Xi'an NovaStar Tech Co., Ltd.

Headquarter Office

⌖ NovaStar Park, 3rd Yunshui Road, Xi'an, Shaanxi, 710077, China

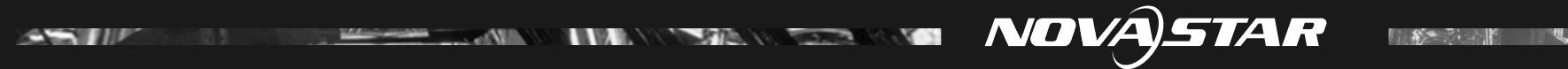⌕ +86-29-68216000

✉ Inquiry / info@novastar.tech
   Support / support@novastar.tech
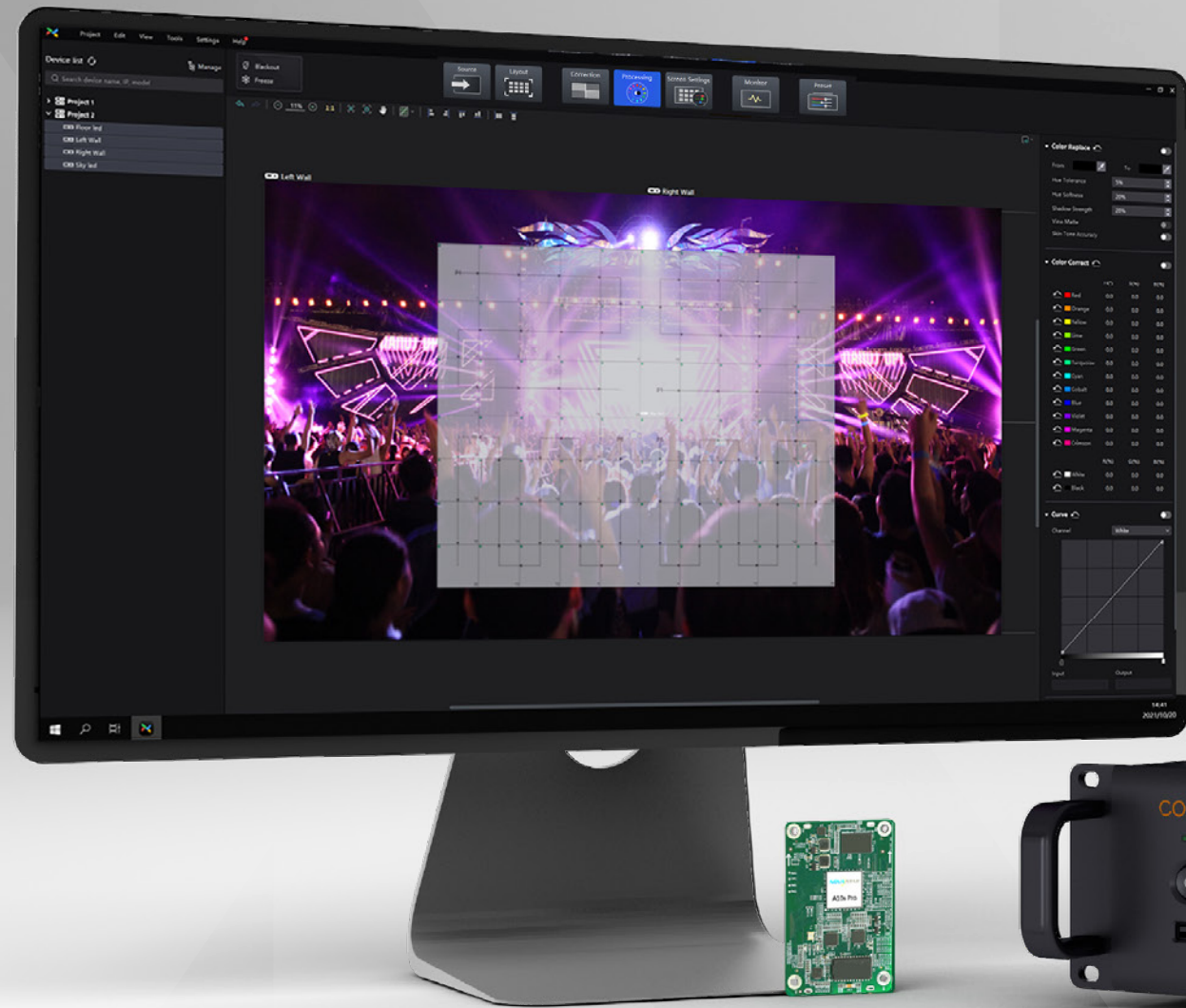
⌂ www.novastar.tech

NovaStar
NEW
PRODUCTS
2023

NOVASTAR

» **NEW**
PRODUCTS

# VMP
SOFTWARE

MX
SERIES CONTROLLER

A10s Pro
RECEIVING CARD

VMP is an all-new display control software that integrates design, management, and monitoring into one single platform.

When paired with the flagship MX Series controller and A10s Pro receiving card, an incredibly professional LED solution is realized, providing stunning image quality, precise color adjustment and an intuitive software experience.

This represents a totally new solution for managing high-end applications such as fine-pitch LED installation, studio broadcasting, touring, corporate events, virual production and E-sports.

FINE-PITCH LED INSTALLATIONS

VIRTUAL PRODUCTION

TOURING

STUDIO BROADCASTING

CORPORATE EVENTS

E-SPORTS
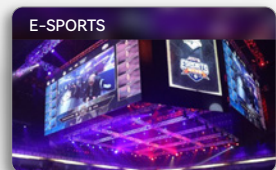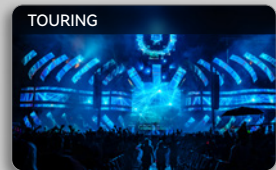
DUAL BOOSTERS

FOR EXCEPTIONAL IMAGE DISPLAY

Utilizing Image Booster 2.0 and Dynamic Booster, grayscale performance, color performance and contrast ratio are dramatically improved.

Image Booster
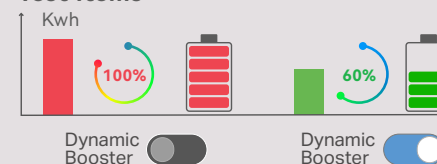
Dynamic Booster

Power saving with dynamic algorithm

With real-time analysis, brightness is adjusted dynamically frame by frame, saving 20%-40% power, extending the lifespan of an LED display.

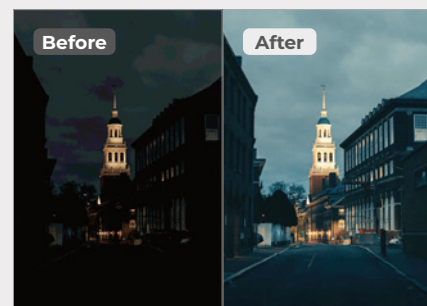(* Exclusive supported by MX40 Pro or the next products)

Test items

Kwh

100%

60%

Dynamic Booster

Dynamic Booster

Fine grayscale

22bit+, 64 times grayscale improvement, 0.002nits precise control, ultra-precise image for stunning realism.

Before | After
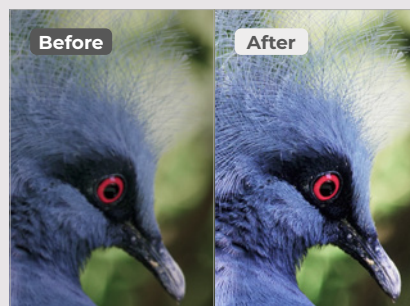
More realistic color

Fully automated color standardization, calibration and verification, self-adapts to color gamut, △E<2.

Before | After

△E<2

Higher contrast ratio

By enhancing bright and dark content details to the ideal level, an SDR source can deliver HDR-like effect, ensuring no overexposure in bright areas and no loss of detail in shadows.

Before | After

HDR10 4:4:4

VIRTUAL PRODUCTION WITH MORE REALISTIC IMMERSION

The only comprehensive 4K@60Hz 10bit 4:4:4 solution in the industry presents an ideal environment for virtual production that puts you in the scene, representing a new evolution in HDR applications.

Normal HDR10

HDR10 4:4:4

HDR
HDR10 / HLG
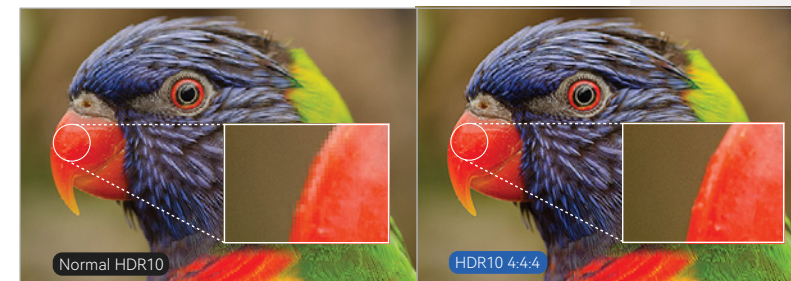
FLEXIBLE FRAME RATE

FOR SMOOTHER VISUALS

Supports 240Hz high frame rate, frame multiplication, frame multiplexing and adaptive frame rate, providing a super smooth filming.

(* Exclusive supported by MX40 Pro or the next products)

Left Camera

Right Camera

240 Hz

COLOR ADJUSTMENT AT YOUR FINGERTIPS
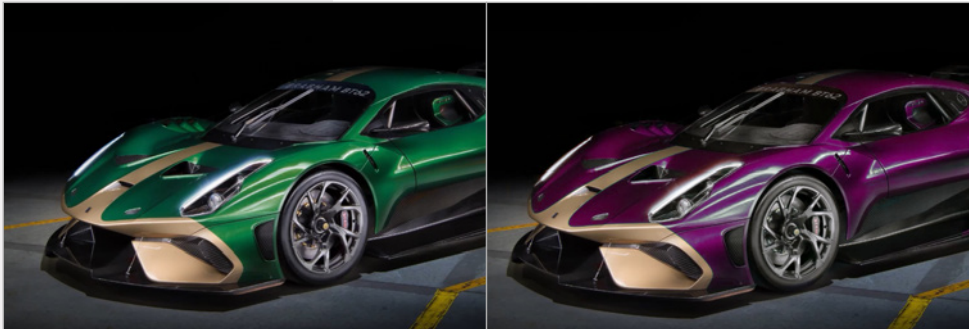
Color Replacement

Supports unrestricted color replacement, with minimal impact on other colors.
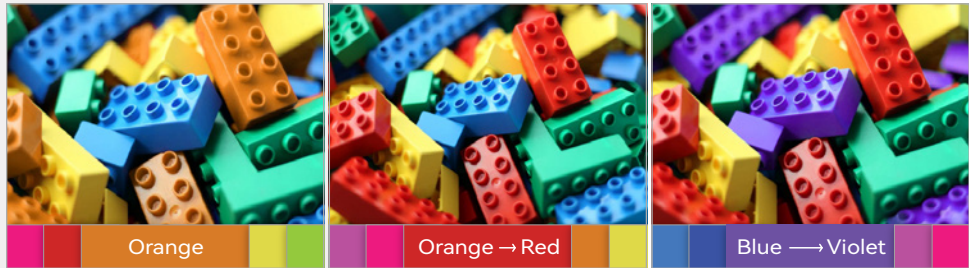
(* Exclusive supported by MX40 Pro or the next products)


14CH Color Correction

Precise adjustment of hue, saturation, and brightness of primary, secondary and tertiary colors, with basic adjustment of black and white, ensuring perfect colors that retain their intended beauty.

(* Exclusive supported by MX40 Pro or the next products)

Orange   Orange → Red   Blue ⟶ Violet

Red	Orange	Yellow	Lime	Green	Turquoise	Cyan
Cobalt	Blue	Violet	Magenta	Crimson	Black	White
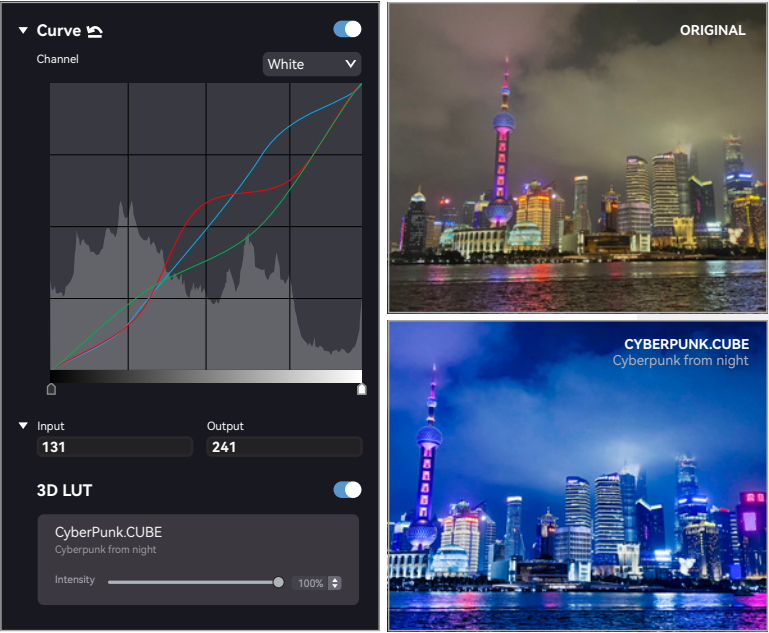
COLOR CURVE & 3D LUT

FOR CREATIVE SCENES

Curve adjustment and importing of 3D LUT files let you manage color in creative and artistic ways, just like a Hollywood colorist.

(* Exclusive supported by MX40 Pro or the next products)

Curve

Channel   White

Input **131**   Output **241**

3D LUT

CyberPunk.CUBE
Cyberpunk from night

Intensity   100%

ORIGINAL

CYBERPUNK.CUBE
Cyberpunk from night

CONTRAST & BLACK LEVEL

FOR IMPRESSIVE DETAILS

Allows independent adjustment of highlights and shadows by contrast and black level, avoiding overexposure in bright content but delivering rich details in dark content.

No overexposure in brights

No loss of details in shadows

QUICK AND EASY SCREEN MAPPING

Screen mapping can be done easily on the software canvas with a mouse. Auto detection of connected cabinets and exporting of screen mapping file in advance serve to greatly increase operational efficiency.

FREE FROM RECTANGULAR CALCULATION MAXIMIZING THE CAPACITY

Loading capacity is calculated by the physical cabinet pixels, free from rectangular limitation, helping maximize the loading capacity of controllers. No more capacity waste from leaving blank or irregular shape designs. Create without limits!

(*Exclusively supported by A10s Pro)

* Only the physical cabinets marked in blue occupy loading capacity.
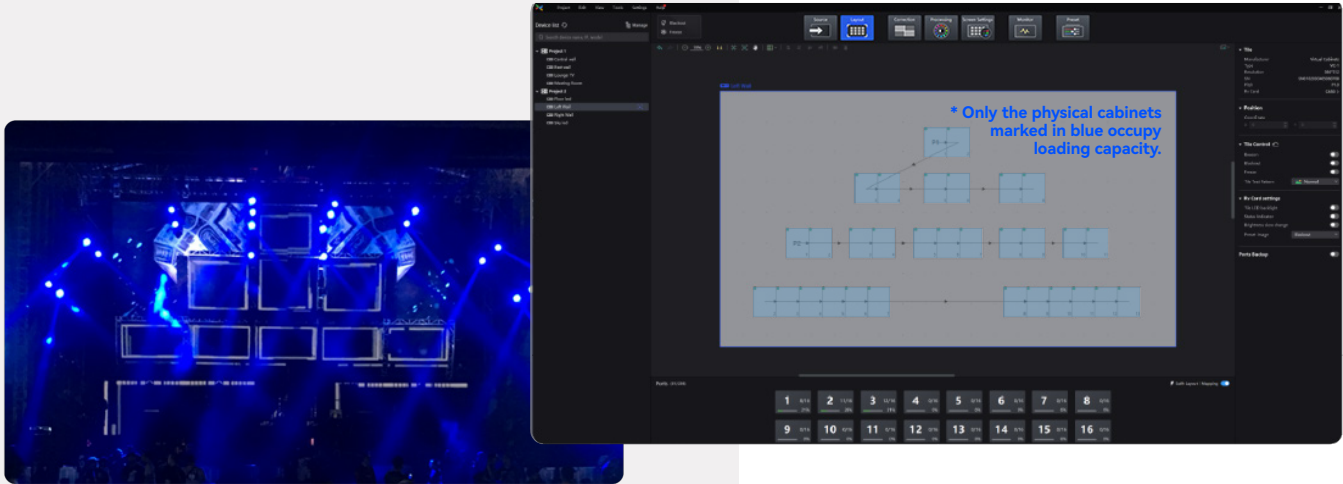
IDENTIFY TOOL

FOR QUICK ADJUSTMENT

With the Identify Tool, cabinets and controllers can be located quickly. After receiving command from VMP software, LED screen will show the position of specific cabinets and controllers accurately, making relevant adjustment much quicker and easier.
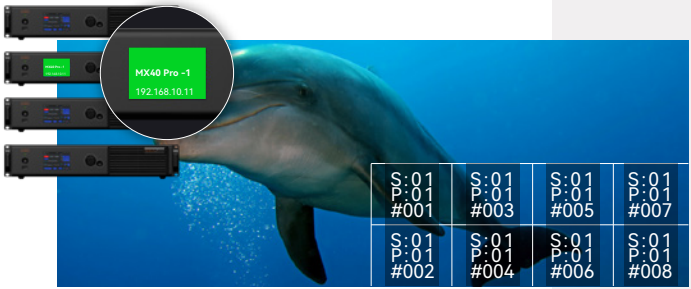
GROUP MANAGEMENT MADE EASY

All devices are grouped by screens, making multiple screen management easier and more efficient than before.
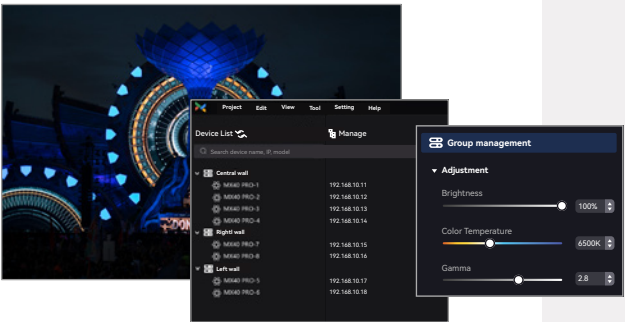
VISUALIZED SEAM CORRECTION

Seam correction can be completed rapidly with an interactive and visualized design. Visually locate and select the seams simply by using a cursor, then directly view the screen to adjust the seams in the software, greatly improving efficiency.

SCENARIO PRESETS

Save all parameters of inputs and outputs into presets, providing quick and easy retrieval with a single click.

PRESET 1 PRESET 2 PRESET 3

WHAT YOU SEE IS WHAT YOU GET

Canvas monitor and source preview allow for recognition of screen display status in real time and easy fitting of content to screen.

A10s Pro SPECIFICATION

Loading capacity (pixel)	Max. parallel RGB data groups	Max. serial data groups	HDR	Mapping	Temperature, voltage and communication status monitoring	Dual-card backup	Automatic calibration
512×512	32	64	√	√	√	√	√

Pixel level brightness and chroma calibration	Calibration coefficient backup	Firmware program readback	Low latency	Image Booster Engine	Dynamic Booster	Full grayscale calibration
√	√	√	√	√	√	√

SPECIFICATION

Product Model	MX30	MX40 Pro
Loading Capacity	6.5 million pixels	9 million pixels
Maximum Width & Height	Maximum width: 8,192 pixels Maximum height: 7,680pixels	Maximum width: 8,192 pixels Maximum height: 8,192 pixels
Inputs	1 × HDMI 2.0 (with loop through) 1 × HDMI 1.4 (with loop through) 1 × DP1.1 2 × 3G-SDI(with loop through)	3 × HDMI 2.0 (with loop through) 1 × DP1.2 1 × 12G-SDI (with loop through)
Outputs	10 × EtherCON 2 × 10G OPT 1 × SPDIF	20 × EtherCON 4 × 10G OPT 1 × SPDIF
Control	1G Ethernet, TCP/IP	1G Ethernet, TCP/IP
Genlock	Tri-level, Bi-level / Black burst	Tri-level, Bi-level / Black burst
Input Bit Depth	8bit / 10bit	8bit / 10bit / 12bit
Adaptive Frame Rate	23.98 / 24 / 25 / 29.97 / 30 / 47.95 / 48 / 50 / 59.94 / 60 / 72 / 75 / 85 / 100 / 119.88 / 120 / 143.86 / 144 / 240 Hz (*Exclusively supported by A10s Pro)	23.98 / 24 / 25 / 29.97 / 30 / 47.95 / 48 / 50 / 59.94 / 60 / 72 / 75 / 100 / 119.88 / 120 / 143.86 / 144 / 240Hz (*Exclusively supported by A10s Pro)
No Rectangle Limitation	√	√
3D	√	√
HDR10 / HLG	√	√
Low Latency (<1ms)	√	√
Image Booster 2.0	√ (*Exclusively supported by A8s, A8s-N, A10s Pro)	√ (*Exclusively supported by A8s, A8s-N, A10s Pro)
Dynamic Booster	/	√ (*Exclusively supported by A10s Pro)
Full Grayscale Calibration	√ (*Exclusively supported by A10s Pro)	√ (*Exclusively supported by A10s Pro)
Thermal Compensation	√	√

KU20+VMP

Flexible application
Smart operation

Support the all-new vision management platform, **VMP**

6 Ethernet ports, 1080P loading capacity, finish screen configuration within 1 minute

Select and click will correct the seam brightness easily

Irregular screen, no rectangle limitation

Calibration coefficients uploaded in seconds

10G optical fiber, long-distance transmission

KU20 SPECIFICATION

Loading Capacity	3.9 million pixels
Maximum Width & Height	Maximum width: 3840 pixels Maximum height: 2560 pixels
Inputs	1 × HDMI 1.3(with loop through)
Outputs	6 × Ethernet port 1 × 10G OPT 1 × SPDIF
Control	1G Ethernet, TCP/IP
Input Bit Depth	8bit / 10bit (*Supports customized)
Adaptive Frame Rate	23.98 / 24 / 25 / 29.97 / 30 / 47.95 / 48 / 50 / 59.94 / 60 / 71.93 / 72 / 75 / 100 / 119.88 / 120Hz
No Rectangle Limitation	√
Low Latency(<1ms)	√
Image Booster 2.0	√ (*Exclusively supported by A8s, A8s-N, A10s Pro)
Full Grayscale Calibration	√ (*Exclusively supported by A10s Pro)
Thermal Compensation	√

5G & 8K UHD LED Display Solution

ALL-NEW 5G & 8K CONTROL SYSTEM

CX80 Pro
CA50E

Single-port input with 8K loading capacity, and ethernet output port with 5G ultra-large bandwidth, 1 controller, 16 network cables, easy to load 8K LED screen, greatly simplify 8K system solution chain of ultra-high-definition, high frame rate, high bit depth.

1G bandwidth
To control a 8K wall, with 1Gpbs transmission,64 cables are required.
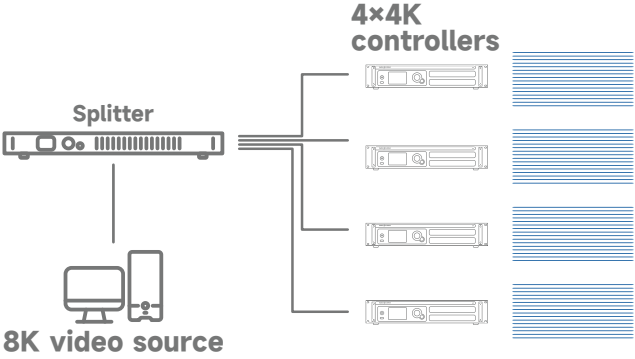
5G bandwidth
To control a 8K wall, with traditional 5Gpbs transmission,16 cables are required.

FLEXIBILITY BY MODULAR DESIGN

The CX80 Pro has multi options of 4K and 8K input ports and adopts a modular design, which can be flexibly chosen according to customers real needs, greatly improving operational efficiency.

CX80 Pro
Input card options

Option A

- 4 × 12G SDI   (4 × 4096× 2160@60Hz)
- 1 × HDMI2.1   (7680 × 4320@60Hz)
- 1 × DP1.4   (7680 × 4320@30Hz)

Option B

- 4 × 12G SDI   (4 × 4096 × 2160@60Hz)
- 4 × HDMI2.0   (4 × 4096 × 2160@60Hz)

FLEXIBLE FRAME RATE FOR SMOOTHER VISUALS

Supports 240Hz frame rate, frame multiplexing and adaptive frame rate, providing a super smooth filming.

4×4K FRAME MULTIPLEXTING, REALIZED WITH JUST ONE UNIT

The CX80 Pro has an ultra-high 8K loading capacity. When shooting virtual scenes, a single device can perform four 4K@60Hz frame multiplexing, greatly simplifying the system and costs.

ADAPTIVE FRAME RATE, FREE SWITCHING

Automatically adapts to video input with variable frame rates ranging from 23 Hz to 240 Hz , and supports custom frame rates with a step as small as 0.01 Hz .

4795
48.00
50.00
59.94 Hz
60.00
71.93
72.00

COLOR ADJUSTMENT AT YOUR FINGERTIPS

Curve adjustment and importing of 3D LUT files let you manage color in creative and artistic ways, just like a Hollywood colorist. Color Replacement supports unrestricted color replacement, with minimal impact on other colors. 14CH color correction will preciselyadjustment of hue, saturation, and brightness of primary, secondary and tertiary colors, with basic admustment of black and white, ensuring perfect colors that retain their intended beauty.

SHUTTER FIT TO ELIMINATE SCAN LINES

Through shutter fit, the shutter speed of the camera is synchronized, and the parameters of the display screen are automatically adjusted to adapt to the exposure time and frame rate of the camera, effectively eliminating scan lines.

Before Shutter fit | After Shutter fit

After 3D LUT
CRAZY_DESERT.CUBE

Original

Curves
Color Adjustment

Red
Orange
Yellow
Lime
Green
Turquoise
Cyan
Cobalt
Blue
Violet

3D LUT
CRAZY_DESERT.CUBE

White

STUNNING IMAGE QUALITY WITH ENHANCED DETAILS

**Image Booster**   **Dynamic Booster**   **Full Grayscale Calibration**   **Thermal Compensation**

LONG OPERATING TIME, NO COLOR CASTING

After the LED screen has been running for a period of time, reddish textures appear on the screen due to uneven heat dissipation. Through thermal compensation technology, the thermal characteristics of the LED screen are calibrated,which can effectively solve the color bias caused by uneven heat distribution of the screen.
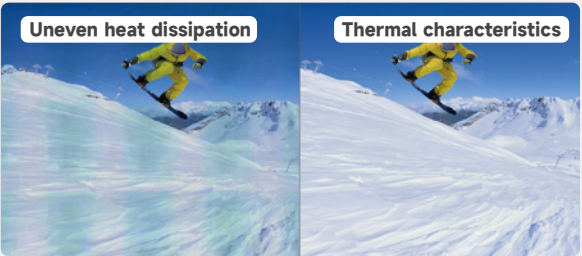
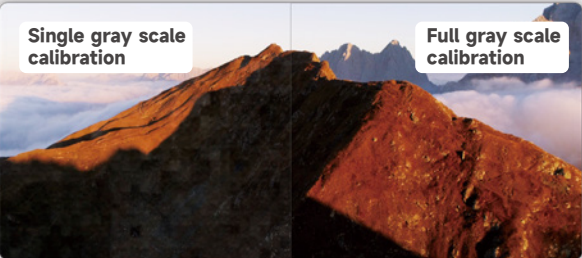Uneven heat dissipation | Thermal characteristics

CONTRAST & BLACK LEVEL FOR IMPRESSIVE DETAILS

Allows independent adjustment of highlights and shadows by contrast and black level, avoiding overexposure in bright content but delivering rich details in dark content.

General Picture | Better Contrast
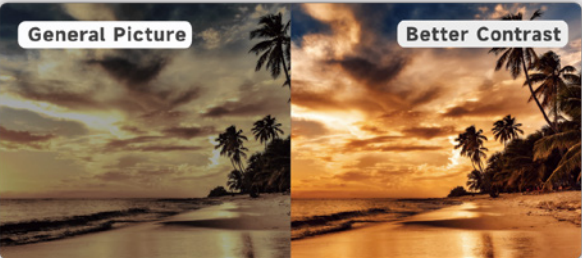
MEDIUM AND LOW GRAYSCALE REMAINS UNIFORM

Support full gray scale calibration, aiming at the non-linear characteristics of Mura shape under different gray scales, each gray scale has its own calibration coefficient, so that the LED screen is uniform and delicate under different brightness.

Single gray scale calibration | Full gray scale calibration

SPECIFICATION

Product Model	CX40 Pro	CX80 Pro
Loading Capacity	9 million pixels	35.38 million pixels
Input Resolution	4096 × 2160@60Hz	Optional A: 7680 × 4320@60Hz Optional B: 4 × 4096 × 2160@60Hz
Inputs	2 × HDMI 2.0 (with loop through) 1 × DP 1.2 2 × 12G-SDI (with loop through)	Optional A: 1 × HDMI 2.1 , 1 × DP1.4, 4 × 12G SDI Optional B: 4 × HDMI 2.0 , 4 × 12G SDI
Outputs	6 × 5G EtherCON 1 × 40G QSFP	16 × 5G EtherCON 2 × 40G QSFP
Control	1G Ethernet, TCP/IP	1G Ethernet, TCP/IP
Genlock	Tri-level, Bi-level / Black burst	Tri-level, Bi-level / Black burst
Input Bit Depth	8bit / 10bit / 12bit	8bit / 10bit / 12bit
Adaptive Frame Rate	23.98 / 24 / 25 / 29.97 / 30 / 47.95 / 48 / 50 / 59.94 / 60 / 72 / 75 / 100 / 119.88 / 120 / 143.86 / 144 / 240Hz (*Exclusively supported by CA50E)	23.98 / 24 / 25 / 29.97 / 30 / 47.95 / 48 / 50 / 59.94 / 60 / 72 / 75 / 100 / 119.88 / 120 / 143.86 / 144 / 240Hz (*Exclusively supported by CA50E)
No Rectangle Limitation	√	√
HDR10 / HLG	√	√
Low Latency(<1ms)	√	√
Image Booster 2.0	√	√
Dynamic Booster	√	√
Full Grayscale Calibration	√	√
Thermal Compensation	√	√

Loading Capacity	512 × 768@60Hz		Calibration Coefficient Backup	√
Parallel RGB Data Groups	32		Firmware Program Readback	√
Serial Data Groups	64		Individual Gamma Adjustment For RGB	√
HDR	√		18bit+	√
Mapping	√		22bit+	√
Temperature, Voltage And Communication Status Monitoring	√		Precise Grayscale	√
			Color Management	√
Dual-Card Backup	√		Full Grayscale Calibration	√
Automatic Calibration	√		Shutter Fit	√
Pixel level Brightness And Chroma Calibration	√		Dynamic Booster	√

Simplicity Meets Power

VX SERIES

FEATURES

Large Loading Capacity

VX1000:
6.5 Million Pixels
10 Ethernet ports
Maximum width 10,240 pixels
Maximum height 8,192 pixels

VX600:
3.9 Million Pixels
6 Ethernet ports
Maximum width 10,240 pixels
Maximum height 8,192 pixels

3 Layers

VX1000:
Input 4K×1K@60Hz
3 layers with free scaling

VX600:
Input 2K×1K@60Hz
3 layers with free scaling

3 Working Modes

Free switching among Video Controller & Bypass & Fiber Converter modes

Flexible Control

Support mixed control of Ethernet cable and USB cable

Ultra-Low Latency

Down to 20lines with low latency on

Front Panel Color Adjustment

Input color adjustment, including brightness, contrast, saturation, and hue. Screen color adjustment, including Gamma, Temperature, RGB

SELECTION GUIDE

	VX400	VX600	VX1000
Loading Capacity	**2,600,000** pixels	**3,900,000** pixels	**6,500,000** pixels
Layers	**Two 2K × 1K layers**	**Three 2K × 1K layers**	**Three 4K × 1K layers**
Input	1 × 3G-SDI 2 × HDMI 1.3 1 × DVI 1 × OPT1 input	1 × 3G-SDI 2 × HDMI 1.3 1 × DVI 1 × OPT1 input	1 × 3G-SDI 2 × HDMI 1.4 2 × DVI (HDMI 1.4) 1 × OPT1 input
Output	4 × Ethernet port 1 × HDMI1.3	6 × Ethernet port 1 × HDMI1.3	10 × Ethernet port 1 × HDMI1.3
Optical Fiber Ports	2 × 10G OPT	2 × 10G OPT	2 × 10G OPT
Control Connectors	Ethernet USB (input & output) Genlock (IN & LOOP) Light Sensor	Ethernet USB (input & output) Genlock (IN & LOOP)	Ethernet USB (input & output) Genlock (IN & LOOP)

SERIES
DESIGN IT YOUR WAY.

Most integrated
Modular design
4K / 8K and more
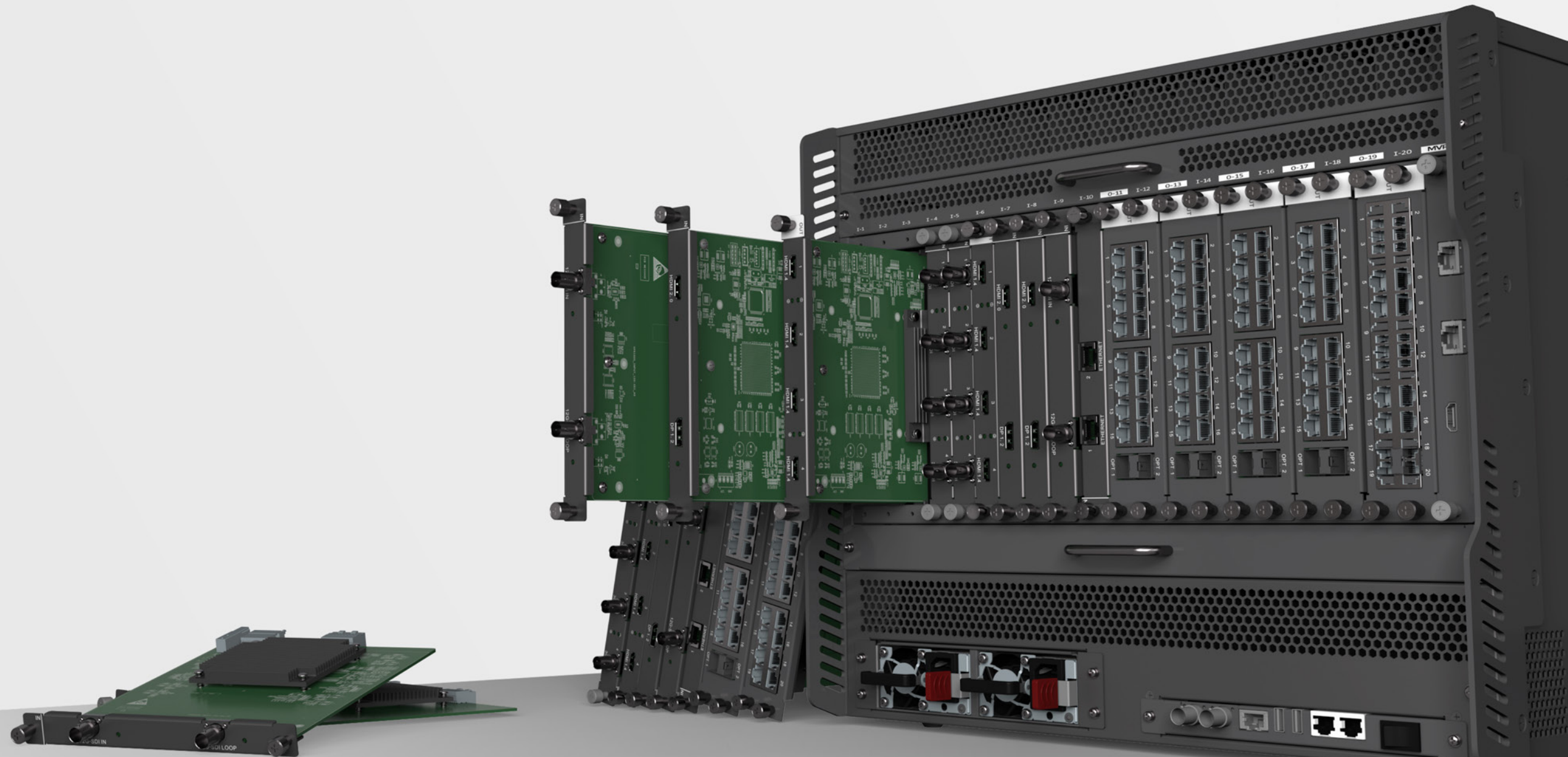Extreme user friendly

MODULAR
DESIGN

Input cards

HDMI 2.0 & 1.3
DP1.2 & 1.1
3G & 12G SDI
DVI
IP stream
......

Output cards

16 RJ45 + 2 OPT
20 RJ45
MVR card

FREE LAYERS

SIZE & POSITION
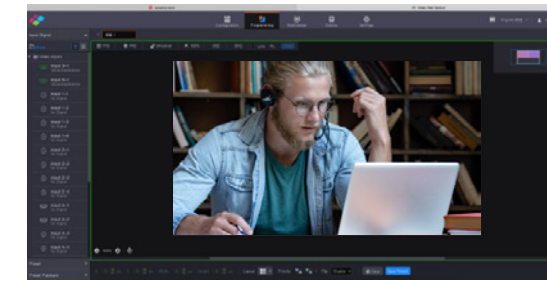
16×2K per output card
4×4K per output card

UP TO 2000 PRESETS

0-1S CUSTOM TRANSITION TIME

INPUT & OUTPUT MULTI-VIEWER

WEBPAGE

LCD MONITOR

FRONT PANEL

FIBER SOLUTION

CVT4K-S

H5

10G SFP — Up to 10KM

10G SFP per Channel — Each = 8 Ethernet ports
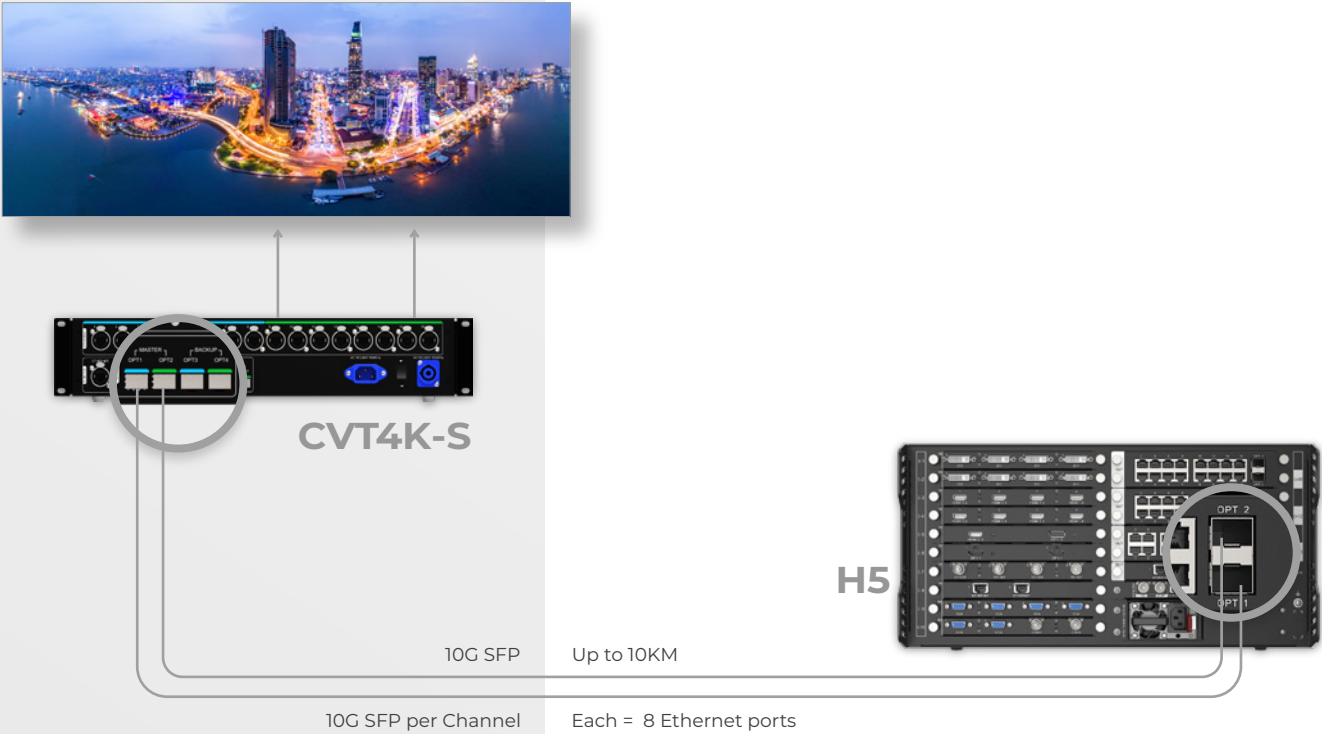
SELECTION GUIDE

	H2	H5	H9	H15	H15 (Enhanced)
Chasis	2U	5U	9U	15U	15U
Max. Input Cards	4 input cards	10 input cards	15 input cards	30 input cards	30 input cards
Max. Output Cards	2 output cards	3 output cards	5 output cards	10 output cards	16 output cards
Max. Layers	32 Layers	48 Layers	80 Layers	160 Layers	160 Layers
Max. Loading Capacity	26,000,000 pixels	39,000,000 pixels	65,000,000 pixels	130,000,000 pixels	208,000,000 pixels

FIBER SOLUTION

Perfect pair for **ALL**

CVT10 Pro is a brand new optical fiber converter, designed to work seamlessly with NovaStar controllers and processors to provide long-distance data transmission solution and to keep cabling simple.

It is equipped with 10 EtherCon and 2 opticalCON. Optical Ports are compatible with LC-LC interface.

It supports primary and backup units working simultaneously to ensure the safety and stability of data transmission.

With new industrial design and IP65 waterproof, CVT10 Pro is sturdy and durable. It can be easily truss-mounted, suiting the outdoor environment perfectly.

IP65   **Backup**   **Neutrik**
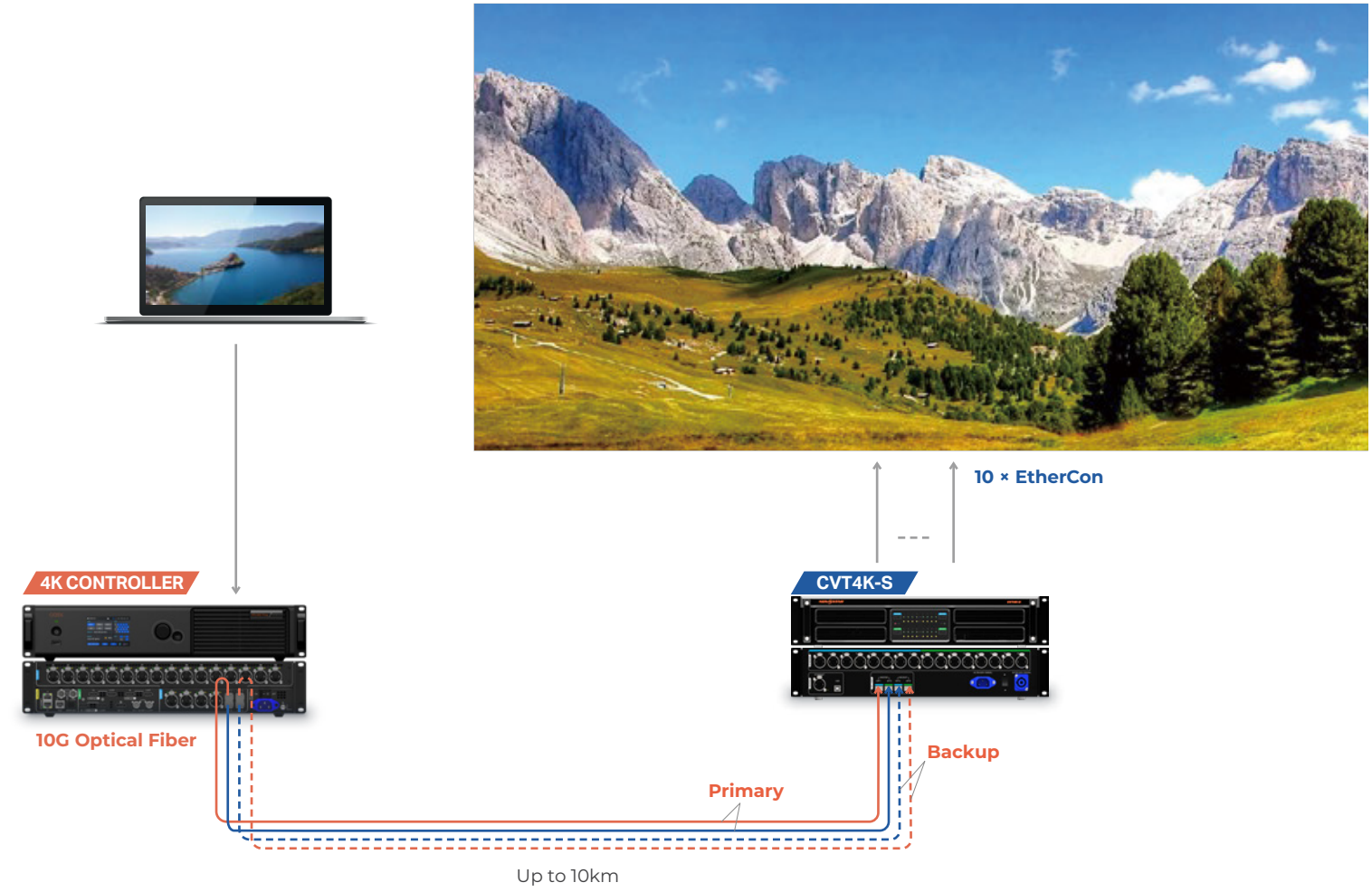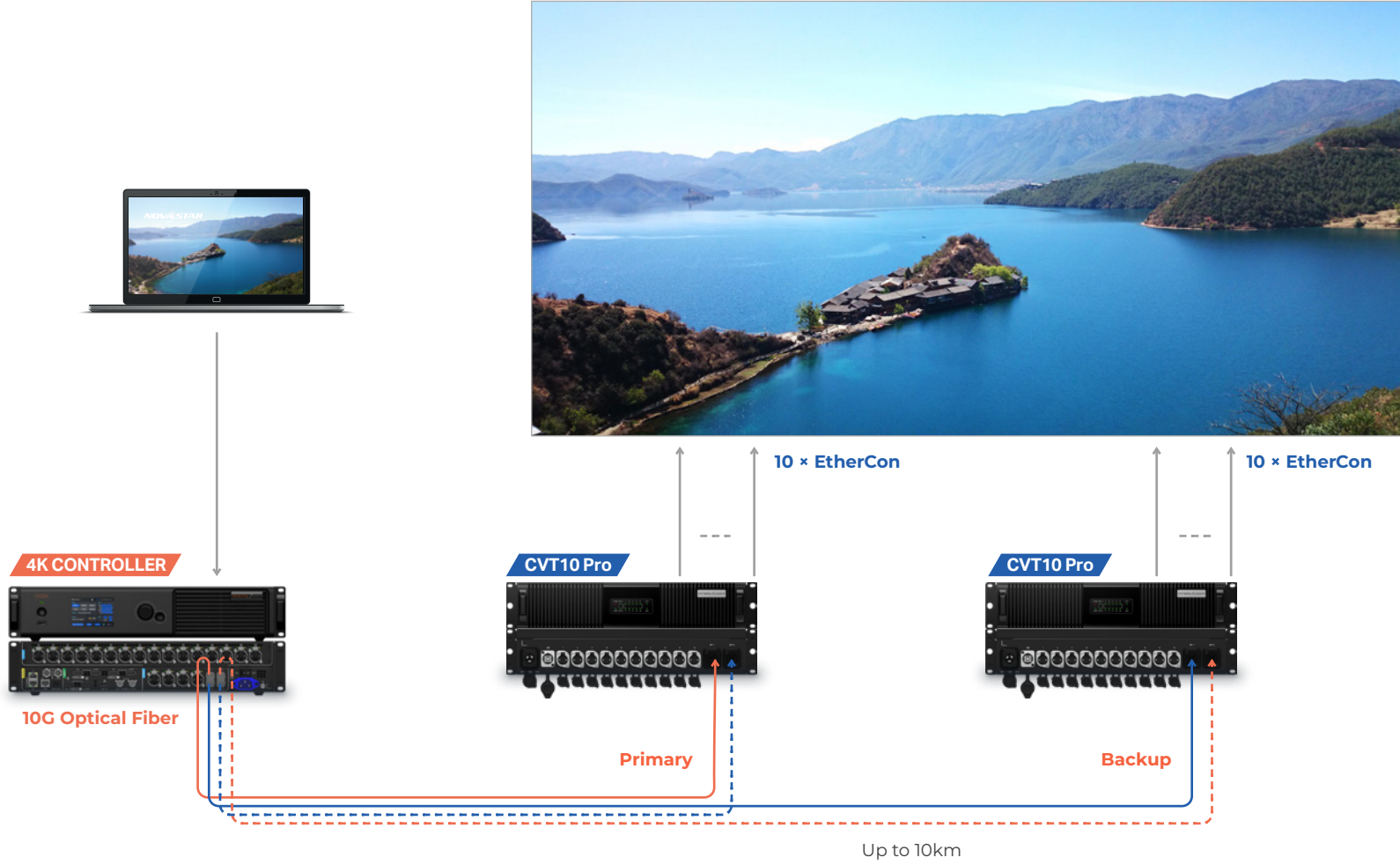
HIGHLY RELIABLE FIBER SOLUTION

10 × EtherCon

10 × EtherCon

10 × EtherCon

4K CONTROLLER

CVT10 Pro

CVT10 Pro

4K CONTROLLER

CVT4K-S

10G Optical Fiber

Primary

Backup

10G Optical Fiber

Primary

Backup

Up to 10km

Up to 10km

SELECTION GUIDE

10G FIBER CABLES

	Single Mode	Multi Mode
Transmission Distance	10KM	300M
Recommended Fiber	OS1/OS2	OS3/OS4
Wire Diameter	9/125um	50/125um
Single/Dual core	Single-mode dual code	Multi-mode dual code
Interface Type	LC	LC
Insert Loss	≤0.3db	≤0.2db
Return Loss	≥45db	≥45db

10G CONVERTERS

	CVT8-5G	CVT10	CVT10 Pro	CVT4K

I/O	· 1 × OPT
	· 8 × RJ45
	· 1 × USB
		· 2×OPT
		  (Single/Multi mode)
		· 10×R45
		· 1×USB
			· 2×OPT
			  (Single/Multi mode)
			· 10×EtherCon
			· 1×USB
				· 4×OPT (Single/Multi mode)
				· 16×EtherCon
				· 1×USB
				· 1×ETHERNET

Ports	8 × RJ45	10×RJ45	10×Neutrik	16×Neutrik
Power Socket	PowerCON×1	PowerCON×1	PowerCON×1	· 3pin power socket×1 · PowerCON×1
Power Consumption	33W	22W	22W	25W
Working Temp	-20℃~+70℃ (-4℉~+158℉)	-20℃~+70℃ (-4℉~+158℉)	-20℃~+70℃ (-4℉~+158℉)	-20℃~+70℃ (-4℉~+158℉)
Working Humidity	10%RH~80%RH No condensing	10%RH~95%RH No condensing	10%RH~80%RH IP65	10%RH~90%RH No condensation
Size	1U (254.3 × 50.6 × 290.0 mm)	0.5U (254.3×50.5×290.0mm)	2U (482.6×88.1×280.0mm)	2U (482.6 × 96.0× 377.0mm)
Weight	2.26 kg	2.1kg	5.9kg	4.6kg
Water Resistance	/	/	IP65	/
ACInput	100-240V~, 50/60Hz 1.5A	100-240V~.50/60Hz 0.6A	100-240V~.50/60Hz 1.5A	100-240V~.50/60Hz 2.5A

Installation	· Installed in rack	· Installed in rack
		  (2units assembled)
			· Installed in rack
			· Eagle Claw Hook hang
			  on truss
				· Installed in rack

Compliance	CCC、RoHS、FCC、 CE、CB、IC、UL、CB	RoHS、CE、FCC、IC、UL、 CB、EAC、RCM、UKCA、KC	RoHS、FCC、CE、CB、 IC、RCM、KC、UL	RoHS、UL&CUL、FCC、 CE、EAC、CB、IC、RCM