in the NovaStar brand solution development strategy.

Our team is excited about the performance, quality and reliability of NovaStar products, which allows us to provide a wide range of technologically innovative and pioneering professional solutions in response to a competitive, demanding and constantly evolving market.

The maximization of feedback gathered in the field and attention to detail has had and will continue to play a key role in the implementation of a range of reliable and high quality products, meeting the needs of professional operators and the requirements for higher performance.

In addition, all NovaStar product users can count on enviable 360° technical support, thanks to a NovaStar team of highly qualified engineers and technicians, providing design, training and after-sales assistance.

#### Fabio Sorabella

Commercial Dpt.
MUSIC & LIGHTS S.R.I

Our relationship with NovaStar manufacturer in this first year has allowed us to consolidate the position of our company in the LED market. We have developed a horizontal and cross-sale segment into the rental market, approaching many customers from other LED brands and increasing business opportunities together. In addition, for the system integration segment we have incorporated new projects according to NovaStar solutions that allow us to be in many projects with the integrators working as one team in a specific project. The electronics for a LED project are one of the key focus points. We collaborate with customers, bringing them knowledge and tech pre and post support they need for getting the best image quality, thanks to NovaStar.

#### Santiago Verdú

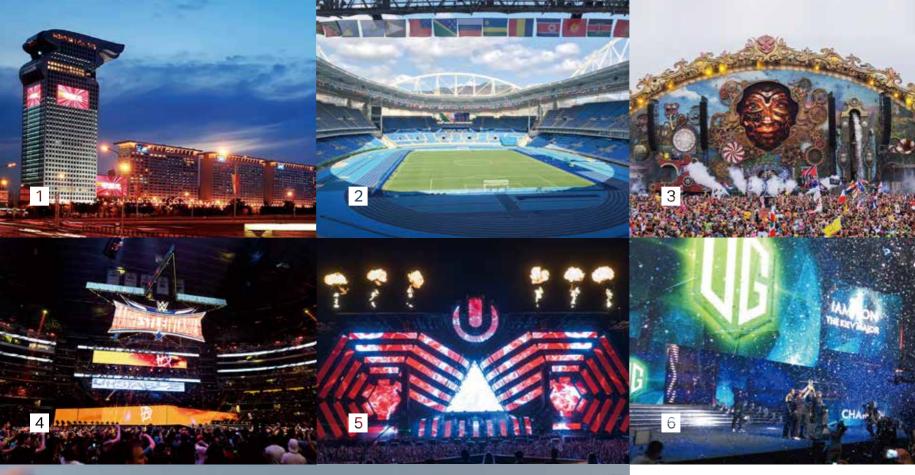
**Director General** 

We started cooperating with NovaStar six years ago and have never regretted this cooperation. NovaStar products offer the best solution on the market at a reasonable price point. Today, NovaStar products can be called the industry standard, and are a pacesetter for a whole industry. Flexibility, innovation, and the size of the NovaStar RnD team help us a lot when it comes to troubleshooting and finding new solutions or giving new direction for the future. The combination of innovative products, professional people, and high quality standards make NovaStar the perfect partner for our company. We hope to continue this cooperation for a long time.

**Udo Bloms** 

LEDCON







- 1. Beijing Olympics
- 2. Rio Olympic Games
- 3. Tomorrow World
- 4. WWE Monday Night RAW
- 5. Ultra Festival
- 6. The Kiev. Major in Ukraine
- 7. Electric Daisy Carnival







# **PHOBOS SERIES**

The PHOBOS Series is divided into four different schemes, making it adaptable to varied applications.

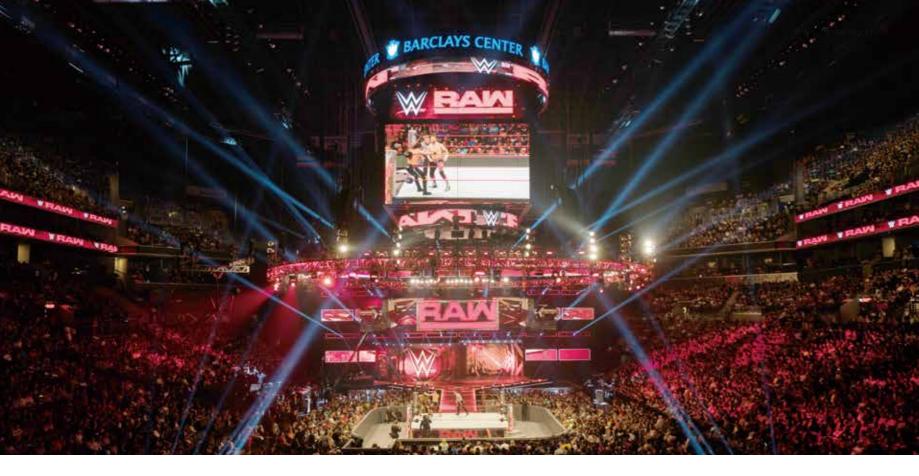


# **Creative on-site solution**

- Smart display configuration
- Minimal framework
- Free rotation
- High Definition Display
- · A creative display, within your reach

# High resolution solution

- Ultra high loading capacity
- Exquisite and real-world image quality
- · Image stabilization, no screen tearing
- Perfect for huge events



# 3D solution

- · Loading capacity up to 4K×1K in 3D mode
- You could experience super-large 3D image on your LED display with MCTRL4K+EMT200+3D glasses
- Easily enjoy the immersive 3D experience with long battery life active-shutter 3D glasses, supporting various video inputs
- One-click switching between 2D and 3D mode

# Low latency solution

 The high-speed data transmission feature has a system delay of only 2 frames, allowing optimal performance



# MCTRL4K

#### NovaStar 4K Controller

- Ultra Large Capacity
- Resolution: 4K×2K @ 60 Hz, maximum width to 8K
- Multiple inputs
- Neutrik EtherCON×16, OPT Ports×4 (LC connector)
- · Webpage control
- Support 3D functions with EMT200 and A8s / A10s receiving card
- Support low latency function with A8s / A10s receiving card

Loading capacity	8.8 million pixels
Control interface	USB/TCP/IP/Genlock
Video interface	DP1.2 / HDMI 2.0 / Dual DVI
Video source grayscale	8 / 10 /12 bit







# **EMT200**

- The EMT200 is a 3D signal synchronizer which enables synchronization between 3D glasses and the controller
- Obtains the 3D synchronization signal through Ethernet cables and can be connected to receiving cards
- Supports a VESA 3D signal output connector connecting to a third-party external emitter

Ethernet port 1 Ethernet port 2

3D signal output connecto

Gigabit Ethernet port used for signal input or output

Complies with VESA standard and connects to a third-party external 3D emitter



# MCTRL660 PRO

#### Controller

The MCTRL660 PRO is a professional controller developed by NovaStar. A single MCTRL660 PRO has a loading capacity of up to 1920×1200@60Hz. It allows users to customize resolutions to configure ultra-large screens with ultra-width or ultra-height.

The MCTRL660 PRO is mainly used for the rental and fixed fields, such as concerts, live events, security monitoring centers, Olympic Games and various sports centers.

Loading capacity	2.3 million pixels
Control interface	USB / RJ45 (TCP/IP)
Video interface	3G-SDI / HDMI 1.4a / Single-Link DVI
Video source grayscale	8bit / 10bit / 12bit
Output interface	6×RJ45
	2×10G optical ports

- Input of ultra-high color depths, such as 10-bit/12-bit 4:4:4, with input resolutions up to 1920×1080@60Hz, increasing color expression capabilities by 4096 times compared to 8-bit inputs, and presenting images with rich and delicate colors, smoother transisions, as well as clearer details
- Independent Gamma adjustment of RGB, effectively controlling image non-uniformity under low grayscale and white balance offset to improve image quality
- · Support low latency with A8s / A10s receiving card
- Dual working modes: working as sending card and fiber converter
- One-click backup and recovery, quickly recovering previous screen configurations to deal with sudden on-site failure
- Image flipping, making stage effect more cool and dazzling







# MCTRL R5

#### **Rotation Controller**

- Free Rotation
- Simple to operate! LED panel can rotate in any area at any angle, providing infinite possibilities for creative display
- The loading capacity of a single set can reach up to 4K×1K@60Hz
- · Long-distance optical transmission
- The distance of optical transmission can reach about 10 kilometers, presenting more stable images

Loading capacity	4.6 million pixels
Control interface	USB / TCP / IP / Genlock
Video interface	6G SDI / HDMI 1.4 / Dual DVI
Video source grayscale	8 / 10 /12 bit



## **SmartLCT**

#### LED Display Configuration Software

- SmartLCT is the newest generation of LED display configuration software from NovaStar. Used in conjuction with LED display controllers for smart configuration of various complex LED displays, it includes building-block configuration, online/offline design, seam brightness adjustment, cabinet rotation, and more, to provide an easy way for users to operate LED displays and present you with a perfect viewing experience
- · Building-block configuration
- · Seam brightness adjustment
- Canvas exporting
- Hot backup
- Property settings of LED display controlling units including I/O source settings, color settings, PIP, montage, etc.





Receiving Card Of Armor Series
Highly improving the image quality of the display

NovaStar's Armor Series high-end mini receiving card. With a small size and full-functionality, this product supports both 18bit+ and ClearView, NovaStar's latest LED display imaging technologies. These technologies highly improve the image quality of the display, creating an eye-pleasing presentation and making the display more valuable.

#### 18bit+

 The latest LED display image processing technologies from NovaStar. Effectively improve grayscale performance under low brightness, showing more exquisite and more expressive images

#### ClearView

 Adjust the texture, size and contrast of images in different areas to further enhance the image details

#### Hot backup of Calibration coefficients

 Supports one-key restore of parameters, solving faults caused by any conflict between settings and cabinets

#### Mapping

 Cabinet numbers and network ports are displayed from obverse side, one key to set everything you like

#### One key to restore Configuration file

• One key to restore factory data, no longer a need to worry about configuration file errors

#### One key to restore Firmware program

 Firmware program can automatically back-up and one-key read from hardware







A8s Receiving Card A10s Receiving Card

Product Model	A8s	A10s
Resolution	512 × 256	512 × 512
Prestored Picture	√	√
Rotation per 90°	√	√
EMC Optimizing	√	√
LVDS Transmission	√	√
3D function	√	√
Mapping	√	√
18bit+	√	√
ClearView	√	√
Free Rotation (with R5)	√	√
Low Latency	√	√
HDR	√	√



# CVT4K-S

Fiber Converter

- Supports 16-channel Neutrik Ethernet outputs
- Supports 4-channel optical fiber interfaces. Two of them are master input/output channels and the other two are backups
- Supports two types of power interfaces (3-pin power socket and PowerCON) with dual-power redundancy backup
- With various indicator lights on the front panel, each status can be shown clearly
- AC 100-240V~50/60HZ
- No need to install drivers
- Certification: EMCLVD, RoHS, FCC, IC, EAC, CB, UL/CUL

# Optical fiber solution with CVT4K-S OPT Ports × 4 Up to 10km Hot backup





# PROFESSIONAL STAGE RENTAL SOLUTION

Who says you can't have it all?

NovaStar's Professional Stage Rental Solution is realized through the power of the NovaPro series of products, including the flagship-class NovaPro UHD and standard-class NovaPro HD. These two all-in-one solutions are simple to use, providing multiple functions in one unit, taking the hassle out of stage setup and operation. The NovaPro line is all about ensuring the clarity of the LED display while providing all the special effects you could ask for. It's the perfect solution for everything from concerts to press conferences to plays. Open your eyes to a whole new way of looking at stage rental applications with the powerful all-in-one NovaPro.



# NovaPro UHD \*\*\*

All-in-One Controller
The most advanced ever, capable of doing it all

NovaPro UHD is a new all in controller developed by novastar, by integrated video processor, Switcher, 4K sending card and control software. The NovaPro UHD combines multiple advanced technologies, allowing you to connect just a single display to realize total control over high-end rental applications and more. It's an extremely user-friendly experience that adds value to your display.





#### 4K+HDR = Outstanding Image

- Supports 4K×2K output, with maximum height and width up to 8K
- Supports HDR (High Dynamic Range), bringing the image to life
- \* HDR10 standard supported at present

#### Fast And Efficient, Designed With Simplicity in Mind

- Features Master VI advanced operating software, supports LED screen configuration, Layout setting and External media play
- Supports variety of 4K inputs and outputs.
   Features modulized design can leed to flexible I/O options (DVI, DP, HDMI, etc.)

#### Maximum Flexibility, For Total Creativity

- Supports two 4K×2K, six full HD, OSD, LOGO, BKG and irregular layers
- Supports multiple seamless switching effects, ensuring more dynamic result

#### Multiple Safeguards, Ensuring Stability

- Supports MultiViewer preview
- Redundant power supply, ensuring uninterrupted operation
- Features integrated 4K sending, 4×10Gbps optical outputs with redundancy modes

#### **Breaking Barriers With Outstanding Features**

- Supports USB playback
- · Supports 12 bit depths

Genlock

- Support deinterlacing
- · Support web control via smart phone, PC, or pad





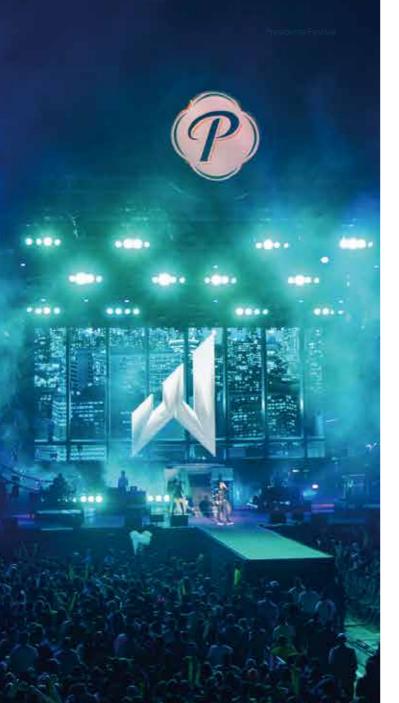
# NovaPro HD

Standard-class NovaPro HD

- NovaPro HD is a full-functioned all-in-one product
- NovaPro HD features advanced video processing and LED sending capabilities, multiple inputs, excellent image quality, and flexible image control, making it an excellent solution for rental applications
- Each input can be fully configured with contrast, brightness, hue, saturation, and RGB gain. Inputs can be scaled up or down to fit the LED display resolution
- The NovaPro HD has DMX512 and GenLock interface. Professional control and synchronization are ready to go. Optical fiber outputs enable the confident long-distance data transmission

Loading capacity	2.35 million pixels
Control interface	USB/TCP/IP/DMX/Genlock
Video interface	DP, HDMI, VGA, DVI, CVBS, 3G-SDI
Output interface	4×Optical Fiber Output , 4×Ethernet port







# VX6s

All-in-One LED Video Controller

#### **Advanced Processing**

- Supports 7 video input sources
- Supports 6 LED outputs (RJ45)
- Supports USB playback
- Supports cascading

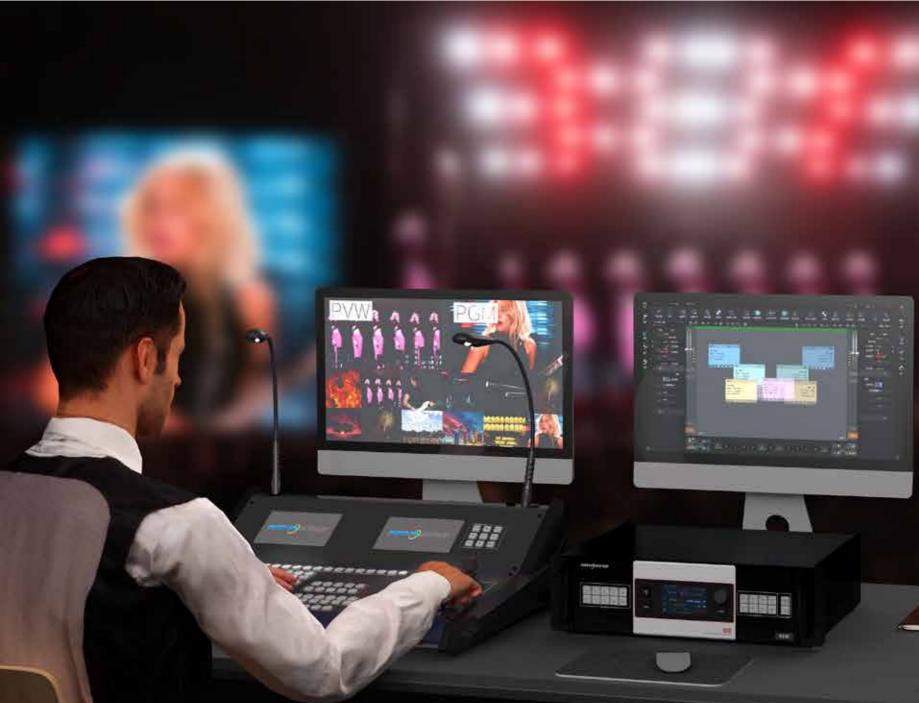
#### Flexible Image Control

- Supports 3 layers + 1 OSD
- 16 customizable user presets
- Supports multiple seamless switching effects

#### User friendly Control

- V-Can video processing software and LCT-Mars screen configuration software
- Support PGM preview in switcher mode

Loading capacity	3.9 million pixels
Control interface	USB / TCP / IP / Genlock
Video interface	3G SDI / HDMI 1.3 / DVI / USB playback
Output interface	6×Ethernet port







C1

#### Video Control Console

#### Simple Operation

- Supports numerical input for parameters
- Support for numerous hotkeys to simplify workflow
- Supports presets for multiple users, switchable with the press of a button

#### User-friendly dual touchscreen design

- Left screen allows real-time PVW and PGM monitoring
- Right screen allows touch operation for ultimate control over inputs, outputs, and display

#### Advanced design for a streamlined workflow

- Sleek and powerful design
- Clear and intuitive layout for simplified operation
- · Aviation-style T-bar for free switching



Multi-Screen Splicing Video Processor

#### Real 4K for breathtaking pixel to pixel display

- 9 input sources, including two 4K source inputs
- 4 DVI master outputs, for up to 8K×1K or 4K×2K loading capacity with a single unit

#### Fully featured for ultimate efficiency

- 2 AUX outputs can be used for teleprompter
- Fade in/out switching effects
- Supports 32 user presets, easily accessible with the push of a button

#### **Dual-Redundancy for ultimate stability**

- Redundant backup outputs (supports single or dual link mode)
- MVR output allows total monitoring for worry-free operation

#### Multiple Layers for creative arrangements

- Support for 7 layers in any location, each up to 4K×2K. Crossing multiple outputs will not limit number of layers
- Support capture each input sources, PVW and PGM as a BKG, A total of 8 BKGs can be supported







#### Dual-mode

• Switcher and splicer modes for ultimate flexibility

#### Stunning image quality

• 7 input sources, including one 4K×1K source inputs

#### Switcher mode

- Main outputs with support for 4K×1K processing
- Support capture each input sourcess, PVW and PGM as a BKG, a total of 6 BKGs can be supported
- ${\ \cdot\ }$  Support for real-time monitoring with PVW and PGM
- Support fade in & fade out switching effects

#### Secure and stable

 Dual-Redundancy for ultimate stability Redundant backup outputs (supports single or dual link mode)

#### Splicer mode

- 4 Main outputs, with support for 4K×2K processing
- Can realize larger size pixel to pixel display without scaling using media server

#### Abundant layers

 Support for 6 layers, each up to 4K×2K. Crossing multiple outputs will not limit number of layers



# LOW LATENCY SYSTEM SOLUTION

ThunderView coaxial low latency solution includes the S1 controller and the TR100 receiving card, which stand out for both high-speed and stability. ThunderView coaxial low latency solution, featuring high-speed data transmission and 2 frames delay (S1+TR100), is especially applicable to scenarios with high requirements for signal synchronization and stability, such as television broadcasting, security monitoring and indoor fine-pitch applications.





# **S1**

#### Controller

- 4K×1K resolution loading capacity, easier for large screen solutions
- High-speed data transmission, reliable BNC connector, and zero latency provide a smoother and more reliable experience
- With unique hardware auto-backup solution, say goodbye to complicated redundant settings, making your job easier and more efficient
- Each detail of the industrial design shows quality and originality

### **TR100**

#### Receiving Card

- Smaller size, designed for fine-pitch LED display
- Highly improves the image quality of LED display using new NovaStar-developed technologies such as 18bit+, mapping, and more
- 1.0/2.3 connector and smart hardware auto-backup solution make the system more stable and reliable
- · Low Latency of only 1 frame



Connector



Calibration



Mapping



Firmware Copying



Calibration
Coefficients
Backup



.RCFG Restore



Resolution



Grayscale





# CALIBRATION SYSTEM

NovaStar's calibration solutions include the standard calibration system as well as the Caliris calibration system, providing outstanding calibration for different types of applications while completely eliminating problems such as the mosaic phenomenon, image noise, line edges and multi batch. This allows for the ultimate viewing experience.

Currently, if you took all the displays using NovaStar's calibration solutions and put them together, you would have a screen over 500,000 m² large. Every year, NovaStar's technical support engineers calibrate over 20,000 m² of displays, constituting 95% of all calibrations in the global market. From anywhere in the world, you can view the excellent quality of NovaStar's calibrations.

### **Standard**

### Calibration System

- Can be applied to all LED displays, offering a better calibration result at a reasonable price. Featuring simple operation and high efficiency
- · Bright dark line correction method
- · One-key start
- Maximum pixels for one calibration: 192×128
- Maximum area for one calibration: 2K×1K
- Calibration speed: one minute/per cabinet, 200,000 pixels/half an hour

### **Caliris**

### **Advanced Calibration System**

- XYZ color data collection and processing
- Blue and white balance, achieving a better uniformity of blue and white
- Bright dark line correction method
- One-key start
- Maximum pixels for one calibration: 480×320
- Maximum area for one calibration: 4K×3K
- · Cabinet calibration and full-screen calibration are applicable









# NOVA CLOUD SOLUTION

NovaStar's cloud service is the world's biggest cloud service platform, servicing over 10,000 customers around the globe, providing coverage for the entire lifespan of the LED products.



### Billboard

# Safe

- Remote control options and stable display help protect the interests of the user
- Flexible display, and the ability to adjust operation methods at any time, maximizing value
- Custom branding, belonging to the brand owner, increasing brand value

### Intelligent Systems

## **Smart**

 Near-instantaneous synchronization, providing an amazing viewing experience. Reactive screen brightness allows for brilliant clarity in the daytime and soft detail at night, ensuring your content looks its best





Public Notification System

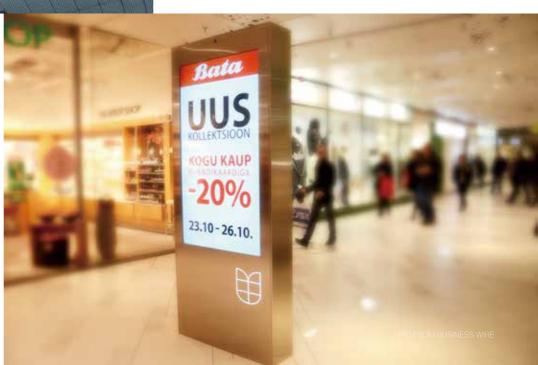
# **Simple**

Easy to manage both large and small screens.
 Display important notices at any time, flexible response to any issues, content automatically adapts to size of display

# Intelligent

## • One screen displaying varied content, increasing the value of the display

 Control via mobile device, change content on the fly, instant warning of faults, eliminating the issues of time and distance





### **Cloud Transmission**

- Visual interface has only 4 simple steps to display content
- Online content storage-accessible anytime, from anywhere
- Automatic generation of transmission records, allowing user to easily keep track
- Any internet enabled device can provide remote control
- Flexible authority and permission settings, providing excellent security
- Custom branding, helping brands grow



### **Cloud Monitoring**

- Any physical problem with the screen can be immediately reported, resolving the issue quickly
- Remotely adjust screen parameters, allowing you to solve problems anytime, anywhere
- Flexible authority and permissions, allowing more efficient administration
- Total protection, ensuring a sound future for your display







### T Series Multimedia Player

- Varied protection methods, superior stability, alleviating all your concerns
- Both synchronous and asynchronous modes, with instant switching or scheduled switching, meeting the needs of any LED display
- Advanced synchronization technology, ensuring perfect synchronization of billboard content
- A single screen can be divided into multiple regions, increasing the screen's value



- Change programs at any time with a mobile device, allowing the same operation as a computer...without the computer
- All-in-one smart controller, highly reliable and stable
- Special design allows displays to be perfectly synchronized





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