NOVASTAR

ALL-NEW
CONTROL
SYSTEM
TAKES
THE STAGE.

NOVASTAR

8K&5G

COEX ALL-NEW CONTROL SYSTEM

Stronger loading, Higher speed and Better image quality

Pain Points

As displays become larger, the amount of equipment increases, **complicating screen setup.**

When image quality of a fine-pitch **display lacks detail**, the display effect will be unsatisfactory.

It is hard to meet the demands of specialized applications
due to the need to switch between multiple software.

A large amount of displays causes too many controllers, **difficult operation**, and high maintenance costs.

COEX Control System

A simplified system, allowing for easy display setup

CX80 Ultra-high **8K** loading capacity independent controller
Single Ethernet cable bandwidth of **5Gbps**

LED Image Booster to comprehensively improve image quality

22bit+ & 65535 grade calibration of grayscale
3D Intelligent color management
HDR full link solution
4K@120Hz high frame rate

Smart control, providing a real-time control interface

Centralized and Simplified management
Adjustment control over single cabinet, cabinet group, or entire display
Instant notification of errors
Interface for real-time control and response at an individual cabinet level

Open platform for ultimate flexibility and creativity

Compatible with Windows/Mac OS/Linux
Support for development on Android/iOS
Modular functionality with standard RESTflu connectors

CA50

1024×512 Ultra-high loading capacity
5G bandwidth
LED Image Booster

512
1024

8192×4320@60Hz

5GBASE-T ×16

CX80

Smart setting
3D Intelligent color management
Bright and dark line adjustment
Calibration coefficients management
Display effect adjustment
Loading capacity calculation
......

Embedded OS

Router

JSON over HTTP

Windows   Mac OS   Linux

CoexVMP

Console

Ultimate simplicity - 8K with just one device

4 channels of 4K (4096×2160@60Hz) parallel input, supports maximum of 8K (8192×4320@60Hz) resolution, 8K large screen with just one device.

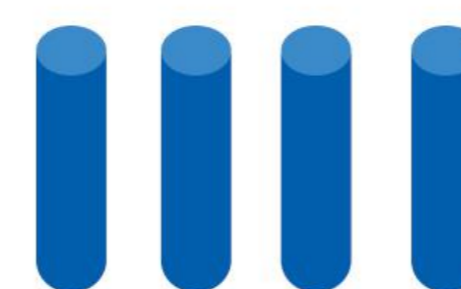1080P   4K   8K

MCTRL4K   <   CX80

5GBASE-T Technology
for 5 times bandwidth increase

1920×1080@60Hz source is loaded by only 1 cable compared with the 4 cables before.

1080P

1G bandwidth transmission
A single cable loads 1/4 1920×1080@60Hz

5G bandwidth transmission
A single cable loads 1920×1080@60Hz

Conventional controller   CX80

Innovation in image quality,
excellent control of high-end LED displays

22bit+ & 65535 grade calibration of grayscale

· 64 times dynamic contrast improvement and 0.001nits precision control, providing a fine and vivid display image.

· 65535 grade calibration of grayscale, accurate 16bit 65535 grade grayscale calibration for driver IC by using professional optical instruments.

· With greater than 16 bit Gamma LUT, ultra-high dynamic range brings the amazing experience of ultra-high visual contrast.
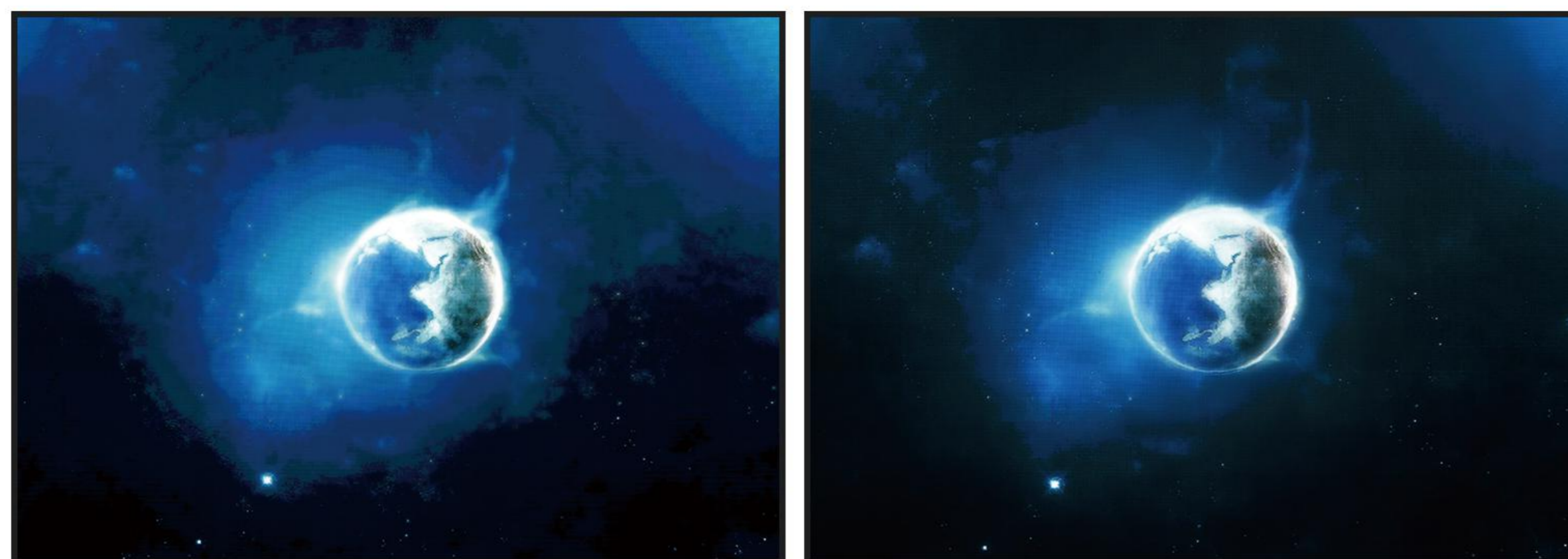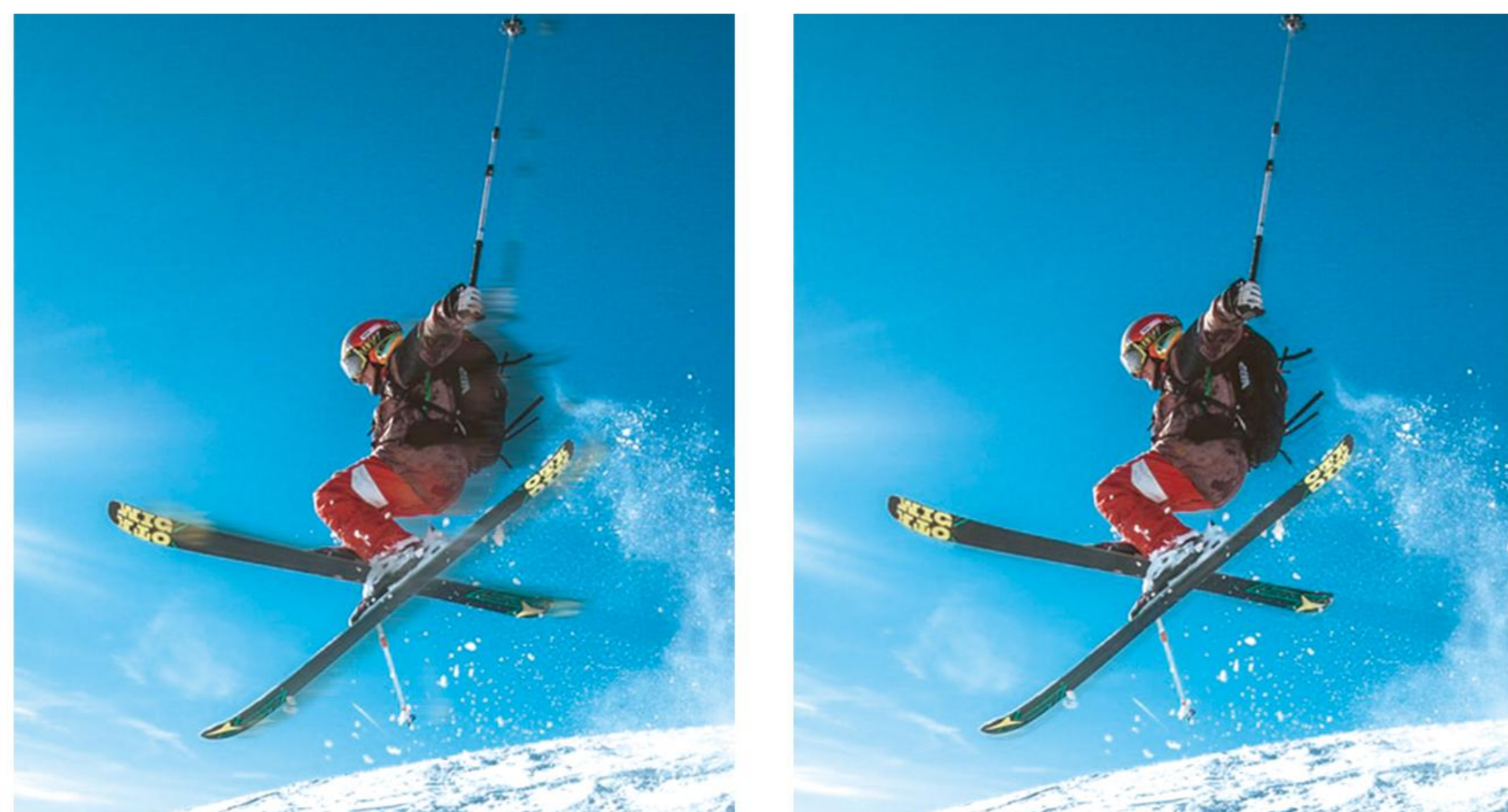

Original LED Image

After 22bit+ & 65535 grade calibration of grayscale effect

4K@120Hz high frame rate

Supports 4K@120Hz high frame rate for an extremely smooth and realistic image. Image remains stable and clear during high-speed motion scenes.

60Hz

120Hz

3D Intelligent color management

· Precise optical instruments is adopted to calibrate the LED color gamut, automatic and intelligent adjustment is carried out, effectively restoring the real color of images.

· Breaking through the shackles of color conversion of 3×3 linear matrix, free color adjustment is carried out based on HSV three-dimensional color space.


Skin tone is reddish and surrounding color is too bright before adjustment

Skin tone is more realistic and surrounding color is precise after adjustment

| Standard test color	Target value			Original colors				Managed colors			
	L	x	y	L	x	y	DeltaE	L	x	y	DeltaE
#C49582	199.89	0.41	0.36	408.61	0.28	0.31	69.73955	202.69	0.41	0.36	2.3623
#455CA3	49.30	0.19	0.15	151.74	0.14	0.12	129.1899	54.48	0.19	0.17	7.3249
#45924A	113.59	0.30	0.52	262.31	0.16	0.55	143.173	117.82	0.30	0.53	3.2876
#B12D38	63.07	0.60	0.32	95.73	0.57	0.29	42.75492	64.80	0.59	0.33	2.6878
#BD5290	102.48	0.40	0.24	203.34	0.28	0.17	97.13744	106.43	0.41	0.25	4.484
#E39E34	252.05	0.50	0.43	473.02	0.43	0.48	58.00344	254.26	0.50	0.43	1.6787

HDR full link solution

Support for HDR10-Optima and HLG, cooperates with HDR Master 4K processor to give common SDR source video an HDR effect, successfully providing an entire-link HDR solution from HDR source to HDR video decoding to HDR display.

SDR Video Source

HDR Master 4K

HDR10 Video Source

HDR Player

HLG

CA50   CA50   CA50

CX80
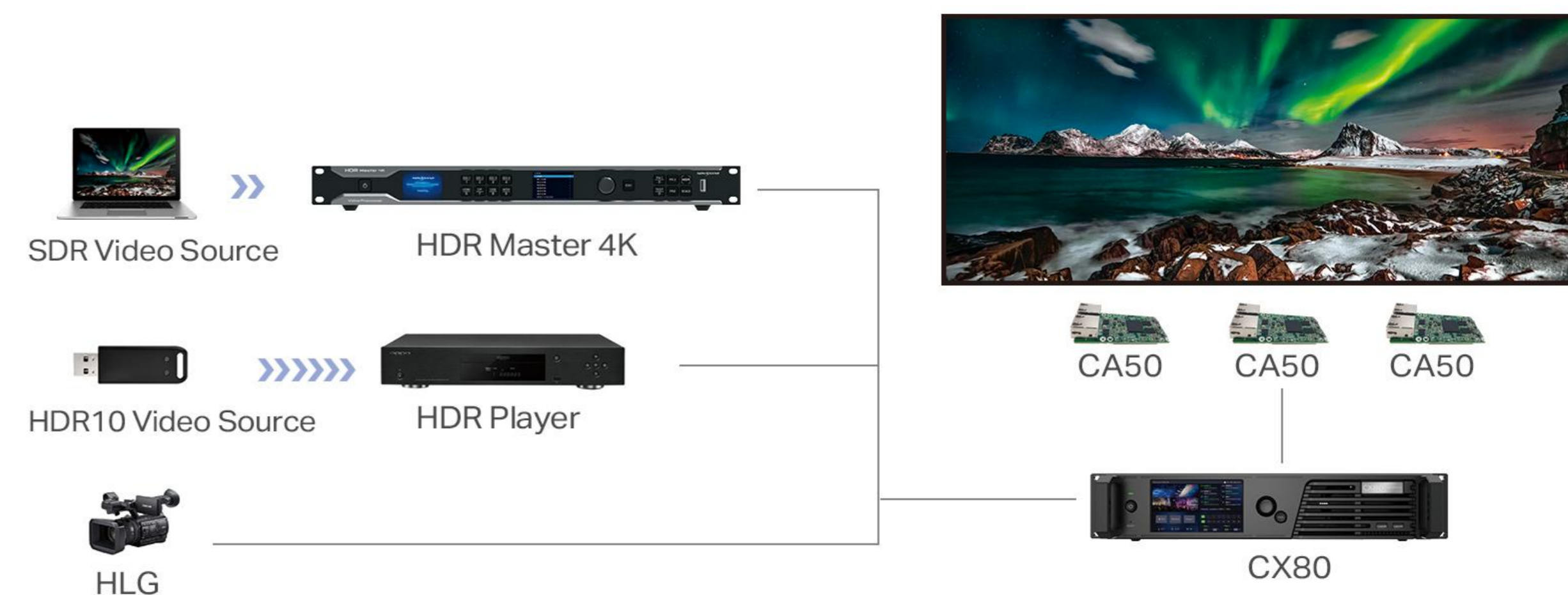
New CoexVMP Software Platform

Centralized and simplified management, flexible effect adjustment

CoexVMP can automatically identify all configured display screens in the LAN and check their running status in real time. Through convenient software operation, the display effect of one or more display screens can be flexibly adjusted.
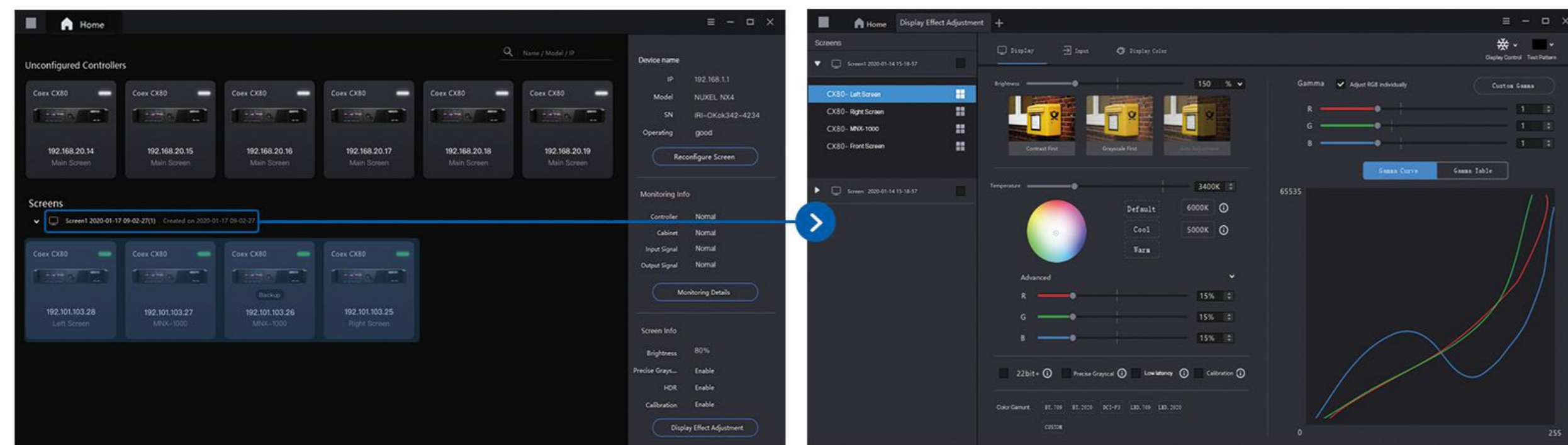

Intelligent management and diagnosis make operation and maintenance more convenient

Can comprehensively monitor the running status of lamp beads, modules, boxes, screens, controllers and other peripherals, providing timely warning of alarm faults, quick problem diagnosis, and greatly improving efficiency of operation and maintenance.
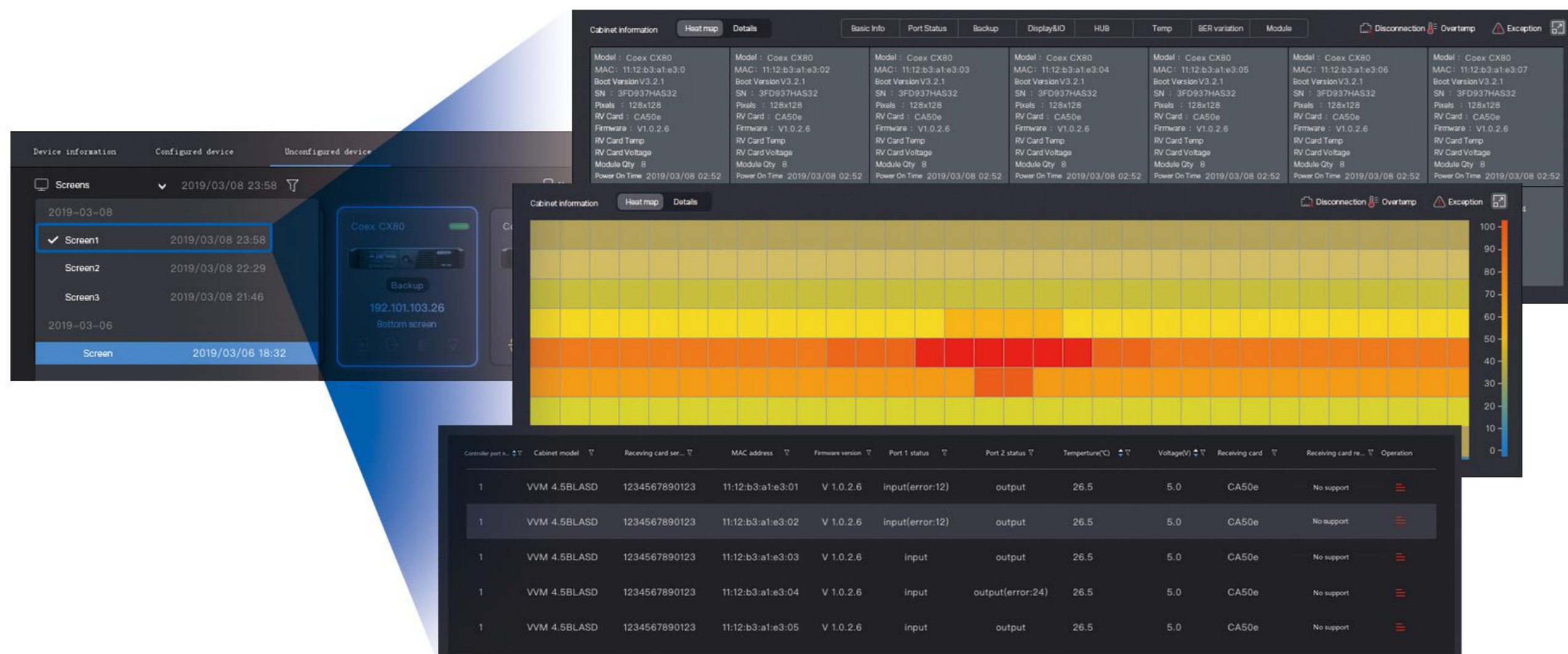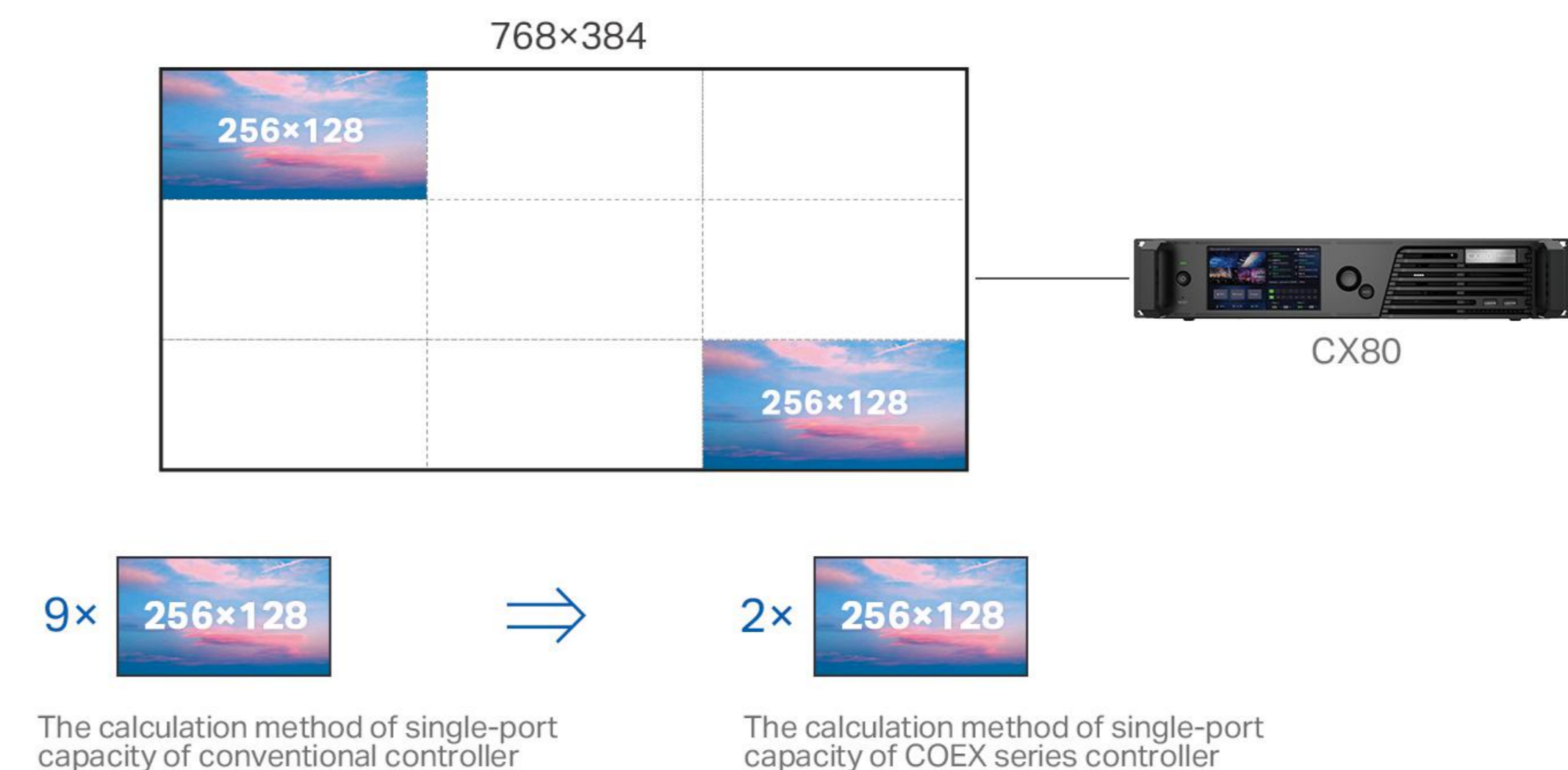

Open ecology to enable user creativity

CoexVMP is based on a platform design concept, with modular basic functional components and standard RESTflu interface. Users can directly pair corresponding modules according to personalized business requirements, quickly assemble and generate new applications, and truly realize continuous and flexible expansion of the system.
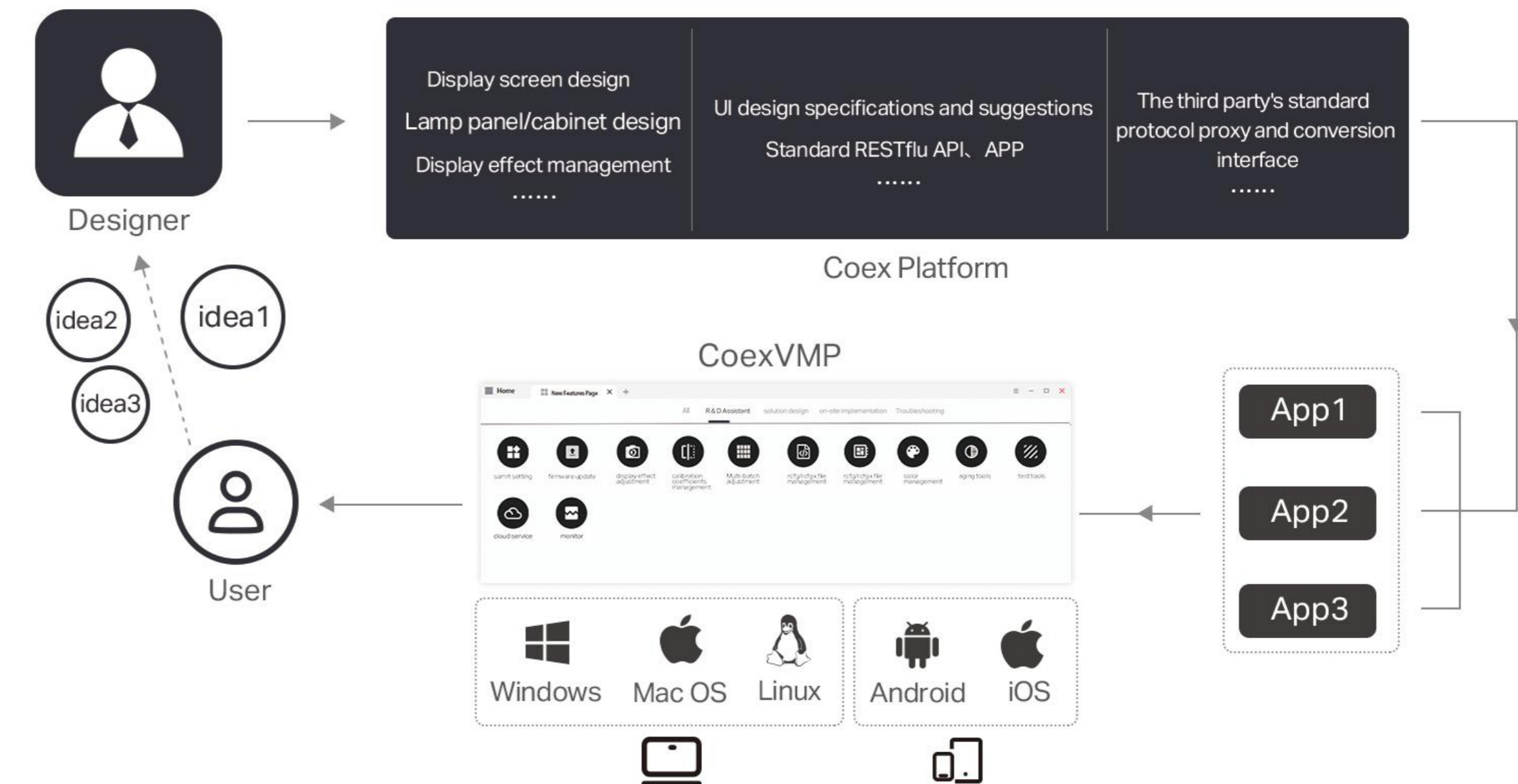
Real-time control interface for instant interaction

· Loading is calculated according to the actual number of pixel points of the connected cabinet. With no rectangular restriction, the shape of the display screen can be freely changed, and there is no need to worry about exceeding loading capacity.

· Immediate response for cabinet operations. When dragging and rotating the screen's matching cabinet, the physical cabinet has no delay response, and changes are visible in real time, providing a true real-time interactive interface.

The calculation method of single-port capacity of conventional controller

The calculation method of single-port capacity of COEX series controller

CX80 Specifications

[3] Embedded OS and control interface, realize node management and system interconnection over LAN

[2] 16×5GBASE-T output

[2] 2×40G Fiber Optic, Long distance ultra-high loading capacity transmission

[1] Video Input Sub-Card

Core functions

8K loading capacity
8192×4320@60Hz

5G BASE-T
5Gbps bandwidth transmission

40G optical fiber
Optical fiber long-distance transmission screen

Hot backup between devices/network ports

HDR HDR10 -Optima | HLG

Low latency

Bright and dark line adjustment

Multi-batch adjustment

4K @120Hz

3D
Support maximum 8192×2160 @ 60Hz 3D images

Input Sub-Card [1]

Port	Quantity	Specifications
HDMI 2.0b	4	Single-channel maximum support of 4096 × 2160 @ 60Hz, 8bit, YUV4:4:4,10/12bit,YUV4:2:2. Support of HDCP1.4 and HDCP2.2.
12G-SDI	4	Support 4096×2160 @ 60Hz, 10bit, YUV422 mode, backwards compatibility. Support ST-2082-1 (12G), ST-2081 (6G), ST-424 (3G), ST-292 (HD) standard video input. Both support de-interlacing.

Note：
1.The input sub-card can be replaced with 4 channels of DP1.2 and 4 channels of 12G-SDI.
2.The HDMI 2.1 or DP1.4 input sub-card will be released later without the need to purchase a new machine.

Output [2]

Port	Quantity	Specifications
RJ45	16	5Gbps bandwidth, Neutrik interface
OPT	2	40Gbps QSFP fiber optic interface, single/multimode

Control interface [3]

Port	Quantity	Specifications
Gigabit network port	2	Control interface, standard TCP/IP protocol
USB 2.0	2	U disk interface, can carry on the program upgrade.
Genlock	2	Input and looping out interfaces

CA50 Receiving Card Specifications

Core functions

One-key system repair

Profile cloud match

Firmware program cloud match

22bit+

HDR HDR10 -Optima | HLG

Low latency

3D Intelligent color management

65535 grade calibration of grayscale

One cabinet of multi-card management

Free color replacement

1024×512 Ultra-high loading capacity

5G Bandwidth, Standard CAT6 Cable, RJ45 Port

Integrated with powerful LED Image Booster Technology

Interface compatible with the Armor series receiving card

CA50

Basic functions

On-load pixel (PWM IC)	1024×512
Parallel data set of RGB	32
Serial data set	96