NOVASTAR
Experience The Best

2017

NOVASTAR

The Leading LED Display Service Provider

> LED Display Control System

> Pixel Level LED Display Calibration System

> Application Software for LED Display Industry

01
About Us

Our products, with excellent performance, strong function and outstanding quality, have won trust of customers. In 2008 Beijing Olympic Games, Tiananmen Celebration for the 60th Anniversary on National Day of 2009, 2010 Shanghai World Expo, 2010 Guangzhou Asian Games, 2011 Xi'an International Horticultural Expo, 2011 Games for University Students and other large-scale activities, the most well-known LED display screen control systems are all provided by Nova.

As the biggest display in the world, Chengdu New Century Global Center's LED display has applied for the Guinness Book of World Records, 4080 square meters.

We made for Beijing Olympic games in 2008, there are 7 big displays altogether, 3400 square meters.

This reference is a sky screen in Xi'an, the headquarter of nova. It is 3000 square meters, P10, which makes this screen has the max pixels in the world, 30 million pixels.

As one of the leading LED display solution providers around the world, NovaStar commits to promote industrial upgrading of display industry through technology.

With headquarter being located in the beautiful ancient capital - Xi'an, Nova has 44 branches all around the world, serving more than 10000 customers. With continuously strengthened innovation ability, outstanding customization capacity, excellent service capability and improving delivery ability, we have won trust of worldwide customers!

We have multiple product lines, including product lines of LED display synchronous control system, LED display asynchronous control system, LED display point-by-point calibration system, cloud-based information publishing and management system, etc.; these products rely on each other, forming a complete ecosystem.

Through our constant self-dependent innovation, we have possessed more than 500 proprietary intellectual property rights in LED display control, cloud computing and other fields. Nova has successively won "Xi'an Award for Science and Technology" and "Shaanxi Award for Science and Technology".

Nova team is young, professional, diligent, wise and full of social responsibility. We gain respect through our own efforts, and we have the sense of social responsibility. Nova Tech has successively won titles of "Excellent Innovative Enterprise of Xi'an Software Park", "Outstanding High-growth Enterprises of Xi'an Software Park", "the Most Promising Enterprises of Xi'an Software Park", and "Strategic Emerging Industrial Enterprise of Xi'an High-Tech Industrial Development Zone".

We believes that only the most leading technology, the most complete solution, the friendliest product, the best quality, and the most professional service can realize commission and target of Nova. In the future, all Nova people will continue to commit to promoting LED display industry through constant innovation!

History

Through constant innovation, NovaStar commits to promote industrial upgrading of LED display industry.

2013
- NovaStar launched asynchronous full color LED control system.
- NovaStar released NovaCloud,a cluster display management platform.
- Nova control system was applied in Xintiandi indoor LED display project, Chengdu (4080 square metres).

2011
- NovaStar was awarded the Xi'an Award for Science and Technology.
- NovaStar supported Xi'an International Horticultural Expo with its display control system and pixel-by-pixel calibration system.

2016
- Nova control system powered the LED displays of the Olympic Games Rio, 2016.
- NovaStar was judged as 'Little Giant of Science & Technology Enterprise".
- The shipment of video processor was an industry first.
- The synchronous system has a domestic market share above 50%.

2009
- NovaStar launched N2 Series, the 2nd generation of Nova synchronous control system.
- NovaStar successfully launched NovaCLB, a pixel-by-pixel calibration system.

2014
- NovaStar won title of "Strategic Emerging Industrial Enterprise of Xi'an High-Tech Industrial Development Zone".
- The pixel-by-pixel calibration system has a global market share above 95%.
- NovaStar won title of "Deloitte's 2014 Technology Fast 50 Awards".

2010
- The display control system and pixel-by-pixel calibration system from NovaStar were successfully used in Guangzhou Asian Games. NovaStar won title of "Excellent Service Guaranteed Enterprise" for its excellent products and professional services.

2012
- NovaStar was awarded the Shaanxi Award for Science and Technology.
- Nova control system is used at the Sky Screen in Qin Han Tang Square, whose pixel density can reach up to 30.24-megapixel.

2008
- Novastar is headquartered in the ancient capital of Xi'an, China.
- As the biggest live window of the 2008 Beijing Olympic Games, Pangu Plaza LED display was successfully supported by the control system from NovaStar.

2015
- NovaStar won title of "Strategic Emerging Industrial Enterprise of Xi'an High-Tech Industrial.
- Development Zone, 2014". NOVASTAR, a famous trademark filed in 2015.
- All-in-one controller, believed to be the first of its kind.

Brand Service
Continuing Excellent Service

7×24

High-quality Service

Technological Innovation
Innovation pushes industry and drives future

Patents related to NovaStar in field account for 90% and are growing at an annual pace of 30%.

Patents (up to 2016)

398

Patent for Invention	Utility Model	Appearance Patent
286	56	53

Intellectual Property Rights (up to 2016)

564

Software Copyright	Product Registration	Trademark	Patent
64	21	41	438

Product Contents

Nova control system supported the Electric Daisy Carnival, commonly known as EDC, one of the biggest electronic dance music festivals in the world.

Image: NEP Screenworks

NOV/STAR

Video Processor

Switcher

Windows PC

Sending Cards

No need any longer！

All-in-1

VX2U · VX4U· VX4S

✔ No PC required for LED display configuration

✔ Front Panel / LAN / WLAN / USB control

✔ Support DVI, HDMI, VGA, DP, CVBS, SDI inputs

✔ Broadcast-level scaling, seamless sync mosaic

✔ Auto-fit to LED diplay by shortcut key

VX2U · VX4U

USB support, plug-and-show

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I.T.E. E472095

CE **RoHS** EAC FCC

Features of VX series products

◆ **Professional video processor + professional controller:**

All-in-1, video processing and controlling together, a pioneering technology.

◆ **Unlimited daisy chain supports Ultra-large LED Display:**

One device supports 2.3 million pixels with 4 Ethernet port outputs;

User-defined resolution, width up to 3,840 pixels;

Unlimited daisy chain, seamless sync mosaic.

◆ **Abundant interfaces + multiple switching effects:**

Front Panel / LAN / WLAN / USB control ;

DVI, HDMI, VGA, DP, CVBS, SDI input;

Fade in and fade out, instant switchover, and other effects.

◆ **Broadcast-level scaling, auto-fit to LED Display**.

◆ **Screen configuration without PC**.

◆ **Seamless mosaic:** professional DVI loop; seamless sync mosaic.

◆ **Picture-in-picture:** supports PIP and PBP.

◆ **Backup:** Nova controller's backup.

◆ **User-defined functional keys:** Functional keys can be defined based on users' habits.

◆ **Template layout customization:** Template layouts defined by users can be saved.

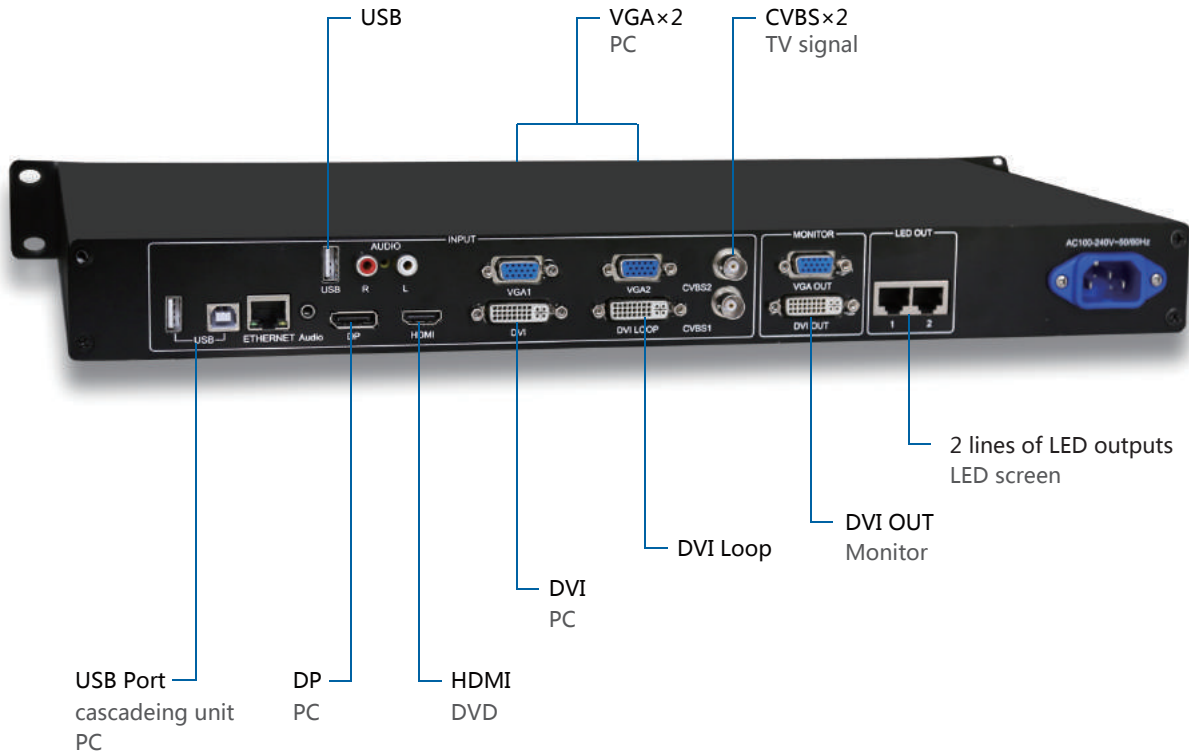| VX2U NEW	VX4U NEW	VX4S
Loading capacity: 1.3 million pixels, with width up to 3840 pixels	Loading capacity: 2.3 million pixels, with width up to 3840 pixels	Loading capacity: 2.3 million pixels, with width up to 3840 pixels
Outputs: Ethernet port × 2	Outputs: Ethernet port × 4	Outputs: Ethernet port × 4
Inputs: HDMI, DVI, VGA × 2, CVBS × 2, DP, USB	Inputs: HDMI, DVI, VGA × 2, CVBS × 2, DP, USB	Inputs: HDMI, DVI, VGA × 2, CVBS × 2, DP, SDI
Video Monitor: VGA, DVI	Video Monitor: VGA, DVI	Video Monitor: VGA, DVI
Video Loop: DVI Loop	Video Loop: DVI Loop	Video Loop: DVI Loop, SDI Loop
Mosaic & Daisy chain supported	Mosaic & Daisy chain supported	Mosaic & Daisy chain supported

NOVASTAR

VX2U

c UL US LISTED I.T.E. E472095   CE   RoHS   EHC   FCC

Input Index

Port	Number	Resolution Specification
CVBS	2	PAL/NTSC
VGA	2	VESA Standard, support max. 1920 ×1200@60Hz input
DVI	1	VESA Standard (support 1080i input), support HDCP
USB	1	Multimedia file formats: avi, mp4, mpg, mkv,
HDMI	1	mov, vobEIA/CEA-861 standard, in accordance with HDMI-1.3 standard, support HDCP
DP	1	VESA Standard

Output Index

Port	Number	Resolution Specification
DVI LOOP	1	Consistent with DVI input
VGA	1	Max. output resolution: 1280×1024@60Hz(1.3 million pixels) custom output resolution (Bandwidth optimization)
DVI	1	Max. horizontal resolution up to 3840 pixels Max. vertical resolution up to 1920 pixels

USB — VGA×2 PC — CVBS×2 TV signal

2 lines of LED outputs LED screen

DVI OUT Monitor

DVI Loop

DVI PC

USB Port cascadeing unit PC

DP PC

HDMI DVD

NOVASTAR

VX4U

c(UL)us LISTED CE RoHS EAC FCC
I.T.E. E472095

Input Index

Port	Number	Resolution Specification
CVBS	2	PAL/NTSC
VGA	2	VESA Standard, support max. 1920 ×1200@60Hz input
DVI	1	VESA Standard (support 1080i input), support HDCP
USB	1	Multimedia file formats: avi, mp4, mpg, mkv,
HDMI	1	mov, vobEIA/CEA-861 standard, in accordance with HDMI-1.3 standard, support HDCP
DP	1	VESA Standard

Output Index

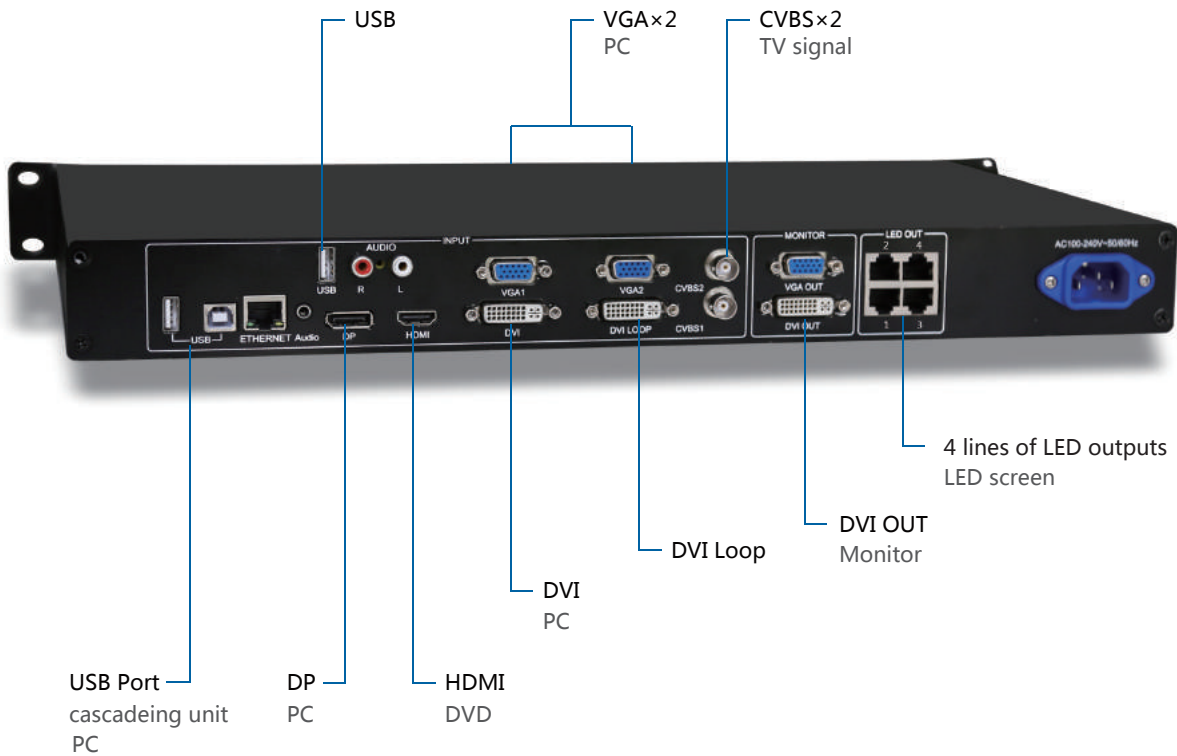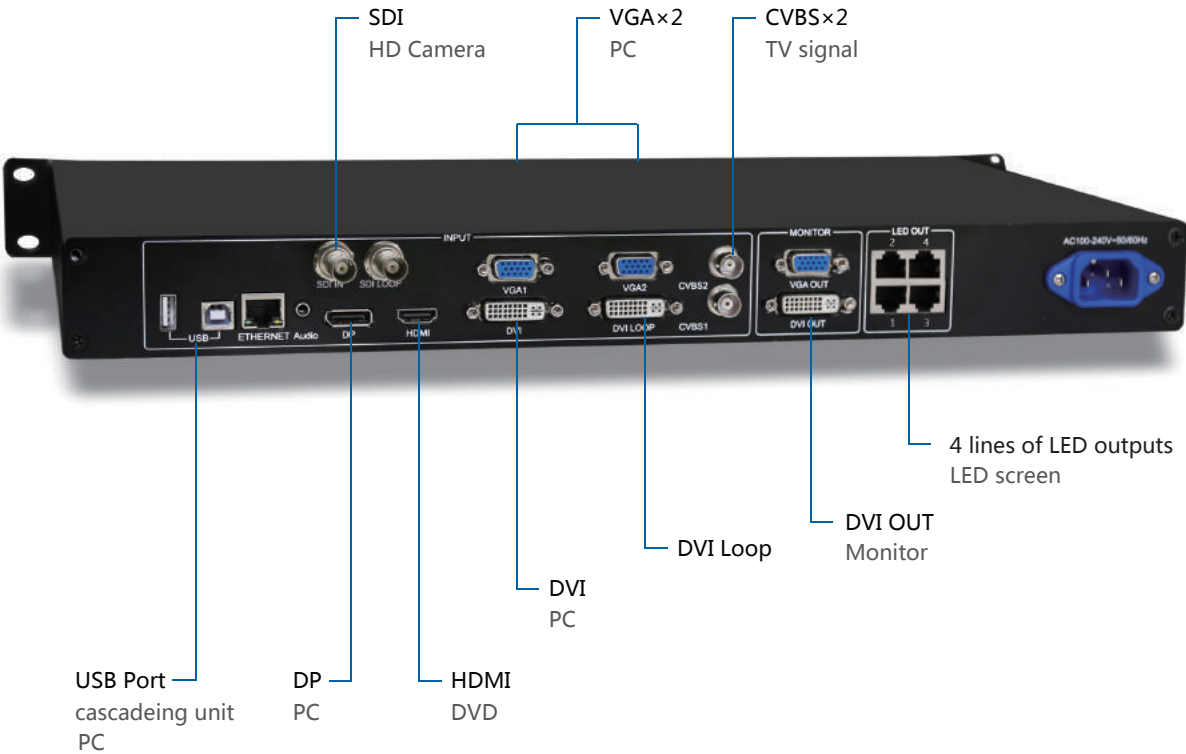| Port	Number	Resolution Specification
DVI LOOP	1	Consistent with DVI input
VGA	1	Max. output resolution: 1920×1080@60Hz(2.3 million pixels) custom output resolution (Bandwidth optimization)
DVI	1	Max. horizontal resolution up to 3840 pixels Max. vertical resolution up to 1920 pixels

USB

VGA×2
PC

CVBS×2
TV signal

4 lines of LED outputs
LED screen

DVI OUT
Monitor

DVI Loop

DVI
PC

USB Port
cascadeing unit
PC

DP
PC

HDMI
DVD

NOVASTAR

VX4S

RoHS FCC

I.T.E. E472095

Input Index

Port	Number	Resolution Specification
CVBS	2	PAL/NTSC
VGA	2	VESA Standard, support max. 1920 ×1200@60Hz input
DVI	1	VESA Standard (support 1080i input), support HDCP
SDI	1	480i、576i、720P、1080i/P
HDMI	1	EIA/CEA-861 standard, in accordance with HDMI-1.3 standard, support HDCP
DP	1	VESA Standard

Output Index

Port	Number	Resolution Specification
DVI LOOP	1	Consistent with DVI input
VGA	1	1280×1024@60Hz, 1440×900@60Hz, 1680×1050@60Hz
		1600×1200@60Hz, 1600×1200@60Hz – Reduced
		1920×1080@60Hz, 2560×816@60Hz, 2048×640@60Hz
		1920×1200@60Hz, 2304×1152@60Hz, 2048×1152@60Hz
DVI	1	1024×1280@60Hz, 1536×1536@60Hz
		Self-defined output resolution (Bandwidth optimization)
		Horizontal resolution maximum 3840 pixels
		Vertical resolution maximum 1920 pixels
SDI	1	480i、576i、720p、1080i/p Consistent with SDI input

SDI
HD Camera

VGA×2
PC

CVBS×2
TV signal

4 lines of LED outputs
LED screen

DVI OUT
Monitor

DVI Loop

DVI
PC

USB Port
cascadeing unit
PC

DP
PC

HDMI
DVD

NOVASTAR

NovaPro HD

For high-end rental application
Control as you wish
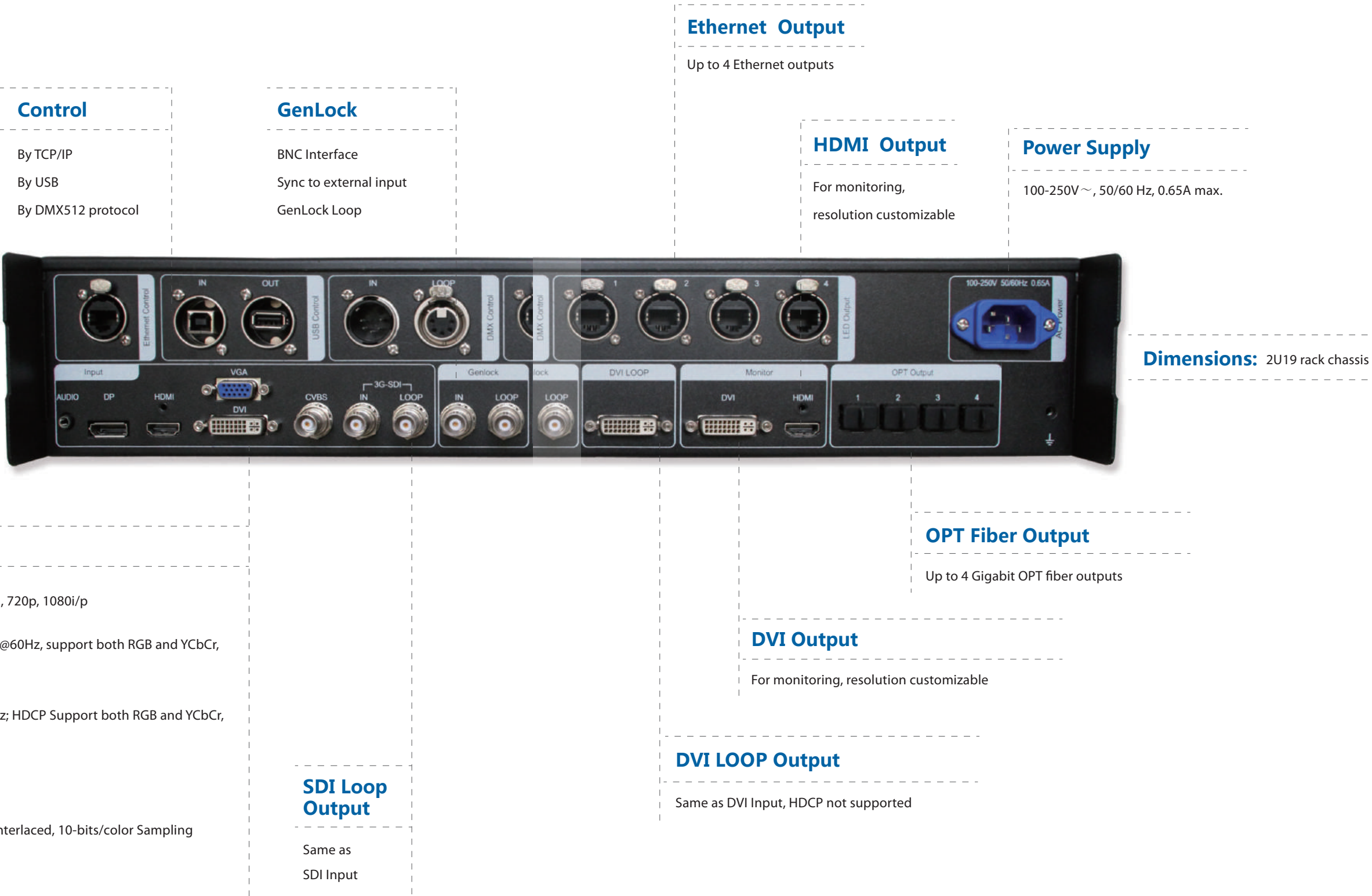
Professional controller+Professional processor

◆ Powerful in processing   ◆ Professional in control   ◆ Friendly user-interface

Smart scaler
Rich in input and output
Power supply backup
DMX control
GenLock
Neutrik connectors

Product Feature:

◆ Abundant video inputs:

   CVBS, VGA, SDI, DVI, HDMI and DP

◆ PC free screen connection

◆ DMX512 protocol integrated

◆ GenLock interface

◆ Dual power supply

◆ USB and Ethernet control

◆ Montage setting for multiple units

◆ Smart Scaler

C UL US LISTED
I.T.E. E472095   CE   RoHS   EAC   FCC

HDMI 1.3 标准   SDI 1080i/p   DVI 支持1920×1200   CVBS NTSC/PAL   VGA 支持VESA

NOVASTAR

Ethernet Output

Up to 4 Ethernet outputs

Control

By TCP/IP

By USB

By DMX512 protocol

GenLock

BNC Interface

Sync to external input

GenLock Loop

HDMI Output

For monitoring,

resolution customizable

Power Supply

100-250V～, 50/60 Hz, 0.65A max.

Dimensions: 2U19 rack chassis

Inputs

SDI　3G-SDI, HD-SDI, SD-SDI480i, 576i, 720p, 1080i/p

DVI　Single link DVI, up to 1920×1200@60Hz, support both RGB and YCbCr, progressive or interlaced

HDMI　HDMI1.3, up to 1920×1200@60Hz; HDCP Support both RGB and YCbCr, progressive or interlaced

DP　DP1.1

CVBS　NTSC/PAL, CVBS progressive or interlaced, 10-bits/color Sampling

VGA　VESA, up to 1920×1200@60Hz

OPT Fiber Output

Up to 4 Gigabit OPT fiber outputs

DVI Output

For monitoring, resolution customizable

DVI LOOP Output

Same as DVI Input, HDCP not supported

SDI Loop Output

Same as
SDI Input

NOVASTAR

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Nova **4K** Controller - **MCTRL4K**
Real 4K@60Hz

Ultra Large Capacity
Resolution: 4K×2K@60Hz
Maximum width up to 8K

Multiple Outputs
Neutrik EtherCON×16
OPT Ports×4

Webpage Control
Wireless remote control

Multiple Video Inputs
DP1.2×1，HDMI 2.0×1
Dual DVI×2

01 4K UHD

3840×2160@60Hz

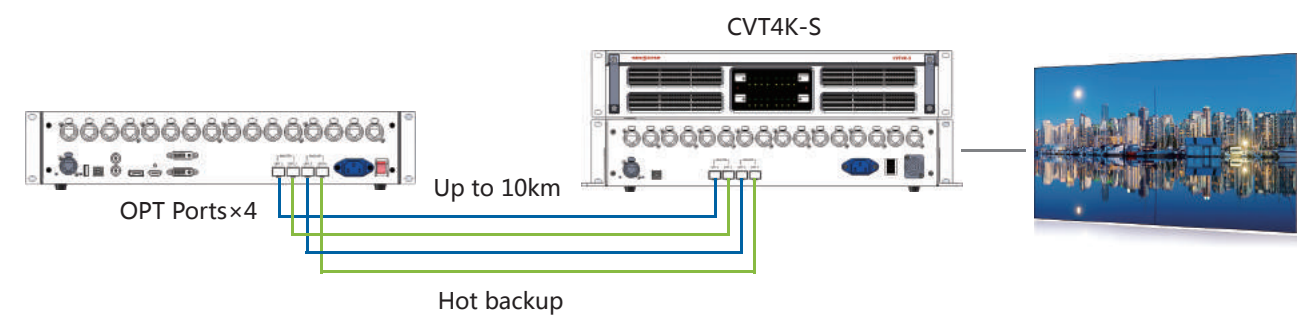Source Input: DP1.2 / HDMI 2.0

02 Maximum width up to 8K

7680×1080@60Hz

Source Input: Dual DVI×2

03 Optical fiber solution with CVT4K-S

CVT4K-S

OPT Ports×4

Up to 10km

Hot backup

c UL US LISTED   CE   **RoHS**   EHL   FCC

NOVASTAR

Nova control system supported the
Electric Daisy Carnival, commonly known
as UMF, one of the biggest electronic
dance music festivals in the world.
Image: NEP Screenworks

R5 Rotation Controllers
Free Rotation, Extraordinary Creativity

Free Rotation
Simple to operate! LED panel can rotate in
any area at any angle, providing infinite
possibility for creative display.

Super-long loading capacity
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.

Input Interface
HDMI 1.4、Dual DVI、6G SDI

R5
R5 without creativity is no real R5.
Designed for Creative Display

NOVASTAR

MCTRL660

No PC required for LED display configuration

- ✔ Cabinet config files saving and sending
- ✔ Brightness, Color & Test pattern adjustable by knob
- ✔ Full HD pixels capacity
- ✔ HDCP & 12-bit HDMI

Product Feature

- No PC required for LED display configuration.
- LED display brightness adjustable directly with knob.
- 12-bit / 10-bit HDMI input, DVI input.
- HDMI / DVI output, for cascading or monitoring.
- HDMI / external audio input.
- HDCP Blu-Ray input.
- Resolutions supported: 2048×1152@60Hz, 1920×1200@60Hz, 2560×960@60Hz. (8-bit).
- Resolutions supported: 1440×900@60Hz. (12-bit/10-bit).
- Customized resolution supported: maximum width/height up to 3840 piexls.
- Cascading supported.
- Video formats: RGB, YCrCb4:2:2, YCrCb4:4:4.
- Independent power supply.
- 19″ 1.5U standard cabinet.

c(UL)US LISTED I.T.E. E472095 CE RoHS FCC EAC
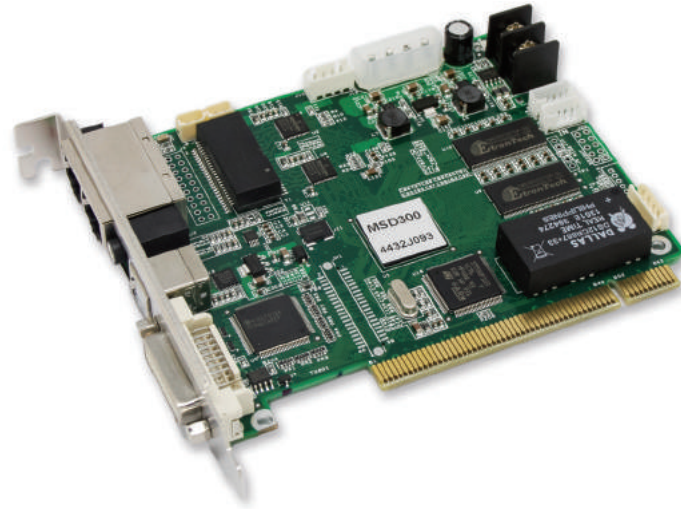
MSD300 / MCTRL300

- 1 DVI input.
- External audio input.
- 2 RJ45 for data output, hot backup supported.
- USB control interface, cascading supported.
- Resolutions supported: 1280×1024@60Hz, 1024×1200@60Hz, 1600×848@60Hz, 1920×712@60Hz, 2048×668@60Hz, or customized resolution,with maximum width/height up to 3840 pixels.
- 1 light sensor interface, for auto brightness adjustment.
- MSD300 Certification: CE、RoHS

- Independent power supply
- MCTRL300 Certification: CE、RoHS、EAC、FCC、IC

MCTRL600

- 12-bit / 10-bit HDMI input, DVI input.
- HDM / external audio input.
- HDCP Blu-Ray input.
- Resolutions supported: 2048×1152@60Hz, 1920×1200@60Hz, 2560×960@60Hz. (8-bit).
- Resolutions supported: 1440×900@60Hz. (12-bit/10-bit)
- Customized resolution supported: maximum width/height up to 3840 piexls
- 1 light sensor interface, for auto brightness adjustment.
- Cascading supported.
- Video formats: RGB, YCrCb4:2:2, YCrCb4:4:4.
- Certification: CE、RoHS、FCC、EAC、IC

| Product Image							
Product model	MSD300	MCTRL300	MCTRL600		MCTRL660	MCTRLR5	MCTRL4K
Product type	Sending card	Controller	Controller		Controller	Controller	Controller
Input resolution	1280×1024@60Hz, 1024×1200@60Hz, 1920×1200@60Hz, 2048×1152@60Hz,				2560×960@60Hz, width and height can be customized, maximum width/height: 3840		
Loading capacity	1.3million pixels	1.3million pixels	2.3million pixels		2.3million pixels	4.6million pixels	9.2million pixels
Supply voltage	5V	AC-100-240V-50/60HZ	AC-100-240V-50/60HZ		AC-100-240V-50/60HZ	AC-100-240V-50/60HZ	AC-100-240V-50/60HZ
Control interface	USB	USB	USB		USB	USB / TCP/ IP	USB / TCP/ IP
Video interface	DVI	DVI	HDMI / DVI		HDMI / DVI	6G SDI / HDMI 1.4 / Dual DVI	DP1.2 / HDMI 2.0 / Dual DVI
Audio input	3.5mm audio interface	3.5mm audio interface	HDMI Input、3.5mm audio interface		HDMI Input、3.5mm audio interface	HDMI Input	HDMI Input
Video format	RGB	RGB	RGB，YCrCb4:2:2，YCrCb4:4:4		RGB，YCrCb4:2:2，YCrCb4:4:4	RGB，YCrCb4:2:2，YCrCb4:4:4	RGB，YCrCb4:2:2，YCrCb4:4:4
Output interface	RJ45×2	RJ45×2	RJ45×4		RJ45×4	Neutrik EtherCON×8 / OPT Ports×2	Neutrik EtherCON×16 / OPT Ports×4
Video source grayscale	8bit	8bit	8/10/12bit		8/10/12bit	8/10/12bit	8/10/12bit
Light sensor	1 channel	1 channel	1 channel		/	/	/
Cascading	Support	Support	Support		Support	Support	Support
Certification	CE、RoHS	CE、RoHS、EAC、FCC、IC	CE、RoHS、FCC、EAC、IC		CE、RoHS、FCC、UL、EAC	CE、RoHS、FCC、UL、EAC	CE、RoHS、FCC、UL、EAC
	Single/multiple controller hot back-up and cascade supported				Single/multiple controller hot back-up and cascade supported		

NOVASTAR

Multimedia Player

◆ Wireless access to LED display by phone or PC （Up to 300 feets）

◆ Multiple WiFi modes: WiFi Hotspot, WiFi Station, AP+Station

◆ Multiple media formats

◆ SD card for storage, 32G at maximum

◆ Support color calibration

◆ Support remote publishing and monitoring,
   NovaCloud & NovaiCare

◆ Android App available

> Create, edit, publish playlists

> Prestore playlists

> Change LED display's brightness

> Power supply control of LED display

Temp: 68°F

PSD100 / PSD100-WiFi

◆ Control method: Network

◆ Cascading receiving card: Support

◆ Storage extension method: USB flash disk/SD card

◆ Internal memory: 512MB

◆ Capacity of a single card: 320×256

◆ Capacity of cascading receiving cards: 512×1024,
   960×600, 800×700, 1024×576, 1520×384,
   2048×256, 704×800, 904×640, 1120×500

◆ Network access methods: 3G、Wi-Fi、ADSL

◆ Certification: CE、RoHS、FCC
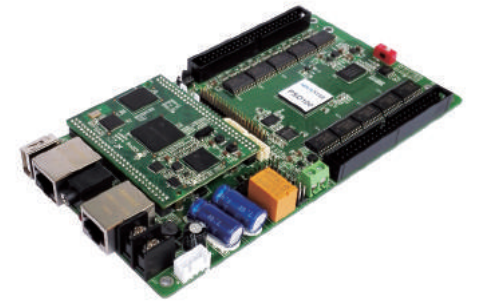
◆ WiFi Mode: AP+Station

◆ Certification: CE、RoHS、MIC、SIRIM

PBOX100

◆ Control method: Network

◆ Cascading receiving card: Support

◆ Storage extension method: USB flash disk/SD card

◆ Internal memory: 512MB

◆ Capacity of a single card: 320×256

◆ Capacity of cascading receiving cards: 512×1024,
   960×600, 800×700, 1024×576, 1520×384,
   2048×256, 704×800, 904×640, 1120×500

◆ Network access methods: 3G、Wi-Fi、ADSL

◆ Certification: CE、RoHS、PSE、FCC

PBOX100

Making commercial
LED display more valuable

The Leading LED Display Service Provider

PBOX150

Compatible: Synchronous & asynchronous modes.Supports 1080P input when in synchronous mode.HDCP compliant.

Succinct: Auto-fit to LED display with HDMI input.Advertising machine can be played independently or cascaded with HDMI Loop.

Stable: Supports redundancy.Able to switch manually/as scheduled between two modes.

Smart: Multiple WiFi modes: WiFi Hotspot, WiFi AP+Station.

Supports remote publishing and monitoring, NovaCloud & NovaiCareUSB available.

Loading capacity: PBOX150 supports the load capability of 600,000 pixels.

The maximum width supported is 2048 pixels and maximum height supported is 1024 pixels.
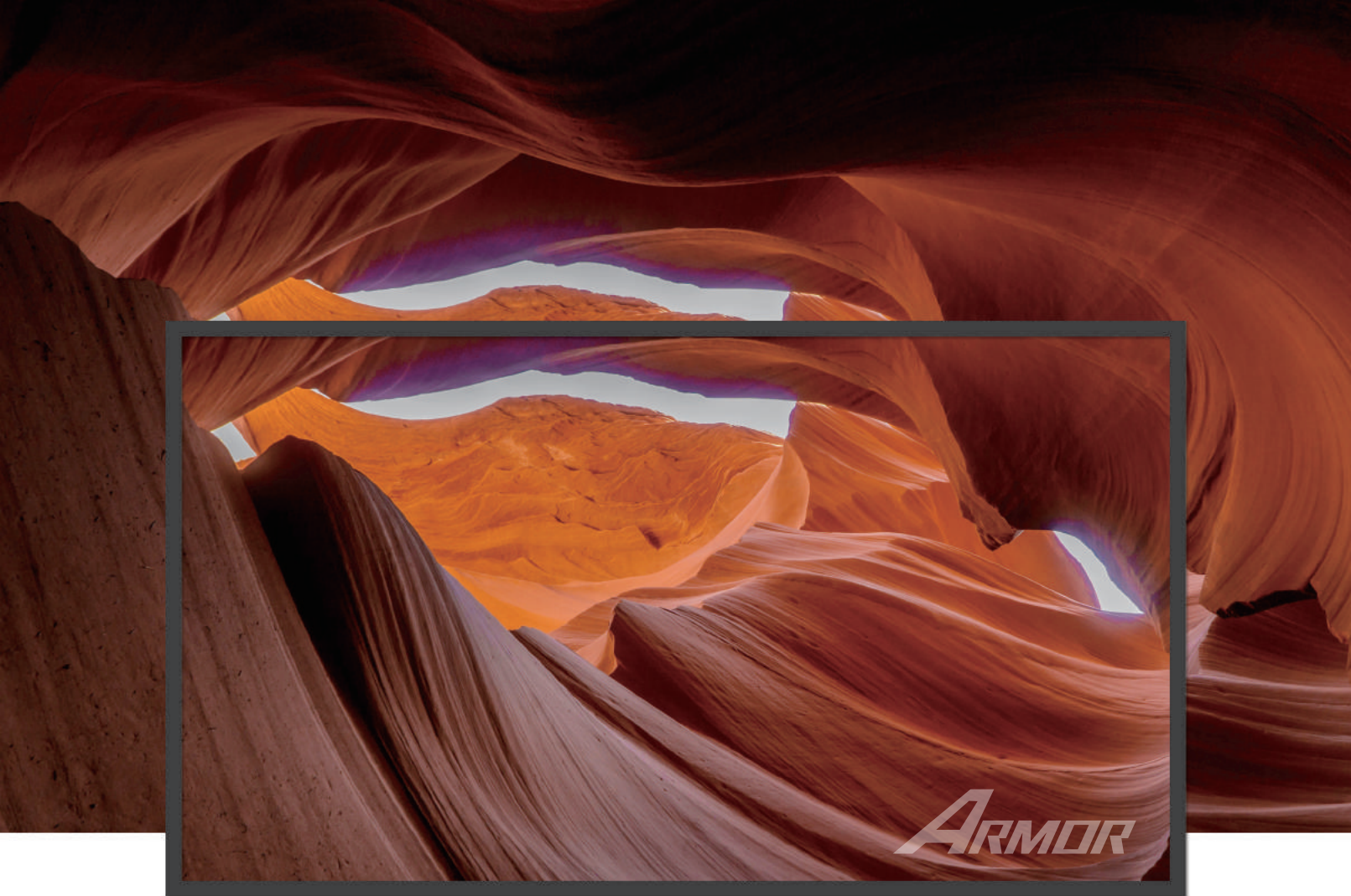
Application Scenarios

Suitable for the occasion demanding high stability. Supports redundancy.
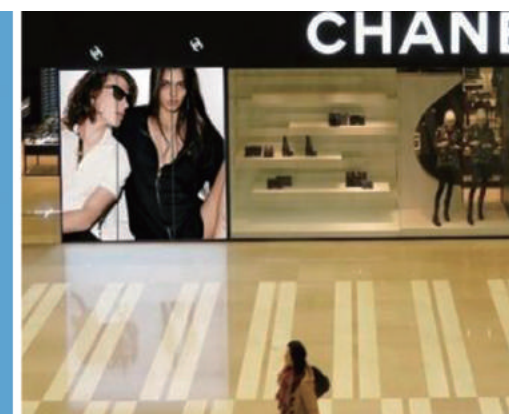
Suitable for traditional digital signage users who can use the existing publishing system to control the LED display as well as carry out remote monitoring.

Suitable for advertising machines and mirror screens. Able to play independently or becascaded.

Receiving Card Of Armor Series

Highly improving the image quality on the display

18bit+

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

ClearView

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

Smart Gamma Correction

Gamma correction is automatically applied according to the display brightness, achieving a better grayscale performance and providing clearer pictures.

Rotation
With MCTRL R5, the display can rotate in any area at any angle with creative way .

RCFG File Restore
One-key rcfg file store, making display normal instantly.

Firmware Copying
Auto backup and read back of firmware, customized version is within easy reach.

Auto Calibration
After replacing modules, the calibration coefficients can be automatically applied, simple and quick.

Calibration Coefficients with Dual Backup
One-key reset disorder application parameters, making cabinets in order.

Mapping
The serial number and Ethernet port can be seen on the cabinet for easy debugging.

Integrated Network
Offering the overall solution for the difficulty, poor uniformity of product, short-distance transmission of cables, unsteady signal and high bit error rate of Hub layout.

A8s

CE (Class B) RoHS
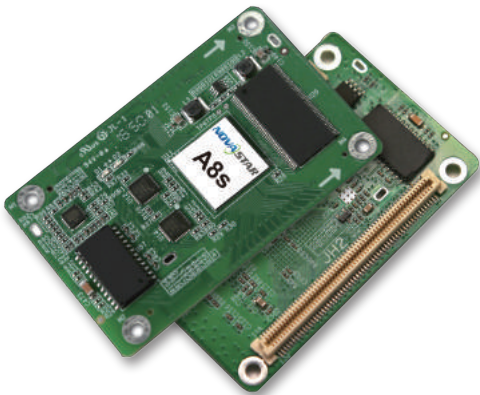
ARMOR
18bit+

High-end mini receiving card of Nova Armor series, featuring a small size and full-function, supports 18bit+ and ClearView, the latest LED display image processing technologies from Nova. Highly improving the image quality on the display, creating an eye-pleasing presentation, and therefore more valuable.

Industry standard effect

The improving effect by Nova

ARMOR

Application Scenarios : Indoor Fixed Installation / Outdoor Fixed Installation / Rental

Product model	A4s	A5s	A7s	A8s
Product Orientation	Basic	Enhance	High Resolution	High Performance
Hardware Interface	High density connector	High density connector	High density connector	High density connector
Resolution	256×256	256×256	320×288	256×256
RGB data output	24 groups	32 groups	32 groups	32 groups
MOM Interface	√	√	√	√
Smart Module	√	√	√	√
Piexl level color and brightness calibration support	√	√	√	√
Receiving Card Backup Support	√	√	√	√
Power Supply Backup Support	√	√	√	√
New Features				
Firmware Backup and Read	√	√	√	√
RCFG Backup and Read	√	√	√	√
Calibration Coefficient Backup	-	√	√	√
Auto Calibration	-	√	√	√
Cabinet Monitoring LCD	√	√	√	√
90°Rotation	-	√	√	√
Mapping	-	√	√	√
Advanced Features				
Auto Screen Configuration （Need Infrared Sensor）	-	-	-	√
18bit+	-	-	-	√
Smart Gamma	-	-	-	√
ClearView	-	-	-	√
Free Rotation	-	-	-	√
Low latency	-	-	-	√
CE-EMC、Class B、RoHs	√	√	√	√

Regular Receiving Card (Class A)

Product model	MRV300	MRV320	MRV330	MRV360	MRV210	MRV220
Resolution	256×226	256×226	256×226	256×226	256×226	256×226
RGB data output	20 groups	20 groups	24 groups	20 groups	24 groups	28 groups
Monitoring card	-	Support	-	Support	-	-
MOM Interface	-	-	-	Support	-	-
	-	-	Integrated HUB75	-	-	-

Pixel level color and brightness calibration supported

LED ball, irregular-shaped LED display supported

Irregular-design LED module supported

Anti-ghosting

Cabinet temperature monitoring

Power voltage monitoring

Working status monitoring

Color reproduction   Color space matching

Working voltage 3.3V~5.0V

Support MBI, Chipone, SUM, MY, TI, Bright Wei, Silan driver IC

RoHS、CE EMC compliant (Class A)

EMC Receiving Card (Class B)

Product model	MRV560	MRV410	MRV420	MRV470
Resolution	256×226	256×226	256×226	256×226
RGB data output	20 groups	24 groups	28 groups	24 groups
Monitoring card	Support	-	-	-
MOM Interface	Support	-	-	Support
	-	-	-	-

Pixel level color and brightness calibration supported

LED ball, irregular-shaped LED display supported

Irregular-design LED module supported

Anti-ghosting

Cabinet temperature monitoring

Power voltage monitoring

Working status monitoring

Color reproduction   Color space matching

Working voltage 3.3V~5.0V

Support MBI, Chipone, SUM, MY, TI, Bright Wei, Silan driver IC

RoHS、CE EMC compliant (Class B)

Fiber Converter CVT4K-S

- ◆ 16 optic fiber interface.
- ◆ 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 showed clearly.
- ◆ AC 100-240V ~ 50/60HZ.
- ◆ No need to install the drivers.
- ◆ Certification: EMC、LVD、RoHS、FCC、UL/CUL、CB、EAC、IC

Fiber Converter CVT310 / CVT320

- ◆ 1 optic fiber interface.
- ◆ 1 RJ45.
- ◆ Power supply: 100 ~ 240V AC 50/60Hz.
- ◆ No need to install the drivers.
- ◆ Certification: CE、RoHS、FCC、EAC
- ◆ CVT310: Transmission distance up to 300m, by using multi-mode dual-core optic fiber with LC interface.
- ◆ CVT320: Transmission distance up to 15km, by using single-mode dual-core optic fiber with LC interface.

Fiber Converter CVT-Rack310 / CVT-Rack320

- ◆ 16 optic fiber interface.
- ◆ 16 RJ45.
- ◆ Power supply: 100 ~ 240V AC 50/60Hz.
- ◆ No need to install the drivers.
- ◆ Certification: CE、FCC、RoHs、IC
- ◆ CVT-Rack310: Transmission distance up to 300m, by using multi-mode dual-core optic fiber with LC interface.
- ◆ CVT-Rack320: Transmission distance up to 15km, by using single-mode dual-core optic fiber with LC interface.

Multifunction Card MFN300

- 8 power switch management.
- 4 light sensor/ambient temperature sensor interface.
- Auto power control of fan/air condition/
  LED display based temperature.
- Audio output integrated.
- Certification: CE、RoHS
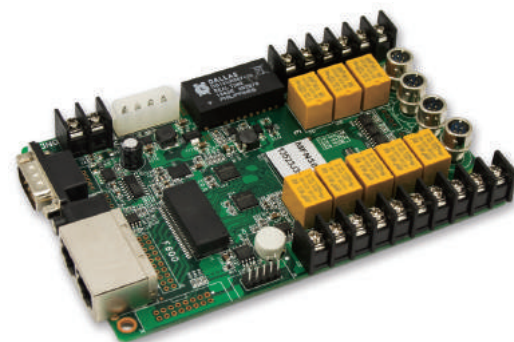
Ambient Brightness Sensor NS060

- Ambient brightness detect,
  256 levels of auto brightness adjustment.
- Sending card (MSD300, MCTRL300,MCTRL600),
  PSD100 or multi-function card (MFN300) supported.
- 5m standard cable, 100 meters extend.
- Ip68 protection.
- Certification: CE、RoHS

Ambient Temperature Sensor MTH310

- Detect ambient temperature.
- Multi-function card supported.
- 5m standard cable, 100 meters extend.
- Waterproof.
- Certification: CE、RoHS、FCC

Monitoring Card MON300

- Cabinet temperature, humidity and smoke monitoring.
- 8 power supply voltage monitoring.
- Ribbon cable status monitoring.
- Cabinet door open/close status monitoring.
- 4 fan speed monitoring.
- LED error status monitoring.
- Certification: CE、RoHS
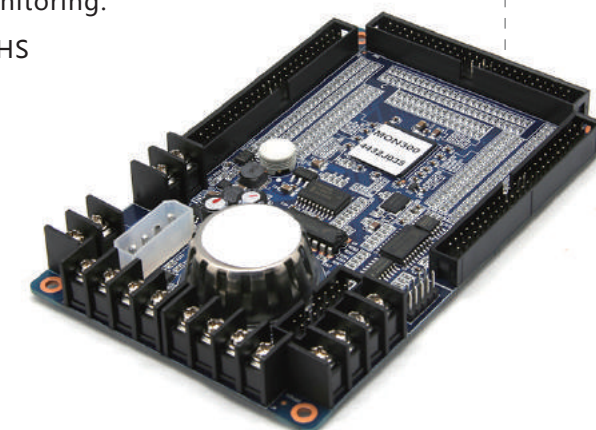
Splitter DIS-300

- 1 in 8 out or 2 in 4 out, automatic switiching.
- Each RJ45 port can be independently adjusted.
- No need to install the drivers.
- Certification: CE、RoHS

Nova control system supported the Electric Daisy Carnival, commonly known as UMF, one of the biggest electronic dance music festivals in the world.
Image: NEP Screenworks

Nova Solution for Rental LED Display

Excellent reliability
Super large display supported
Perfect image quality

- -

✔ Pixel Level Color / Brightness Calibration

✔ Smoother Gray Scale & High Refresh Rate（3840Hz）

✔ True Color Reproduction

✔ Advanced Hot Backup Technology

✔ Super Large Display Supported（1920×1200@60Hz，2048×1152@60Hz）

✔ Flexible Card Replacement

✔ Gray Scale First Mode

▪ Renew old displays

After three years of use,can display still look as good as new?
Can a display still be sold at a good price after 3 years of use?
Nova Pixel Level Color/Brigtness Calibration Technology can help an old LED display to achieve excellent image quality again by significantly increasing its brighness and color uniformity. With excellent image quality, the service life of the display is effectively prolonged and value to the business is increased.

▪ Mixed use of cabinets from multiple batches

Nova Color Matching Technology can perfectly solve the problem of mixed use of cabinets from multiple batches in one LED display, thus guaranteeing excellent uniform image quality.
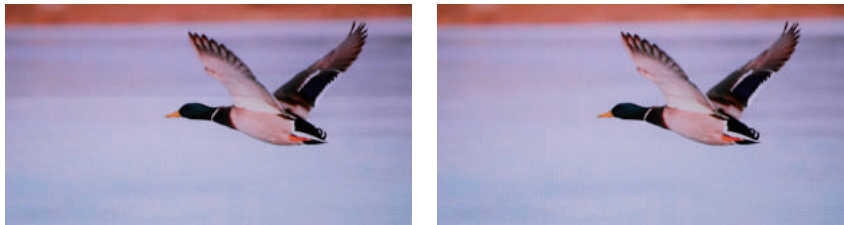
▪ True Color Reproduction

Reproduce and present true color.

Before   After

▪ Smoother Grayscale &High Refresh Rate

Nova's Smooth Grayscale & High Refresh Rate Technology guarantees outstanding image representation of a LED display. Smooth pictures without dim or bright lines can be obtained from cameras even with fast shutter speeds.
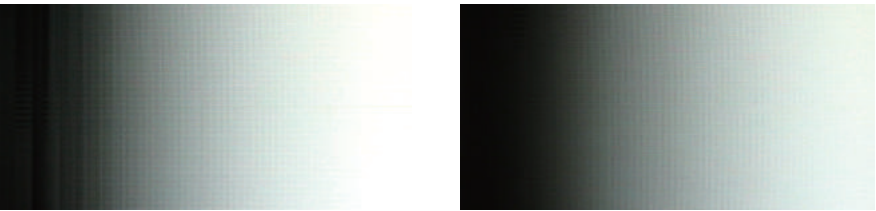
Traditional Control System   Common Control System   Nova M3 Control System

▪ Grayscale First Mode

When working at low brightness, with normal control system, the gray scale changes from black to white is jumping because of losing gray scale. But with nova control system, the gray scale is intact and smooth.

Gray scale representation of common control system at 30% brightness

Gray scale representation of Nova control system at 30% brightness

▪ Hot backup

LED displays with common control systems suffer continuous flashing when the hot backup function is activated.
Nova Hot Backup Technology is mature. When any system component fails, control system will automatically switch to hot backup without flashing or dark on the display.
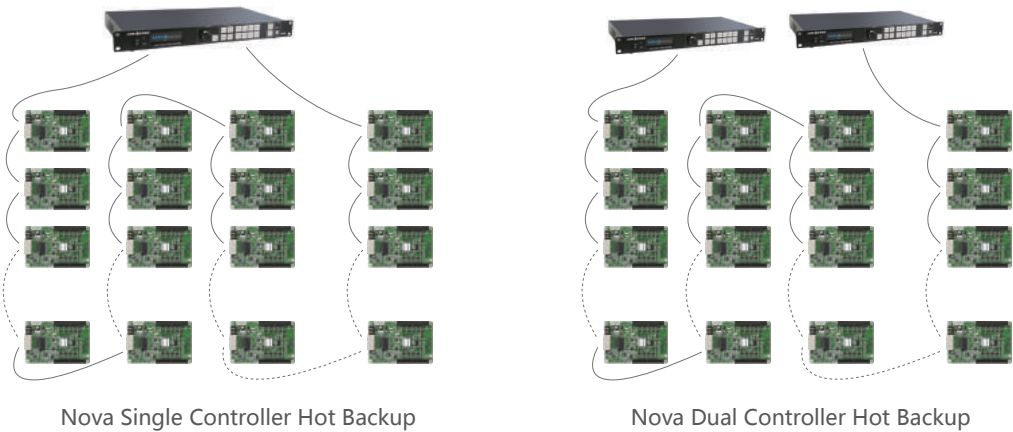
Nova Single Controller Hot Backup   Nova Dual Controller Hot Backup

▪ Rental Specialist
Super Large LED Display Supported

- ◆ Screen connection configurable without PC.
- ◆ Screen brightness adjustable directly with knob.
- ◆ 12-bit/10-bit HDMI input, DVI input.
- ◆ HDCP Blu-ray input.
- ◆ Resolutions supported: 2048×1152@60Hz, 1920×1200@60Hz, 2560×960@60Hz. (8-bit)
- ◆ Cascading supported.
- ◆ 18-bit gray scale processing and presentation.
- ◆ For a super large LED display with Nova control system, the quantity of system components will only be 1/2~1/3 of that of standard control systems.With much fewer components, the reliability of the display with Nova control system can be significantly improved.

▪ Flexible Card Replacement

Any receiving card in Nova control system can be replaced directly when it is broken. The display goes return to normal right after card replacement, no software configuration required.
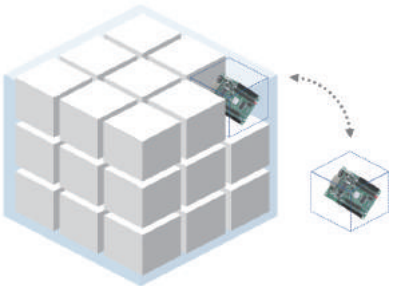
Nova Standard Calibration System

It can be applied to all the LED displays.
Offering a better calibration effect with 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.

> Cabinet calibration and full-screen calibration are applicable.

HS Calibration System

It can eliminate color difference perfectly and create a more exquisite, more transparent and better view.

It applies in particular to small-spacing display below P3.

✔ 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: 340×256
✔ Maximum area for one calibration: 4K×3K

> Cabinet calibration and full-screen calibration are applicable.

More Calibration Cases

Pixel Level LED Display Calibration System

We have **8** years of calibration experience.

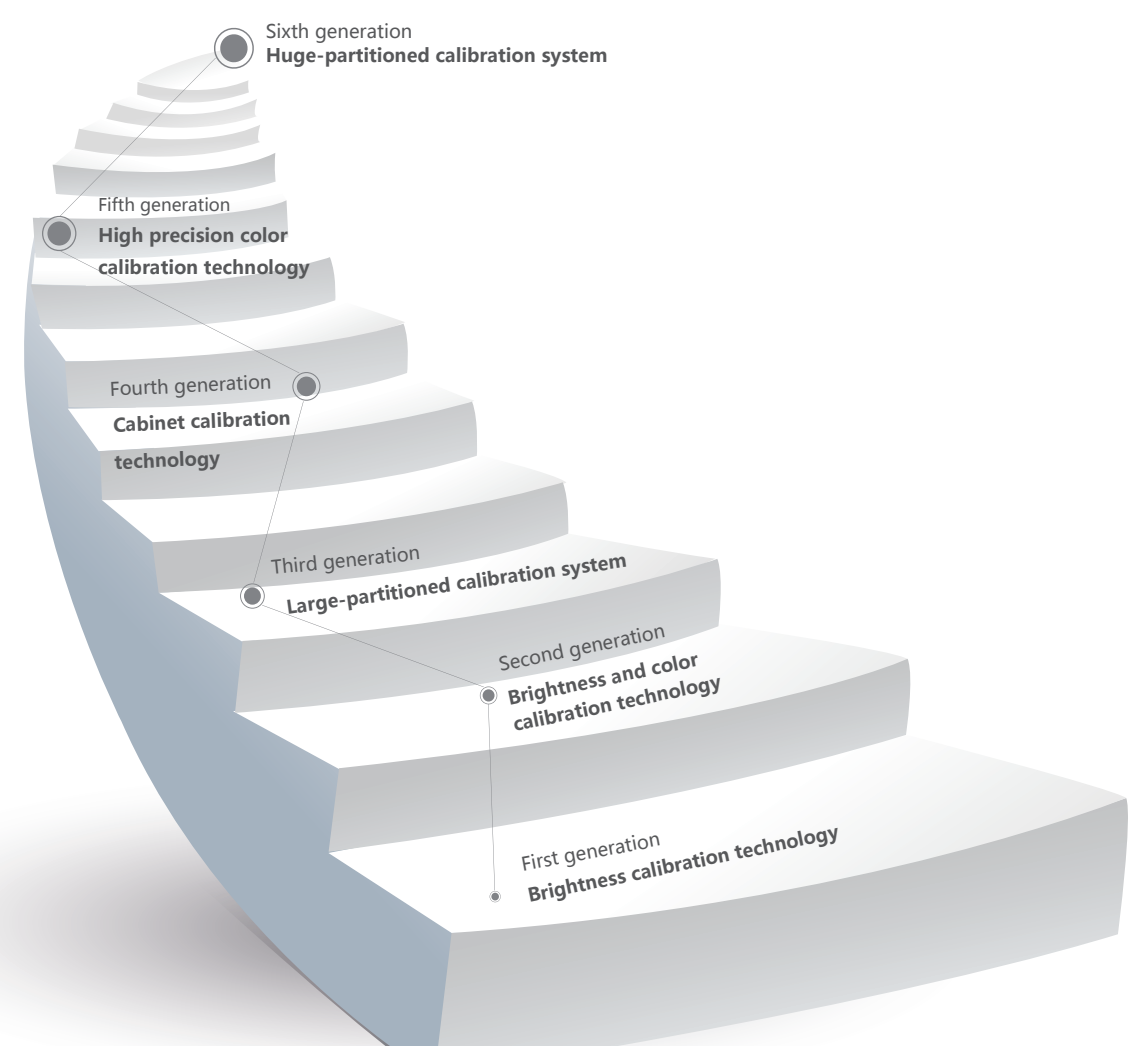Until the end of 2014, we sold **1000** sets of Nova calibration system.

Every year, Nova's technical supporting engineers calibrate more than **20,000**㎡ LED displays.

Until now, Nova calibration system calibrated more than **530,000**㎡ LED displays.
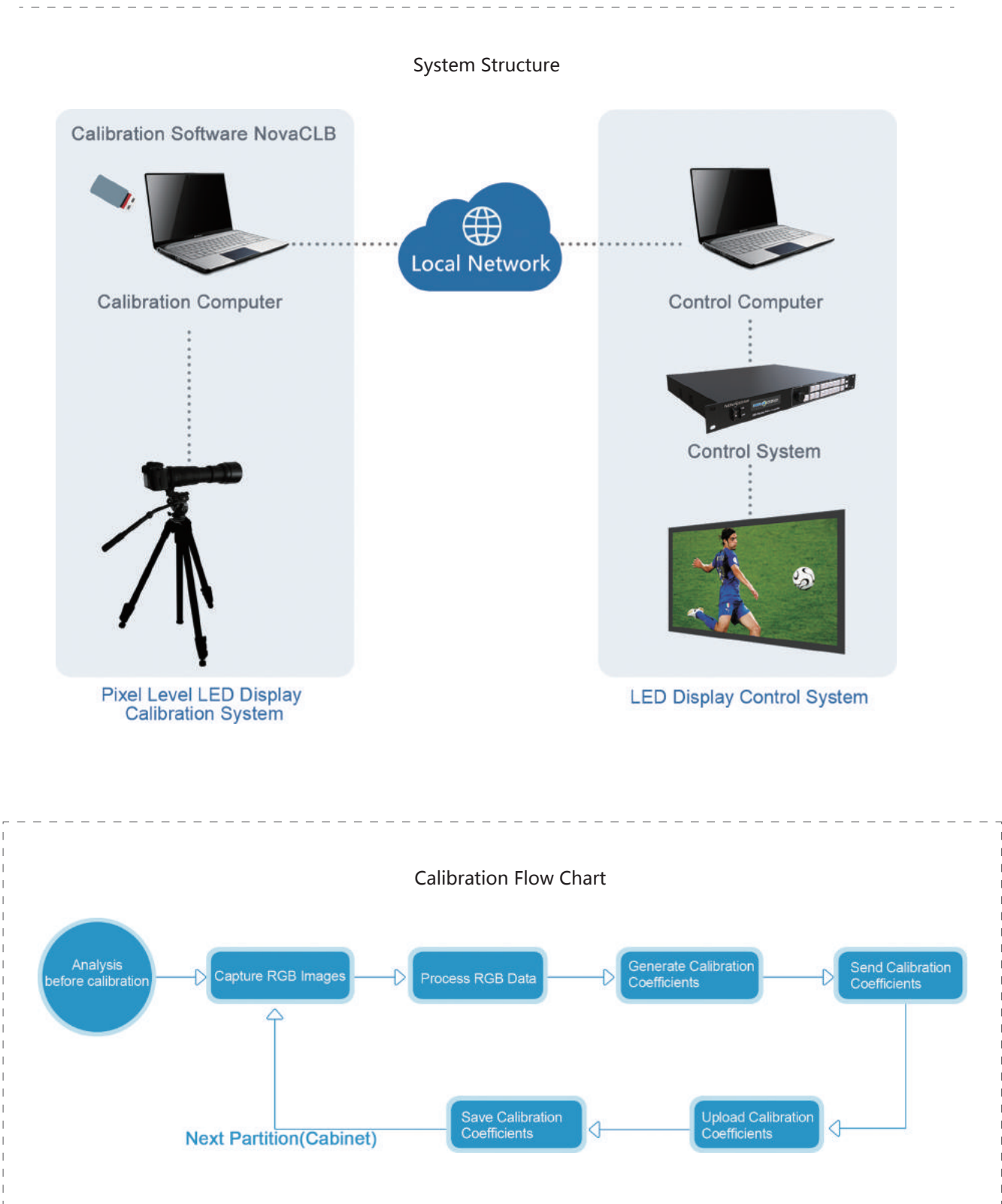
There are **30** service stations nationwide providing calibration services.

Professional cabinet calibration technicians provide services

such as: Help you to get consultation and use the cabinet calibration system.

Help you to learn some common calibration knowledge.

Help you to learn the new features of new version.

Sixth generation
Huge-partitioned calibration system

Fifth generation
High precision color calibration technology

Fourth generation
Cabinet calibration technology

Third generation
Large-partitioned calibration system

Second generation
Brightness and color calibration technology

First generation
Brightness calibration technology

NovaCLB System Diagram

System Structure

Calibration Software NovaCLB

Calibration Computer

Local Network

Control Computer

Control System

Pixel Level LED Display Calibration System

LED Display Control System

Calibration Flow Chart

Analysis before calibration → Capture RGB Images → Process RGB Data → Generate Calibration Coefficients → Send Calibration Coefficients

Next Partition(Cabinet) ← Save Calibration Coefficients ← Upload Calibration Coefficients

FEATURES

Fast Calibration Technology

This technology greatly increases the area which can be calibrated by the camera at a time. It could calibrate 2K display at a time.

> HS Calibration Systemz
  maximum area for one calibration: 4K×3K
> Nova Standard Calibration System
  maximum area for one calibration: 2K×1K

2009 — 192×128
2012 — 640×480
Now — 2000×1000
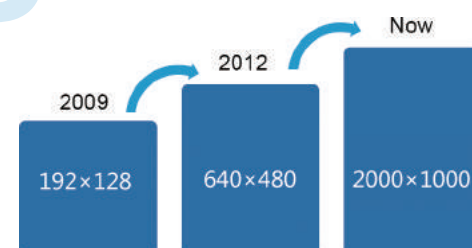
Imaging Auto Analysis and Adjustment Technology

After confirming camera's position, calibration system will adjust the camera's aperture, exposure time and display brightness automatically until the images meet the conditions of calibration analysis.

Bright and Dark Lines Elimination Technology

There often exist bright or dark lines among cabinets and modules in the small pitch LED Display. Nova calibration system can detect these bright and dark lines and eliminate them perfectly.

High Precision Color Calibration Technology

The fifth generation of color calibration technology developed by Nova enables camera's color aberration recognition accuracy to reach the accuracy level of raster colorimeter. Color calibration accuracy is further improved. Mixed with multi-bin, this technology could reach even better calibration result.

Nova calibration accuracy = CS2000 accuracy

Full- automatic Calibration Technology

When starting the calibration, the six steps of images capturing, images processing, calibration coefficients generating, sending and uploading will be done automatically.

Coefficients Quick Uploading Technology

Coefficients could be uploaded to the hardware within 20 seconds no matter how big the display is and how many the calibration coefficients are.

Lightweight Data Storage Technology

Smaller space, better speed: 256×256 pixel calibration coefficients, completing storage within 3 to 4 seconds.
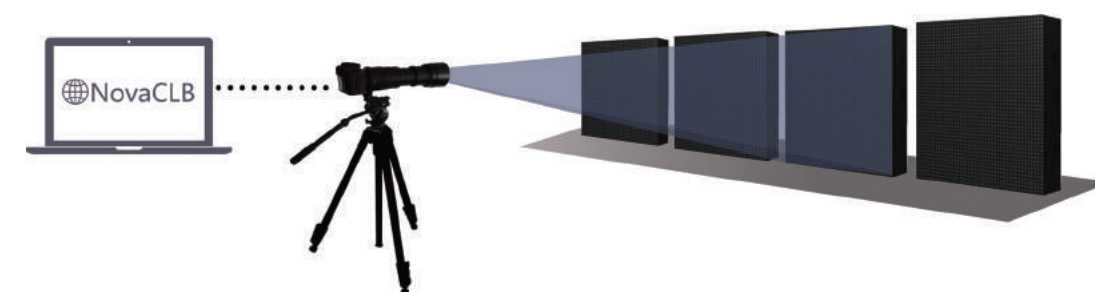
Cabinet Calibration Technology

Calibrate every cabinet before all cabinets leave the factory. When they are assembled randomly, the whole LED display can get high brightness and color uniformity.

CABINET CALIBRATION TECHNOLOGY

Cabinet calibration means to calibrate cabinets one by one before they leave the factory. This is both a technology and solution that guarantees display's uniformity when cabinets are assembled randomly on site. There are 3 solutions for different applications.

Regular Cabinet Calibration Solution

Simple, efficient, one-button start, full-automatic processing, easily realize any assembling.

NovaCLB

Rental Cabinet Calibration Solution

Regular cabinet calibration solution & colorimeter guarantees cabinet's uniformity even when the cabinets are used for different times and from different batches.

Camera 70D

NovaCLB

Colorimeter CS-2000

Two Batches Cabinets Calibration Solution

Introducing human eye's adjustment accuracy into calibration process, the accuracy is much higher than professional raster colorimeter, achieving the best calibration effect when two batches cabinets assembled as one LED display.

Eye + Camera > Raster Colorimeter
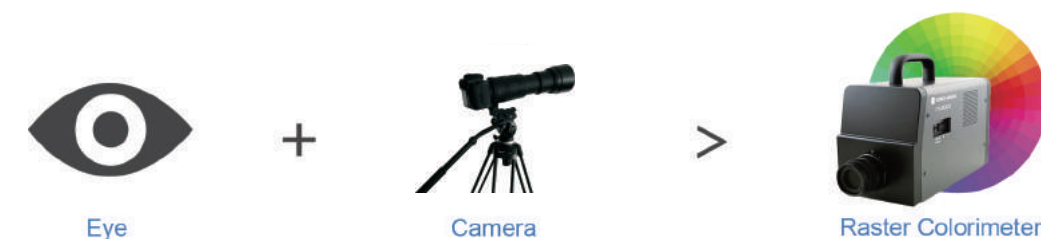
CALIBRATION ON SITE

▪ **Arc Display Calibration Solution**
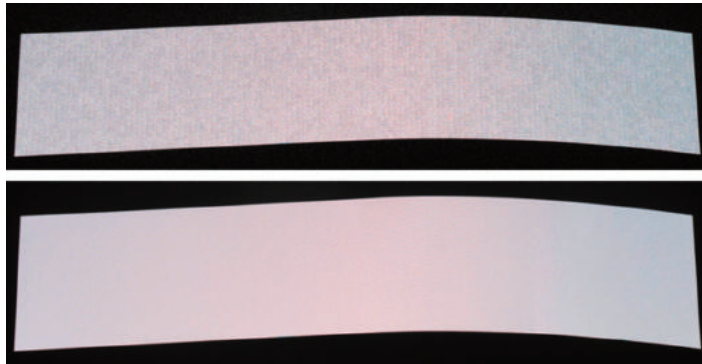
Hailong Building,Zhongguancun, Beijing, L:78.36m, W:6.4m, 500㎡, P20

▪ **Irregular Display Calibration Solution**

Chongqing General Trading Group

▪ **Extra-large Display Calibration Solution**

2013.08 Global Center, Chengdu, 4080㎡, P25

▪ **Module Replacing Calibration Solution**

When some problems occur in the module being used, the brightness and color of the new module which is used to replace the failure one will be very different to its surrounding modules. This solution only calibrates the new module and solves the problem of uniformity within 3 minutes.

▪ **Super Fast Calibration Solution of the Whole Display**

It is also very efficient to calibrate the whole display at one time without partitioning, It is suitable for calibration on-site in emergency.

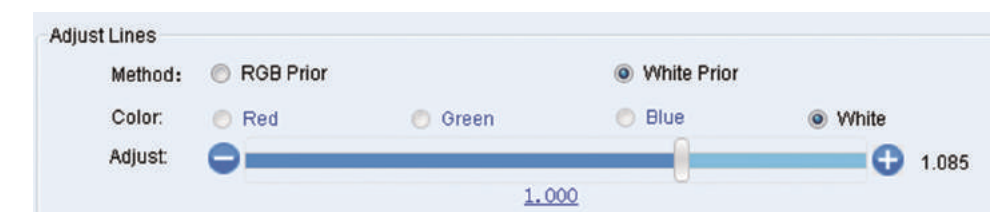▪ **Fast Adjustment of Bright and Dark Lines Solution**

This will solve the problem of display's bright and dark lines problem caused by cabinets assembling. No calibration equipment and calibration specialist required. Anyone can do it. The whole adjustment process is very easy.
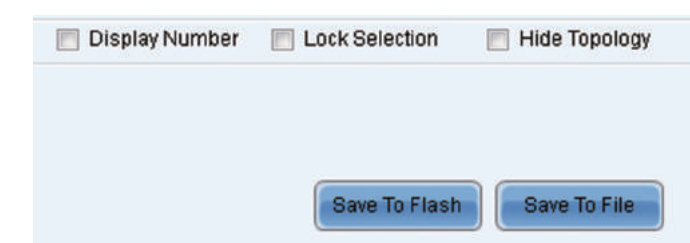
Operation Interface

1. Choose the border
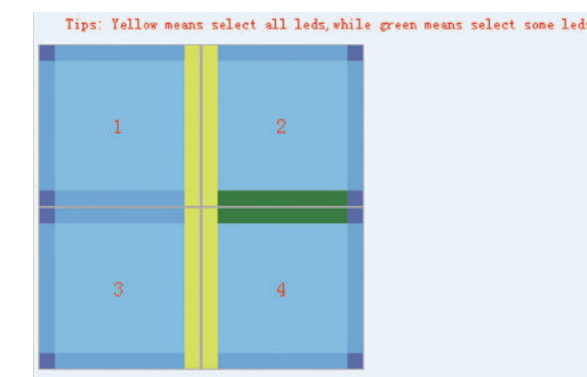
2. Adjust

3. Save to hardware

NovaiCare

Know all screens anywhere and anytime

Comprehensive Status Monitoring

Know everything about screens at anytime and anywhere

Check status of screens at anywhere and anytime

- Monitoring working status of sending card, receiving card, monitoring card and multi-function card.
- Detecting temperature, humidity, smoke around the cabinets
- Monitoring power voltage of cabinets, fan speed, LED point status, and ribbon cable status.
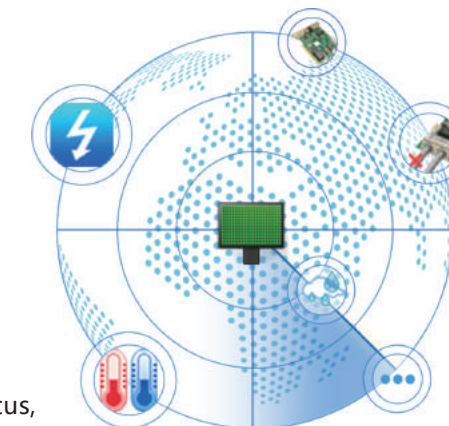
Timely Email Alarm

Accurate Positioning, timely Alarm

Accurate to every LED to know the problems of screens timely

- After Comparing and analyzing the real time status with the historical status of LED displays, the monitoring servers will notice the potential problems and phenomenon timely.
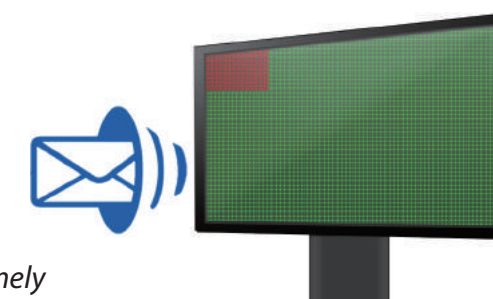
Real-time Remote Monitoring

On-site image in real time
No need to go on site anymore

- Know on-site status by checking comprehensive monitoring data and on-site image.

Efficient Remote Control

With real field data everything is under control perfectly

Telecommuting is no longer a dream

◆ Support remote adjustments of working parameters of the display, such as brightness of the display, volume of speaker, etc.

Flexible Authorization Transfer

Flexible authorization allocation and convenient transfer

You can authorize others to view the screen

◆ Status of the display can authorised to others, display can be transferred to others for management.

Detailed Health Report

For now and for the future

Know you and your screen

◆ With powerful system health examination and accurate record of the historical operation status of the LED display, we can know the weakness of the display in detail for prediction and precaustions.
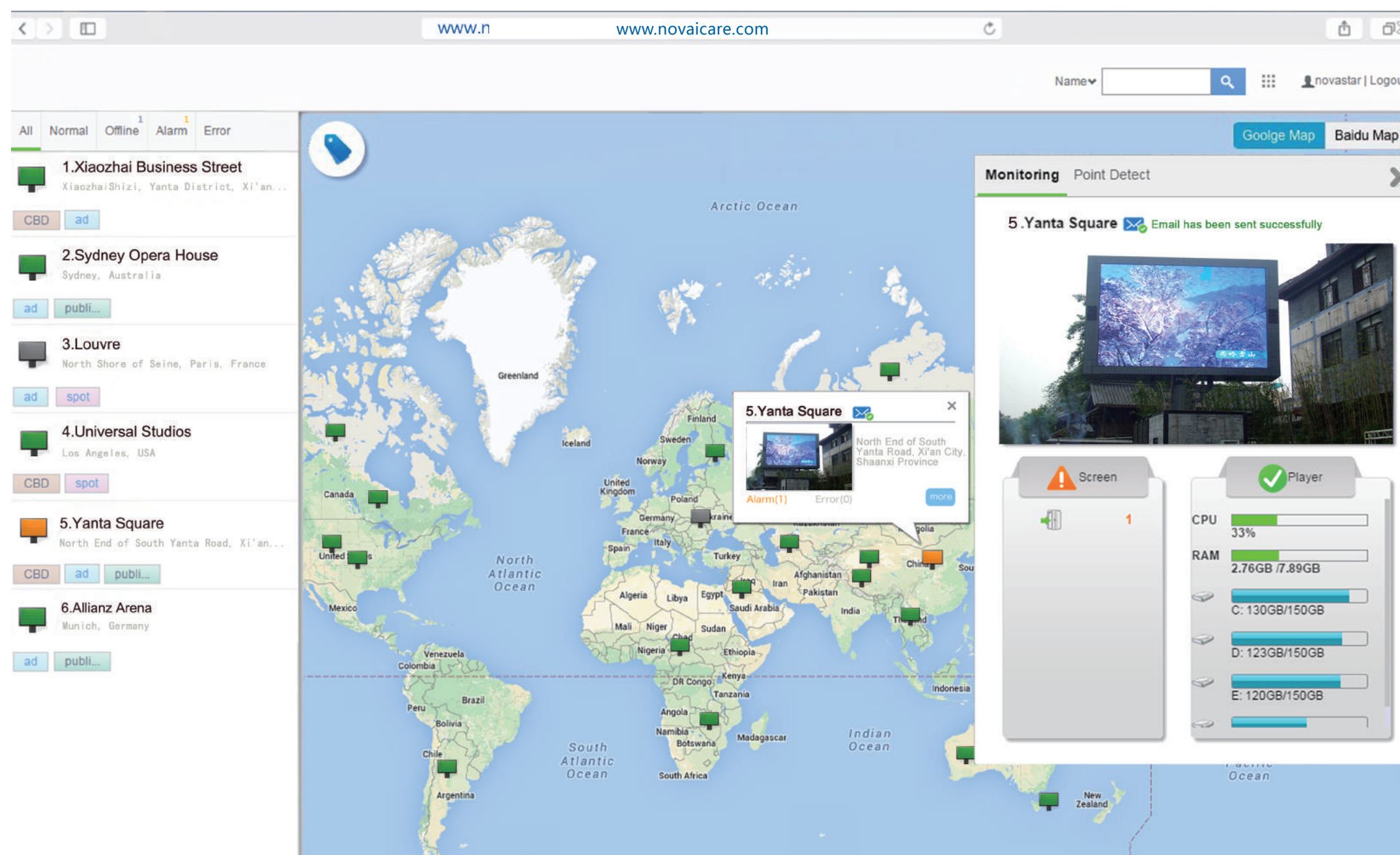
Multi-devices are supported

Multi-access and Multi-devices are supported

We support whatever devices you can imagine

◆ Multi-device: support Windows, Android, iOS
◆ Multi-browser: support mainstream browsers like IE, Chrome, Firefox, Opera, Safari, etc.
◆ Multi-system: support synchronous M3 and asynchronous Pluto control systems of Nova Tech.

www.n www.novaicare.com

Name▾ novastar | Logout

All Normal Offline¹ Alarm¹ Error

Goolge Map Baidu Map

1.Xiaozhai Business Street
XiaozhaiShizi, Yanta District, Xi'an...
CBD ad

2.Sydney Opera House
Sydney, Australia
ad publi...

3.Louvre
North Shore of Seine, Paris, France
ad spot

4.Universal Studios
Los Angeles, USA
CBD spot

5.Yanta Square
North End of South Yanta Road, Xi'an...
CBD ad publi...

6.Allianz Arena
Munich, Germany
ad publi...

Arctic Ocean
Greenland
Iceland
Finland
Sweden
Norway
United Kingdom
Poland
Germany
France
Italy
Spain
Turkey
Afghanistan
Pakistan
China
India
Algeria Libya Egypt
Saudi Arabia
Mali Niger Sudan
Nigeria Ethiopia
DR Congo Kenya
Tanzania
Angola
Namibia Botswana Madagascar
South Africa
Indonesia
New Zealand
Canada
United States
Mexico
North Atlantic Ocean
Venezuela
Colombia
Peru
Brazil
Bolivia
Chile
Argentina
South Atlantic Ocean
Indian Ocean
Pacific Ocean

5.Yanta Square
North End of South Yanta Road, Xi'an City, Shaanxi Province
Alarm(1) Error(0) more

Monitoring Point Detect

5.Yanta Square Email has been sent successfully

Screen 1
Player

CPU 33%
RAM 2.76GB /7.89GB
C: 130GB/150GB
D: 123GB/150GB
E: 120GB/150GB

04
CASES

① Pangu Plaza（3400㎡）
② Xi'an Dayan Pagoda Qinhantang Plaza（3000㎡）
③ Chengdu New Century Global Center（4080㎡）
④ Brazil Word Cup
⑤ Shenzhen Xinghe Century（1002㎡）
⑥ The Rio Olympic Games
⑦ Military Parade at Tian'anmen Square in 2015
⑧ 2014 CICA Summit